

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

EFFECTIVE DATE: June 28, 2024

ISSUED TO

**Detroit Thermal Beacon Heating Plant**

State Registration Number (SRN): B2814

LOCATED AT

541 Madison Avenue, Detroit, Wayne County, Michigan 48226

**RENEWABLE OPERATING PERMIT**

Permit Number: MI-ROP-B2814-2024

Expiration Date: June 28, 2029

Administratively Complete ROP Renewal Application  
Due Between December 28, 2027 and December 28, 2028

This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Rule 210(1) of the administrative rules promulgated under Act 451, this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

**SOURCE-WIDE PERMIT TO INSTALL**

Permit Number: MI-PTI-B2814-2024

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(1) of Act 451. Pursuant to Rule 214a of the administrative rules promulgated under Act 451, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environment, Great Lakes, and Energy

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April Wendling, Detroit District Supervisor

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## AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The **department** is defined in Rule 104(d) as the Director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) or his or her designee.

The permittee shall comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are applicable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a Source-Wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements are identified for each ROP term or condition. All terms and conditions that are included in a PTI are streamlined, subsumed and/or is state-only enforceable will be noted as such.

In accordance with Section 5507 of Act 451, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

## A. GENERAL CONDITIONS

### Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**
- Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**
- Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

### General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state-only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**
2. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this ROP. **(R 336.1213(1)(b))**
3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**
4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
  - a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
  - c. Inspect, at reasonable times, any of the following:
    - i. Any stationary source.
    - ii. Any emission unit.
    - iii. Any equipment, including monitoring and air pollution control equipment.
    - iv. Any work practices or operations regulated or required under the ROP.
  - d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.
5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**
7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**
8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

## Equipment & Design

9. Any 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).<sup>2</sup> **(R 336.1370)**
10. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

## Emission Limits

11. Unless otherwise specified in this ROP, the permittee shall comply with Rule 301, which states, in part, "Except as provided in Subrules 2, 3, and 4 of this rule, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:"<sup>2</sup> **(R 336.1301(1))**
  - a. A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity.
  - b. A limit specified by an applicable federal new source performance standard.

The grading of visible emissions shall be determined in accordance with Rule 303.

12. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
  - a. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.<sup>1</sup> **(R 336.1901(a))**
  - b. Unreasonable interference with the comfortable enjoyment of life and property.<sup>1</sup> **(R 336.1901(b))**

## Testing/Sampling

13. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner's or operator's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1).<sup>2</sup> **(R 336.2001)**
14. Any required performance testing shall be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**
15. Any required test results shall be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(5))**

## Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate. **(R 336.1213(3)(b))**
  - a. The date, location, time, and method of sampling or measurements.
  - b. The dates the analyses of the samples were performed.
  - c. The company or entity that performed the analyses of the samples.
  - d. The analytical techniques or methods used.
  - e. The results of the analyses.
  - f. The related process operating conditions or parameters that existed at the time of sampling or measurement.
17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

## Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a Responsible Official which state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**
19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**
20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**
21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
  - a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
  - b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
  - c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
- Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
  - Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; "based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete." The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.
23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**
24. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**
25. 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 appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a Responsible Official in a manner consistent with the CAA.<sup>2</sup> **(R 336.1912)**

## Permit Shield

26. Compliance with the conditions of the ROP shall be considered compliance with any applicable requirements as of the date of ROP issuance if either of the following provisions is satisfied. **(R 336.1213(6)(a)(i), R 336.1213(6)(a)(ii))**
- The applicable requirements are included and are specifically identified in the ROP.
  - The permit includes a determination or concise summary of the determination by the department that other specifically identified requirements are not applicable to the stationary source.

Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.

27. Nothing in this ROP shall alter or affect any of the following:
- The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
  - The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
  - The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**

- d. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**
- 28. The permit shield shall not apply to provisions incorporated into this ROP through procedures for any of the following:
  - a. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
  - b. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
  - c. Administrative Amendments made pursuant to Rule 216(1)(a)(v) until the amendment has been approved by the department. **(R 336.1216(1)(c)(iii))**
  - d. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
  - e. State-Only Modifications made pursuant to Rule 216(4) until the changes have been approved by the department. **(R 336.1216(4)(e))**
- 29. Expiration of this ROP results in the loss of the permit shield. If a timely and administratively complete application for renewal is submitted not more than 18 months, but not less than 6 months, before the expiration date of the ROP, but the department fails to take final action before the end of the ROP term, the existing ROP does not expire until the renewal is issued or denied, and the permit shield shall extend beyond the original ROP term until the department takes final action. **(R 336.1217(1)(c), R 336.1217(1)(a))**

## Revisions

- 30. For changes to any process or process equipment covered by this ROP that do not require a revision of the ROP pursuant to Rule 216, the permittee must comply with Rule 215. **(R 336.1215, R 336.1216)**
- 31. A change in ownership or operational control of a stationary source covered by this ROP shall be made pursuant to Rule 216(1). **(R 336.1219(2))**
- 32. For revisions to this ROP, an administratively complete application shall be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(10))**
- 33. Pursuant to Rule 216(1)(b)(iii), Rule 216(2)(d) and Rule 216(4)(d), after a change has been made, and until the department takes final action, the permittee shall comply with both the applicable requirements governing the change and the ROP terms and conditions proposed in the application for the modification. During this time period, the permittee may choose to not comply with the existing ROP terms and conditions that the application seeks to change. However, if the permittee fails to comply with the ROP terms and conditions proposed in the application during this time period, the terms and conditions in the ROP are enforceable. **(R 336.1216(1)(c)(iii), R 336.1216(2)(d), R 336.1216(4)(d))**

## Reopenings

- 34. A ROP shall be reopened by the department prior to the expiration date and revised by the department under any of the following circumstances:
  - a. If additional requirements become applicable to this stationary source with three or more years remaining in the term of the ROP, but not if the effective date of the new applicable requirement is later than the ROP expiration date. **(R 336.1217(2)(a)(i))**
  - b. If additional requirements pursuant to Title IV of the CAA become applicable to this stationary source. **(R 336.1217(2)(a)(ii))**
  - c. If the department determines that the ROP contains a material mistake, information required by any applicable requirement was omitted, or inaccurate statements were made in establishing emission limits or the terms or conditions of the ROP. **(R 336.1217(2)(a)(iii))**
  - d. If the department determines that the ROP must be revised to ensure compliance with the applicable requirements. **(R 336.1217(2)(a)(iv))**



## Renewals

35. For renewal of this ROP, an administratively complete application shall be considered timely if it is received by the department not more than 18 months, but not less than 6 months, before the expiration date of the ROP. **(R 336.1210(9))**

## Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaiming, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.
37. If the permittee is subject to 40 CFR Part 82 and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

## Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).
39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
- June 21, 1999,
  - Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
  - The date on which a regulated substance is first present above a threshold quantity in a process.
40. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.
41. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as detailed in Rule 213(4)(c)). **(40 CFR Part 68)**

## Emission Trading

42. Emission averaging and emission reduction credit trading are allowed pursuant to any applicable interstate or regional emission trading program that has been approved by the Administrator of the USEPA as a part of Michigan's State Implementation Plan. Such activities must comply with Rule 215 and Rule 216. **(R 336.1213(12))**

### **Permit to Install (PTI)**

43. The process or process equipment included in this permit shall not be reconstructed, relocated, or modified unless a PTI authorizing such action is issued by the department, except to the extent such action is exempt from the PTI requirements by any applicable rule.<sup>2</sup> **(R 336.1201(1))**
44. The department may, after notice and opportunity for a hearing, revoke PTI terms or conditions if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of the PTI or is violating the department's rules or the CAA.<sup>2</sup> **(R 336.1201(8), Section 5510 of Act 451)**
45. The terms and conditions of a PTI 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 the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI 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. The written request shall be sent to the appropriate AQD District Supervisor, EGLE.<sup>2</sup> **(R 336.1219)**
46. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months of the original PTI issuance date, or has been interrupted for 18 months, the applicable terms and conditions from that PTI, as incorporated into the ROP, shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, EGLE, AQD, P. O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.<sup>2</sup> **(R 336.1201(4))**

#### **Footnotes:**

<sup>1</sup>This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

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

## **B. SOURCE-WIDE CONDITIONS**

Part B outlines the Source-Wide Terms and Conditions that apply to this stationary source. The permittee is subject to these special conditions for the stationary source in addition to the general conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply to this source, NA (not applicable) has been used in the table. If there are no Source-Wide Conditions, this section will be left blank.

## SOURCE-WIDE CONDITIONS

### **DESCRIPTION**

All process equipment at the stationary source including equipment covered by other permits, grandfathered equipment, and exempt equipment.

### **POLLUTION CONTROL EQUIPMENT**

NA

### **I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. HAP, individual	9 tpy <sup>2</sup>	Rolling 12-month time period, as determined at the end of each calendar month	SOURCE-WIDE	SC VI.1	R336.1205(3)
2. HAPs, total	22.5 tpy <sup>2</sup>	Rolling 12-month time period, as determined at the end of each calendar month	SOURCE-WIDE	SC VI.1	R336.1205(3)

### **II. MATERIAL LIMIT(S)**

1. The sulfur content of the No. 2 fuel oil and on-specification oil used source-wide shall not exceed 0.30% by weight.<sup>2</sup> (R 336.1401(1) and (2), Table 42)

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

NA

### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

NA

### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall keep records of calculated emissions of Individual HAPs and total HAPs as required by special conditions I.1 and I.2. These emissions shall be expressed as tons per year on a rolling 12-month time period as determined at the end of each calendar month. All records shall be maintained for a period of at least five years and shall be maintained in a format acceptable to the district supervisor.<sup>2</sup> (R336.1201(3))
2. The permittee shall maintain a complete record of fuel oil specifications and/or fuel analysis of each delivery, or storage tank of fuel oil. These records may include purchase records for ASTM specification for fuel oil,

specifications or analysis provided by the vendor at the time of delivery, analytical results from the laboratory testing, or any other records adequate to demonstrate compliance with the percent sulfur limit in fuel oil.  
**(R336.1213(3))**

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year.  
**(R 336.1213(4)(c))**

**See Appendix 8**

## **VIII. STACK/VENT RESTRICTION(S)**

NA

## **IX. OTHER REQUIREMENT(S)**

NA

### **Footnotes:**

<sup>1</sup>This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

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

## C. EMISSION UNIT SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

### 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-BOILER1	570 million Btu/hr natural gas fired boiler with No. 2 fuel oil as backup fuel. No control device.	01-01-1926/ 01-01-1973	FG-BOILER_1,2 FG-BOILER_1-4_RULE801
EU-BOILER2	570 million Btu/hr natural gas fired boiler with No. 2 fuel oil as backup fuel. No control device.	01-01-1926/ 11-20-1974	FG-BOILER_1,2 FG-BOILER_1-4_RULE801
EU-BOILER3	600 million Btu/hr natural gas fired boiler with No. 2 fuel oil as backup fuel. No control device.	01-01-1959/ 01-01-1973	FG-BOILER_3,6,7 FG-BOILER_1-4_RULE801
EU-BOILER4	570 million Btu/hr natural gas fired boiler, No. 2 fuel oil, and on-specification oil. No control device.	01-01-1927/ 12-21-1973	FG-BOILER_4,6,7 FG-BOILER_1-4_RULE801
EU-BOILER6	Boiler No. 6 – 180.2 million Btu/hr natural gas fired with No. 2 fuel oil backup. Boiler is equipped with low NO <sub>x</sub> burners and flue gas recirculation.	03-09-2007	FG-BOILER_6,7 FG-BOILER_3,6,7 FG-BOILER_4,6,7
EU-BOILER7	Boiler No. 7 – 180.2 million Btu/hr natural gas fired with No. 2 fuel oil backup. Boiler is equipped with low NO <sub>x</sub> burners and flue gas recirculation.	03-09-2007	FG-BOILER_6,7 FG-BOILER_3,6,7 FG-BOILER_4,6,7

## EU-BOILER3 EMISSION UNIT CONDITIONS

### DESCRIPTION

600 million Btu/hr natural gas fired boiler with No. 2 fuel as backup fuel. No control device.

**Flexible Group ID:** FG-BOILER\_3,6,7, FG-BOILER\_1-4\_RULE801

### POLLUTION CONTROL EQUIPMENT

NA

### I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO <sub>x</sub>	757.2 tpy <sup>2</sup>	Rolling 12-month time period, as determined at the end of each calendar month	EU-BOILER3	SC VI.1	40 CFR 52.21(j)

### II. MATERIAL LIMIT(S)

NA

### III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

### IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

### V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

### VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- The permittee shall maintain the following records for EU-BOILER3<sup>2</sup>: (R336.1205(3))
  - Amount of natural gas consumed (million cubic feet), on a monthly and annual basis.
  - Amount of No. 2 fuel oil consumed (thousands of gallons) on a monthly and annual basis.
  - Sulfur content of the No. 2 fuel oil (percent sulfur by weight).
  - Heat content of the No. 2 fuel oil in Btu's per gallon of fuel oil.
  - Calculated annual NO<sub>x</sub> emissions. NO<sub>x</sub> emissions shall be calculated for both natural gas and distillate oil combustion in accordance with the methodology contained in Appendix 7A.
- The permittee shall keep records of the number of hours during each calendar year that the boiler combusts No. 2 fuel oil under any circumstance. (R336.1213(3))

See Appendix 7

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Not more than 30 days after restarting EU-BOILER3, the permittee shall notify the AQD District Supervisor in writing of the EU-BOILER3 restart. **(R 336.1213(3))**

See Appendix 8

## **VIII. STACK/VENT RESTRICTION(S)**

NA

## **IX. OTHER REQUIREMENT(S)**

1. As allowed by the definition of gas-fired boiler in 40 CFR 63.11237, the permittee shall only burn No. 2 fuel oil during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year. **(40 CFR 63.11237, 40 CFR Part 63, Subpart JJJJJJ)**

### **Footnotes:**

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

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



## EU-BOILER4 EMISSION UNIT CONDITIONS

### DESCRIPTION

570 million Btu/hr natural gas fired boiler, No. 2 fuel oil, and on-specification oil. No control device.

Flexible Group ID: FG-BOILER\_4,6,7, FG-BOILER\_1-4\_RULE801

### POLLUTION CONTROL EQUIPMENT

NA

### I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO <sub>x</sub>	39 tpy <sup>2</sup> (from combustion of on-spec oil)	Rolling 12-month time period, as determined at the end of each calendar month	EU-BOILER4	SC VI.2	40 CFR 52.21(j) R336.1205(3)

### II. MATERIAL LIMIT(S)

- The on-specification oil combusted in EU-BOILER4 shall conform to the following specifications<sup>2</sup>: **(R336.1205(3))**
  - Arsenic, 5 ppm by weight, maximum
  - Chromium, 9 ppm by weight, maximum
  - Lead, 100 ppm by weight, maximum
  - Cadmium, 2 ppm by weight, maximum
  - Polychlorinated biphenyls, < 2 ppm by weight, maximum
  - Beryllium, 1.8 ppm by weight, maximum
  - Copper 100 ppm by weight, maximum
  - Ash content, 0.16% by weight, maximum
  - Selenium, 100 ppm, by weight, maximum
  - Total Halogens, 1873 ppm, by weight, maximum
  - Nickel, 59 ppm by weight, maximum
- The on-specification oil usage in EU-BOILER4 shall not exceed 4,071 gallons per hour nor 3,240,857 gallons per 12-month time period, as determined at the end of each calendar month.<sup>2</sup> **(R336.1205(3))**

### III. PROCESS/OPERATIONAL RESTRICTION(S)

- All on-spec oil used in EU-BOILER4 shall comply with the requirements specified in Appendix 3 COMPLIANCE MONITORING PLAN (CMP) FOR FACILITIES BURNING ON-SPEC OIL (OSO).<sup>2</sup> **(R336.1201(3))**
- The permittee shall only fire natural gas, on-specification oil, or No. 2 fuel oil in EU-BOILER4.<sup>2</sup> **(40 CFR 52.21 (c) and (d))**

See Appendix 3

### IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

#### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

#### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. By the 10th day of each calendar month, applicant shall calculate the usage rate for each type of fuel fired in EU-BOILER4 for the previous month. This information shall be kept on file for a period of at least five years and made available to the Air Quality Division upon request.<sup>2</sup> **(R 336.1224(2)(b), R 336.1901)**
2. The permittee shall calculate NOx emissions from EU-BOILER4 to demonstrate compliance with special condition I.1. NOx emissions shall be calculated in tons per year and based upon a rolling 12-month time period as determined at the end of each calendar month. All records shall be maintained for a period of five years and shall be in a format acceptable to the district supervisor. NOx emissions shall be calculated for on-specification oil in accordance with the methodology contained in Appendix 7A.<sup>2</sup> **(40 CFR 52.21(j))**
3. The permittee shall keep records of the number of hours during each calendar year that the boiler combusts No. 2 fuel oil under any circumstance. **(R336.1213(3))**

**See Appendix 7**

#### **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Not more than 30 days after restarting EU-BOILER4, the permittee shall notify the AQD District Supervisor in writing of the EU-BOILER4 restart. **(R 336.1213(3))**

**See Appendix 8**

#### **VIII. STACK/VENT RESTRICTION(S)**

NA

#### **IX. OTHER REQUIREMENT(S)**

1. As allowed by the definition of gas-fired boiler in 40 CFR 63.11237, the permittee shall only burn No. 2 fuel oil during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year. **(40 CFR 63.11237, 40 CFR Part 63, Subpart JJJJJJ)**

**Footnotes:**

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

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

## D. FLEXIBLE GROUP SPECIAL CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

### FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-BOILER_1,2	Boiler No. 1 - 570 million Btu/hr natural gas fired with No. 2 fuel oil backup. Boiler No. 2 - 570 million Btu/hr natural gas fired with No. 2 fuel oil backup. Boiler No. 1 and Boiler No. 2 are not equipped with a control device.	EU-BOILER1 EU-BOILER2
FG-BOILER_6,7	Boiler No. 6 and Boiler No. 7, each 180.2 million Btu/hr, natural gas fired with No. 2 fuel oil backup.	EU-BOILER6 EU-BOILER7
FG-BOILER_3,6,7	Boilers No.3, No.6, and No.7	EU-BOILER3 EU-BOILER6 EU-BOILER7
FG-BOILER_4,6,7	Boilers No.4, No.6, and No.7	EU-BOILER4 EU-BOILER6 EU-BOILER7
FG-BOILER_1-4_RULE801	Requirements for a fossil fuel-fired emission unit which has the potential to emit more than 25 tons of NO <sub>x</sub> each ozone control period (May 1 through September 30) and which has a maximum rated heat input capacity of more than 250 MMBTU/hr.	EU-BOILER1 EU-BOILER2 EU-BOILER3 EU-BOILER4

## FG-BOILER\_1,2 FLEXIBLE GROUP CONDITIONS

### **DESCRIPTION**

Boiler No. 1 - 570 million Btu/hr natural gas fired with No. 2 fuel oil backup. Boiler No. 2 - 570 million Btu/hr natural gas fired with No. 2 fuel oil backup. Boiler No. 1 and Boiler No. 2 are not equipped with a control device.

**Emission Units:** EU-BOILER1, EU-BOILER2

### **POLLUTION CONTROL EQUIPMENT**

NA

### **I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. SO <sub>2</sub>	120 ppmv corrected to 50% excess air	Daily, when firing No. 2 fuel oil	FG-BOILER_1,2	SC V.1	R 336.1401(1) and (2), Table 42, R 336.1213(3)

### **II. MATERIAL LIMIT(S)**

NA

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

NA

### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

NA

### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- For each boiler, when firing No. 2 fuel oil, the permittee shall sample, analyze, calculate and record for each day of operation for each unit at the power plant, the sulfur content of the fuel combusted (i.e., the sulfur content of each fuel delivery) and the fuel's equivalent SO<sub>2</sub> emission rate. Supplier testing data may be used in place of the permittee's own testing, provided that the supplier certification represents the fuel as fired. Testing shall be performed using an approved EPA Method listed in Appendix A of 40 CFR Part 60, as a Standard Test Method for Sulfur in Petroleum Products. In lieu of daily sampling, the permittee may install a SO<sub>2</sub> continuous emissions monitoring system (CEMS) and record the daily equivalent emission rates. (R336.1401(2), R336.1401(4))

### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- The permittee shall keep records, individually for EU-BOILER1 and EU-BOILER2, of the number of hours during each calendar year that the boiler combusts No. 2 fuel oil under any circumstance. (R336.1213(3))

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

**See Appendix 8**

## **VIII. STACK/VENT RESTRICTION(S)**

NA

## **IX. OTHER REQUIREMENT(S)**

1. As allowed by the definition of gas-fired boiler in 40 CFR 63.11237, the permittee shall only burn No. 2 fuel oil during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year. **(40 CFR 63.11237, 40 CFR Part 63, Subpart JJJJJJ)**

### **Footnotes:**

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

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

## FG-BOILER\_6,7 FLEXIBLE GROUP CONDITIONS

### DESCRIPTION

Boiler No. 6 and Boiler No. 7, each 180.2 million Btu/hr, natural gas fired with No. 2 fuel oil backup.

**Emission Units:** EU-BOILER6, EU-BOILER7

### POLLUTION CONTROL EQUIPMENT

Low NO<sub>x</sub> burners and flue gas recirculation.

### I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. CO	0.073 lb/MMBtu <sup>2</sup>	Hourly, when burning 100% natural gas	EU-BOILER6 and EU-BOILER7, individually.	SC V.1	R 336.2804, 40 CFR 52.21(j)
2. CO	0.155 lb/MMBtu <sup>2</sup>	Hourly, when burning 100% No. 2 fuel oil	EU-BOILER6 and EU-BOILER7, individually.	SC V.2	R 336.2804, 40 CFR 52.21(j)
3. CO	84.6 lb/hour <sup>2</sup>	Hourly and Calendar Month Average	EU-BOILER6 and EU-BOILER7, collectively.	SC V.1, SC V.2	R 336.2804, 40 CFR 52.21(j)
4. NO <sub>x</sub>	0.036 lb/MMBtu <sup>2, a</sup>	Calendar Day, when burning 100% natural gas	EU-BOILER6 and EU-BOILER7, individually.	SC IV.1, SC IV.3	R 336.1205, 40 CFR 52.21(c) and (d), 40 CFR Part 60 Section 60.44b(a)
5. NO <sub>x</sub>	0.140 lb/MMBtu <sup>2, a</sup>	Calendar Day, when burning 100% No. 2 fuel oil	EU-BOILER6 and EU-BOILER7, individually.	SC IV.1, SC IV.3	R 336.1205, 40 CFR 52.21(c) and (d), 40 CFR Part 60 Section 60.44b(a)
6. NO <sub>x</sub>	76.4 lb/hour <sup>2</sup>	Calendar Day	EU-BOILER6 and EU-BOILER7, collectively.	SC IV.1, SC IV.3	R 336.1205, 40 CFR 52.21(c) and (d)
7. NO <sub>x</sub>	155.3 tons/yr <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	EU-BOILER6 and EU-BOILER7, collectively.	SC IV.1, SC IV.3, SC VI.2	R 336.1205, 40 CFR 52.21(c) and (d)
8. PM <sub>10</sub>	0.007 lb/MMBtu <sup>2</sup>	Hourly, when burning 100% natural gas	EU-BOILER6 and EU-BOILER7, individually.	SC V.1	R 336.2803, R 336.2804, 40 CFR 52.21(j)
9. PM <sub>10</sub>	0.040 lb/MMBtu <sup>2</sup>	Hourly, when burning 100% No. 2 fuel oil	EU-BOILER6 and EU-BOILER7, individually.	SC V.2	R 336.2803, R 336.2804, 40 CFR 52.21(j)
10. PM <sub>10</sub>	21.8 lb/hour <sup>2</sup>	Hourly and Calendar Month Average	EU-BOILER6 and EU-BOILER7, collectively.	SC V.1, SC V.2	R 336.2803, R 336.2804, 40 CFR 52.21(j)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
11. SO <sub>2</sub>	39 tons/yr <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	EU-BOILER6 and EU-BOILER7, collectively	SC VI.1, SC VI.2	<b>R 336.1205, 40 CFR 52.21(c) and (d)</b>
12. SO <sub>2</sub>	120 ppmv corrected to 50% excess air	Daily, when firing No. 2 fuel oil	EU-BOILER6 and EU-BOILER7, individually.	SC V.9	<b>R 336.1401(1) and (2), Table 42, R 336.1213(3)</b>
13. Visible Emissions	20% opacity except for one 6-minute average per hour of not more than 27% <sup>2</sup>	6-minute average, when burning any amount of No. 2 fuel oil	EU-BOILER6 and EU-BOILER7, individually.	SC IV.4, SC VI.4, SC VI.5	<b>R 336.1301(1), 40 CFR 60.43b(f) and (g)</b>
<sup>a</sup> In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined NO <sub>x</sub> emission limit shall be considered compliance with the emission limit established by <b>R 336.1205, 40 CFR 52.21(c) and (d), and 40 CFR Part 60 Section 60.44b(a)</b> ; and also compliance with <b>40 CFR 60.44b(i) and 60.49b(g)</b> , additional applicable requirements that have been subsumed within this condition.					

## II. MATERIAL LIMIT(S)

- The sulfur content of the No. 2 fuel oil used in EU-BOILER6 and EU-BOILER7 shall not exceed 0.30 percent by weight.<sup>2</sup> (**R 336.1401(1) and (2), 40 CFR 60.41b, 40 CFR 60.42b(k)(2), 40 CFR 60.43b(h)(5)**)

## III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee shall only fire natural gas and/or No. 2 fuel oil in EU-BOILER6 and EU-BOILER7, wherein the No. 2 fuel oil used shall meet the definition of *very low sulfur oil* found in 40 CFR 60.41b.<sup>2</sup> (**R 336.1201(1), 40 CFR 60.42b(k)(2), 40 CFR 60.43b(h)(5)**)

## IV. DESIGN/EQUIPMENT PARAMETER(S)

- The permittee shall install, calibrate, certify, maintain, and operate in a satisfactory manner a Predictive Emission Monitoring System (PEMS) to monitor and record the NO<sub>x</sub> emissions from each boiler in FG-BOILERS\_6,7 on a continuous basis, and shall use the PEMS for determining compliance with SCs I.4, I.5, I.6, and I.7. Each PEMS shall be designed in accordance with and shall meet the provisions within 40 CFR 60.13 and 40 CFR 60 Appendix B, Performance Specification 16 – Specifications and Test Procedures for Predictive Emission Monitoring Systems in Stationary Sources, individually for natural-gas combustion and for No. 2 fuel oil combustion. For the purposes of this condition, continuous shall mean the collection and calculation of 1-hour NO<sub>x</sub> averages from four or more data values equally spaced over each hour in accordance with the provisions within 40 CFR 60.13(e) and (h).<sup>2</sup> (**40 CFR 52.21(j), 40 CFR 60.13(a), (e)(2), and (h)(2), 40 CFR 60.46b(e)(4), 40 CFR 60.48b(g)(2), 40 CFR 60 Appendix B, Performance Specification 16, Paragraph 1.1)**)
- The permittee shall, within the PEMS for each boiler, install, calibrate, certify, maintain, and operate in a satisfactory manner a device to monitor and record the exhaust O<sub>2</sub> (or, alternatively, the CO<sub>2</sub>) concentration from each boiler in FG-BOILERS\_6,7 on a continuous basis. Each device to monitor the exhaust O<sub>2</sub> (or CO<sub>2</sub>) concentration shall be designed in accordance with and shall meet the provisions within 40 CFR 60.13 and 40 CFR 60 Appendix B, Performance Specification 16 – Specifications and Test Procedures for Predictive Emission Monitoring Systems in Stationary Sources, individually for natural-gas combustion and for No. 2 fuel oil combustion. For the purposes of this condition, continuous shall mean the collection and calculation of 1-hour exhaust O<sub>2</sub> (or CO<sub>2</sub>) concentration averages from four or more data values equally spaced over each hour in accordance with the provisions within 40 CFR 60.13(e) and (h).<sup>2</sup> (**40 CFR 52.21(j), 40 CFR 60.13(a), (e)(2), and (h)(2), 40 CFR 60.46b(e)(4), 40 CFR 60.48b(g)(2), 40 CFR 60.49b(c)(1), 40 CFR 60 Appendix B, Performance Specification 16, Paragraph 1.1)**)



3. The permittee shall implement and maintain a Plan, currently named the "Alternative Monitoring Protocol" of November 2016, that identifies the following:
  - a. PEMS operating indicators to be monitored, the range of each indicator, the relationship between the indicators and the NO<sub>x</sub> emission rates, and the data used to establish that relationship during the certification of the PEMS. **(40 CFR 60.49b(c)(1) and (2))**
  - b. How the PEMS indicators will be monitored on a continuous basis, and the type and format of the records that will be kept of these indicators. **(40 CFR 60.49b(c)(3))**
  - c. The quality assurance procedures and practices that will be employed to ensure that the predicted NO<sub>x</sub> emissions generated by monitoring the operating indicators will be representative and accurate. **(40 CFR 60.49b(c)(3))**

If it becomes necessary to revise, modify or update the Plan, the permittee shall resubmit the Plan to the Detroit District Supervisor for review and written approval before implementing such revisions, modifications, or updates.<sup>2</sup> **(40 CFR 60.13(a), 40 CFR 60.46b(e)(4), 40 CFR 60.48b(g)(2), 40 CFR 60.49b(c), 40 CFR 60 Appendix B, Performance Specification 16)**

4. The permittee shall maintain and operate each boiler according to a written site-specific monitoring plan approved by the department. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.<sup>2</sup> **(40 CFR 60.48b(j)(7))**

#### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Upon request of the District Supervisor, the permittee shall verify CO and PM<sub>10</sub> emission rates from FG-BOILER\_6,7, when burning natural gas, by testing at owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A and 40 CFR Part 51, Appendix M. 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. No less than 7 days prior to testing, the permittee shall notify the AQD of the time and place of the performance test. 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.<sup>2</sup> **(R 336.2001, R 336.2003, R 336.2004)**
2. Upon request of the District Supervisor, the permittee shall verify CO and PM<sub>10</sub> emission rates from FG-BOILER\_6,7, when burning No. 2 fuel oil, by testing at owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A and 40 CFR Part 51, Appendix M. 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. No less than 7 days prior to testing, the permittee shall notify the AQD of the time and place of the performance test. 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.<sup>2</sup> **(R 336.2001, R 336.2003, R 336.2004)**
3. Quality assurance of the NO<sub>x</sub> predictive emission monitoring system ("PEMS") will be accomplished by performance at owner's expense of a relative accuracy test audit ("RATA") initially after PEMS installation/startup and at least once every four quarters thereafter, as identified in the Plan submitted to and approved by the department. Stack testing and quality assurance procedures shall be in accordance with applicable federal Reference Methods, 40 CFR Part 60 Appendices A, B, and F. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following

the last date of the test.<sup>2</sup> **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 60.49b(c)(3), 40 CFR 60 Appendix B, Performance Specification 16, Paragraph 9.4)**

4. Quality assurance of the NO<sub>x</sub> predictive emission monitoring system ("PEMS") will be accomplished by performance at owner's expense of a relative accuracy audit (RAA) conducted on a quarterly basis except during the quarter which the RATA is performed. Pursuant to 40 CFR Part 60, Appendix B, Performance Specification 16, if PEMS passes all quarterly RAAs in the first year and also passes the subsequent yearly RATA in the second year, the permittee may elect to perform a single mid-year RAA in place of the quarterly RAAs. This option may be repeated, but only until the PEMS fails either a mid-year RAA or a yearly RATA. When such a failure occurs, the permittee must resume quarterly RAAs in the quarter following the failure and continue conducting quarterly RAAs until the PEMS successfully passes both a year of quarterly RAAs and a subsequent RATA.<sup>2</sup> **(40 CFR 60.49b(c)(3), 40 CFR 60 Appendix B, Performance Specification 16, Paragraph 9.3)**
5. The permittee shall ensure the sensor evaluation system within the NO<sub>x</sub> PEMS checks the integrity of each PEMS input not less than once per day.<sup>2</sup> **(40 CFR 60.49b(c)(3), 40 CFR 60 Appendix B, Performance Specification 16, Paragraph 9.2)**
6. Within 180 days of permit issuance, when burning natural gas, the permittee shall verify the CO and PM10 emission rates from FG-BOILER<sub>6,7</sub>, and at a minimum, every five years from the date of the last test, thereafter. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
7. Within 180 days of combusting No. 2 fuel oil in EU-BOILER<sub>6</sub> or EU-BOILER<sub>7</sub> for greater than 48 hours during any calendar year, the permittee shall verify CO and PM10 emission rates from FG-BOILER<sub>6,7</sub>, and at a minimum, every five years from the date of the last test, thereafter. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
8. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days before testing of the time and place performance tests will be conducted. **(R 336.1213(3))**
9. For each boiler, when firing No. 2 fuel oil, the permittee shall sample, analyze, calculate and record for each day of operation for each unit at the power plant, the sulfur content of the fuel combusted (i.e., the sulfur content of each fuel delivery) and the fuel's equivalent SO<sub>2</sub> emission rate. Supplier testing data may be used in place of the permittee's own testing, provided that the supplier certification represents the fuel as fired. Testing shall be performed using an approved EPA Method listed in Appendix A of 40 CFR Part 60, as a Standard Test Method for Sulfur in Petroleum Products. In lieu of daily sampling, the permittee may install a SO<sub>2</sub> continuous emissions monitoring system (CEMS) and record the daily equivalent emission rates. **(R336.1401(2), R336.1401(4))**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall obtain and maintain fuel receipts from the fuel oil supplier which certify that the No. 2 fuel oil meets the definition of distillate oil as defined in 40 CFR 60.41b. For purposes of this permit condition, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted certifying that only very low sulfur oil, as defined in 40 CFR 60.41b for a unit constructed after February 28, 2005, not located in a noncontinental area, was combusted in FG-BOILER<sub>6,7</sub> during the reporting period.<sup>2</sup> **(40 CFR 60.45b(j) and (k), 60.47b(f), 40 CFR 60.49b(r)(1))**
2. The permittee shall maintain the following records for each boiler in FG-BOILER<sub>6,7</sub> individually:<sup>2</sup> **(R 336.1205, 40 CFR 60.49b(d)(1))**
  - a. Amount of natural gas consumed (million cubic feet), on a daily, monthly and annual basis.
  - b. Amount of No. 2 fuel oil consumed (thousands of gallons) on a daily, monthly and annual basis.
  - c. Sulfur content of the No. 2 fuel oil (percent sulfur by weight).
  - d. Heat content of the No. 2 fuel oil in Btu's per gallon of fuel oil.
  - e. Calculated annual SO<sub>2</sub> and NO<sub>x</sub> emissions. SO<sub>2</sub> and NO<sub>x</sub> emissions shall be calculated for both natural gas and distillate oil combustion in accordance with the methodology contained in Appendix 7A.

- f. Individually calculated annual capacity factor No. 2 fuel oil and natural gas for the reporting period. Per 40 CFR 60.49b(d)(1), the annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.
3. The permittee shall maintain records of the predicted NO<sub>x</sub> emission rates and the monitored boiler operating conditions for FG-BOILER\_6,7, as identified in the Plan submitted to and approved by the department.<sup>2</sup> **(40 CFR 60.49b(c))**
4. When firing No. 2 fuel oil, the permittee shall perform daily visual emissions observations (non-certified) during each day the boiler is in operation. The visual observations shall be performed in accordance with U.S. EPA Method 22. If visible emissions are observed, the permittee either shall shutdown the boiler exhibiting the visible emissions or shall conduct visual observations in accordance with U.S. EPA Method 9 by an observer certified in U.S. EPA Method 9.<sup>2</sup> **(R 336.1303, 40 CFR 60.48b(j)(7))**
5. For each visual emissions observation period, the permittee shall keep the following records:<sup>2</sup> **(40 CFR 60.49b(f))**
  - a. Dates and time intervals of all opacity observation periods.
  - b. Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test.
  - c. Copies of all visible emission observer opacity field data sheets.
6. The permittee shall continuously monitor and record the PEMS operational indicators identified in the Plan for EU-BOILER6 and EU-BOILER7. For the purposes of this condition, continuous shall mean the collection and calculation of 1-hr averages from four or more data values equally spaced over each hour in accordance with the provisions within 40 CFR 60.13(e) and (h). Within the Plan of November 2016, the operational indicators for each boiler are identified as the fuel gas flow, the steam flow rate, the combustion air differential pressure, the oxygen analyzer, the gas flow transmitter, the boiler demand, the air damper position, and the air flow percentage with oxygen trim. The indicator ranges are identified within the Plan at Table 2 (for EU-BOILER6) and at Table 3 (for EU-BOILER7). The operating indicators and their ranges may be updated in the Plan and applied by the permittee provided the changes have been submitted to and approved by the Detroit District Supervisor pursuant to SC IV.3.<sup>2</sup> **(40 CFR 60.13(a), (e)(2), and (h)(2), 40 CFR 60.48b(g)(2), 40 CFR 60.49b(c), 40 CFR 60 Appendix B, Performance Specification 16)**
7. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that EU-BOILER6 or EU-BOILER7 are operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for evaluation against the emissions limitations within SCs I.4, I.5, and I.6, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.<sup>2</sup> **(40 CFR 60.13(e)(2), (h)(2), and (h)(2)(vi))**
8. The permittee shall calculate the pound per hour CO and PM10 emission rates, based upon a calendar monthly average, for both natural gas and distillate oil combustion in accordance with the methodology contained in Appendix 7C. **(R336.1213(3))**
9. The permittee shall keep records, individually for EU-BOILER6 and EU-BOILER7, of the number of hours during each calendar year that the boiler combusts No. 2 fuel oil under any circumstance. **(R336.1213(3))**
10. When burning fuel oil, an exceedance is a NO<sub>x</sub> emission rate measured by the PEMS that is in excess, based on a daily average, of the emission limitation specified in SC 1.5 for either EU-BOILER6 or EU-BOILER7, or in excess, based on a daily average, of the emission limit specified in SC 1.6 for EU-BOILER6 and EU-BOILER7,

collectively, or in excess, on a 12-month rolling time period as determined at the end of each calendar month, of the emission limit specified in SC 1.7 for EU-BOILER6 and EU-BOILER7, collectively. **(40 CFR 64.6(c)(2))**

11. When burning fuel oil, upon detecting an exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an exceedance (other than those caused by excused startup or shutdown conditions). Upon detecting an exceedance, response actions may include initial inspection and evaluation of potential malfunctioning equipment, recording that operations returned to normal without a cause identified, or making adjustments to return operation below the applicable emission limitation or standard, as applicable. **(40 CFR 64.7(d))**
12. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
13. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

**See Appendix 7**

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. 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.<sup>2</sup> **(R 336.2001(5))**
5. The permittee shall submit quarterly excess emissions and monitoring systems performance reports in the format prescribed by Figure 1 of 40 CFR 60.7(d). Reports shall be postmarked by April 30<sup>th</sup>, July 31<sup>st</sup>, October 31<sup>st</sup>, and January 31<sup>st</sup> of each year. Written reports of excess emissions shall include the following information:<sup>2</sup> **(40 CFR 60.49b(g)(4) and (h), 40 CFR 60.7(c))**
  - a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
  - b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
  - c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
  - d. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

6. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of exceedances and the corrective actions taken. If there were no exceedances in the reporting period, then this report shall include a statement that there were no exceedances. **(40 CFR 64.9(a)(2)(i))**
7. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

See Appendix 8

#### **VIII. STACK/VENT RESTRICTION(S)**

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV016-026	120 <sup>2</sup>	250 <sup>2</sup>	R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
2. SV016-027	120 <sup>2</sup>	250 <sup>2</sup>	R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)

#### **IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with applicable provisions of 40 CFR Part 60, Subpart A and Subpart Db.<sup>2</sup> **(40 CFR Part 60, Subpart Db)**
2. As allowed by the definition of gas-fired boiler in 40 CFR 63.11237, the permittee shall only burn No. 2 fuel oil during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year. **(40 CFR 63.11237, 40 CFR Part 63, Subpart JJJJJJ)**
3. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
4. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the ROP and Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

#### **Footnotes:**

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

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

## **FG-BOILER\_3,6,7 FLEXIBLE GROUP CONDITIONS**

### **DESCRIPTION**

Boiler No. 3 - 600 million Btu/hour, natural gas fired with No. 2 fuel oil backup. Boiler No. 3 is not equipped with a control device. Boiler No. 6 – 180.2 million Btu/hr, natural gas fired with No. 2 fuel oil backup. Boiler No. 7 – 180.2 million Btu/hr, natural gas fired with No. 2 fuel oil backup. Boiler No. 6 and Boiler No. 7 are equipped with low NOx burners and flue gas recirculation.

**Emission Units:** EU-BOILER3, EU-BOILER6, EU-BOILER7

### **POLLUTION CONTROL EQUIPMENT**

Low NOx burners and flue gas recirculation for EU-BOILER6 and EU-BOILER7.

#### **I. EMISSION LIMIT(S)**

NA

#### **II. MATERIAL LIMIT(S)**

NA

#### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not operate EU-BOILER3 while any of the package boilers (EU-BOILER6 and/or EU-BOILER7) are in operation.<sup>2</sup> **(R336.1205(3))**

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

NA

#### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

#### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall keep records, on a monthly basis, indicating when the boilers are in operation. The records shall indicate the emission unit ID, the date, and the times that each boiler included in FG-BOILER\_3,6,7 are in operation. This information shall be kept in a format acceptable to the district supervisor, and shall be maintained for a period of five years.<sup>2</sup> **(R336.1205(3))**

#### **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year.  
**(R 336.1213(4)(c))**

**See Appendix 8**

**VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

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

## FG-BOILER\_4,6,7 FLEXIBLE GROUP CONDITIONS

### **DESCRIPTION**

Boiler No. 4 - 570 million Btu/hr, natural gas and on-specification oil fired with No. 2 fuel oil backup. Boiler No. 4 is not equipped with a control device. Boiler No. 6 – 180.2 million Btu/hr, natural gas fired with No. 2 fuel oil backup. Boiler No. 7 – 180.2 million Btu/hr, natural gas fired with No. 2 fuel oil backup. Boiler No. 6 and Boiler No. 7 are equipped with low NOx burners and flue gas recirculation.

**Emission Unit:** EU-BOILER4, EU-BOILER6, EU-BOILER7

### **POLLUTION CONTROL EQUIPMENT**

Low NOx burners and flue gas recirculation for EU-BOILER6 and EU-BOILER7

### **I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. SO <sub>2</sub>	39 tpy <sup>2</sup> (from burning on-spec oil in EU-BOILER4 and any fuel in EU-BOILER6, and/or EU-BOILER7)	Rolling 12-month time period, as determined at the end of each calendar month	FG-BOILER_4,6,7	SC VI.1, Appendix 7A	40 CFR 52.21(j) R336.1205(3)

### **II. MATERIAL LIMIT(S)**

NA

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

NA

### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

NA

### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall maintain the following records for FG-BOILER\_4,6,7: (R336.1213(3))
  - a. Amount of natural gas consumed (million cubic feet), on a monthly and annual basis.
  - b. Amount of No. 2 fuel oil consumed (thousands of gallons) on a monthly and annual basis.
  - c. Amount of on-specification oil fuel oil consumed (thousands of gallons) on a monthly and annual basis.



- d. Sulfur content of the No. 2 fuel oil (percent sulfur by weight).
- e. Heat content of the No. 2 fuel oil in Btu's per gallon of fuel oil.
- f. Calculated annual sulfur dioxide emissions. Sulfur dioxide emissions shall be calculated for on-specification oil combustion in accordance with the methodology contained in Appendix 7A.

**See Appendices 3 and 7**

## **VII. REPORTING**

- 1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
- 2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
- 3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

**See Appendix 8**

## **VIII. STACK/VENT RESTRICTION(S)**

NA

## **IX. OTHER REQUIREMENT(S)**

NA

### **Footnotes:**

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

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

## FG-BOILER\_1-4\_RULE801 FLEXIBLE GROUP CONDITIONS

### DESCRIPTION

Requirements for a fossil fuel-fired emission unit which has the potential to emit more than 25 tons of NO<sub>x</sub> each ozone control period (May 1 through September 30) and which has a maximum rated heat input capacity of more than 250 MMBTU/hr.

**Emission Units:** EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4

### POLLUTION CONTROL EQUIPMENT

NA

### I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO <sub>x</sub>	0.20 lb/MMBtu when using natural gas	Cumulative 5-month period May 1 <sup>st</sup> through September 30 <sup>th</sup> each calendar year	EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4 individually.	SC V.1, V.3	<b>R336.1801(3)(b) &amp; Table 81</b>
2. NO <sub>x</sub>	0.30 lb/MMBtu when using distillate oil	Cumulative 5-month period May 1 <sup>st</sup> through September 30 <sup>th</sup> each calendar year	EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4 individually.	SC V.2, V.3	<b>R336.1801(3)(b) &amp; Table 81</b>

### II. MATERIAL LIMIT(S)

NA

### III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

### IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

### V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Within 180 days of operation using natural gas in EU-BOILER1, EU-BOILER2, EU-BOILER3, or EU-BOILER4, the permittee shall verify NO<sub>x</sub> emission rates from the applicable boiler(s) by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs

Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3), R 336.1801(6), R 336.1801(7), R 336.2001, R 336.2003, R 336.2004)**

2. Within 180 days of combusting No. 2 fuel oil in EU-BOILER1, EU-BOILER2, EU-BOILER3, or EU-BOILER4 for greater than 48 hours during any calendar year, the permittee shall verify NO<sub>x</sub> emission rates from the applicable boiler(s) by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3), R 336.1801(6), R 336.1801(7), R 336.2001, R 336.2003, R 336.2004)**
3. After the initial performance test for natural gas and/or No. 2 fuel oil, the permittee shall verify the NO<sub>x</sub> emission rates from EU-BOILER1, EU-BOILER2, EU-BOILER3, and/or EU-BOILER4, as applicable, for natural gas and/or No. 2 fuel oil as applicable, according to the following schedule: **(R 336.1213(3), R 336.1801(9), R 336.2001, R 336.2003, R 336.2004)**
  - a. The permittee shall conduct performance tests at least once every ozone control period.
  - b. After 2 consecutive ozone control periods in which the emission unit demonstrates compliance, the permittee shall conduct performance tests at least once every 2 years during the ozone control period.
  - c. After a total of 4 consecutive ozone control periods in which the emission unit has remained in compliance, the permittee shall conduct performance tests at least once every 5 years during the ozone control period.
  - d. If EU-BOILER1, EU-BOILER2, EU-BOILER3, or EU-BOILER4 are not in compliance at the end of an ozone control period, then the permittee shall conduct a compliance performance test each ozone control period but can again elect to use the alternative schedule specified above, as applicable.
4. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall calculate NO<sub>x</sub> emissions in lb/MMBtu for the cumulative 5-month period May 1<sup>st</sup> through September 30<sup>th</sup> of each calendar year. NO<sub>x</sub> emissions shall be calculated for both natural gas and distillate oil combustion in accordance with the methodology contained in Appendix 7A and 7B. **(R336.1801(4)(a))**

**See Appendix 7**

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit a summary report, in an acceptable format, to the department within 60 days after the end of each ozone control period. The report shall include all of the following information: **(R 336.1801(9))**

- a. The date, time, magnitude of emissions, and emission rates where applicable, of the specified emission unit or utility system.
- b. If emissions or emission rates exceed the emissions or rates allowed for in the ozone control period by the applicable emission limit, the cause, if known, and any corrective action taken.
- c. The total operating time of the emission unit during the ozone control period.

**See Appendix 8**

**VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

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

## **E. NON-APPLICABLE REQUIREMENTS**

At the time of the ROP issuance, the AQD has determined that no non-applicable requirements have been identified for incorporation into the permit shield provision set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii).

## APPENDICES

### Appendix 1. Acronyms and Abbreviations

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO <sub>2</sub> e	Carbon Dioxide Equivalent
CEMS	Continuous Emission Monitoring System	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
Department/ department	Michigan Department of Environment, Great Lakes, and Energy	gr	Grains
EGLE	Michigan Department of Environment, Great Lakes, and Energy	HAP	Hazardous Air Pollutant
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallons of Applied Coating Solids	HP	Horsepower
GC	General Condition	H <sub>2</sub> S	Hydrogen Sulfide
GHGs	Greenhouse Gases	kW	Kilowatt
HVLP	High Volume Low Pressure*	lb	Pound
ID	Identification	m	Meter
IRSL	Initial Risk Screening Level	mg	Milligram
ITSL	Initial Threshold Screening Level	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	NMOC	Non-methane Organic Compounds
MAP	Malfunction Abatement Plan	NO <sub>x</sub>	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	ng	Nanogram
NA	Not Applicable	PM	Particulate Matter
NAAQS	National Ambient Air Quality Standards	PM10	Particulate Matter equal to or less than 10 microns in diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	%	Percent
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO <sub>2</sub>	Sulfur Dioxide
SDS	Safety Data Sheet	TAC	Toxic Air Contaminant
SNCR	Selective Non-Catalytic Reduction	Temp	Temperature
SRN	State Registration Number	THC	Total Hydrocarbons
TEQ	Toxicity Equivalence Quotient	tpy	Tons per year
USEPA/EPA	United States Environmental Protection Agency	µg	Microgram
VE	Visible Emissions	µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

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

## Appendix 2. Schedule of Compliance

The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee shall continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. (R 336.1213(4)(a), R 336.1119(a)(ii))

## Appendix 3. Monitoring Requirements

The following monitoring procedures, methods, or specifications are the details to the monitoring requirements identified and referenced in EU-BOILER4.

### COMPLIANCE MONITORING PLAN (CMP) FOR FACILITIES BURNING ON-SPECIFICATION OIL (OSO)

**A. All OSO must be acceptable for use as a fuel under federal and state on-specification oil regulations. A certificate of analysis must accompany each delivery and must be kept on file.**

Each shipment from the on-spec oil supplier must be accompanied by documentation demonstrating that the on-specification oil meets specification levels in 40 CFR 279.11 (Standards for the Management of Used Oil) and R 299.9809, promulgated pursuant to Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The documentation shall include supplier certification and analytical data. The analysis must be for the batch of on-specification oil accepted for use as a fuel by the permittee. Separate truckloads may have identical documentation from the supplier if they are loaded from a unique batch from a single supplier. A batch is a quantity of on-specification oil contained in one storage unit (i.e., tank, tanker truck, barge, etc.) where no additional oil is put into the storage unit after testing. If additional oil is added to a storage unit after testing, a new batch has been created.

The supplier certificate of analysis shall be reviewed by the permittee to ensure that the OSO properties and constituents do not exceed any of the on-specification oil specifications contained in the following table prior to acceptance and off-loading of the shipment. This table is a combination of the regulatory levels mentioned above and site specific levels for these compounds.

**TABLE 1 - ALLOWABLE LEVELS FOR OSO**

Property/Constituent	Allowable Level
Higher Heating Value	17,000 Btu per pound (minimum)
Flash point	100 degrees Fahrenheit (minimum)
Arsenic	5.0 ppmw (maximum)
Cadmium	2.0 ppmw (maximum)
Chromium	9.0 ppmw (maximum)
Lead	100.0 ppmw (maximum)
Sulfur	0.3 percent (maximum)
Polychlorinated Biphenyls (PCBs)	< 2 ppmw
Total Halogens	1873 ppmw (maximum)
Ash Content	0.16% by weight (maximum)

**Verification:** Shipping records for each load received shall be maintained a minimum of 5 years.

**B. All OSO deliveries shall be screened for halogens.**

Upon receipt of each OSO fuel shipment and prior to off-loading the OSO fuel, the permittee shall obtain a representative sample according to methods described in EPA publication SW-846 "Test Methods for Evaluation Solid Waste, Physical/Chemical Methods." The sample shall be screened for Total Halogens using SW-846 Method 9077.

**Verification:** Records of the Total Halogens test results shall be maintained a minimum of 5 years.

### **C. Required Laboratory Analysis**

A split sample of the OSO shall be submitted by the facility to an independent laboratory to verify the information provided on the supplier certificate of analysis for the batch in accordance with the frequency specified in section D. The laboratory analysis shall include the properties and constituents listed in Table 1. A second split sample shall be maintained by the facility until the end of the calendar year and shall be made available to the AQD upon request.

Any independent laboratory used by the facility for OSO analysis shall develop a Quality Assurance Plan (QAP). Detailed in the QAP shall be the QA/QC procedures, sample handling, storage, chain of custody procedures, analytical methods for all analyses, a description of the laboratory instrumentation, and the instrumental detection limits. The analytical methods used by the independent laboratory should be consistent with the methods identified in the OSO Supplier's Analysis Plan pursuant to 40 CFR 279.55. The facility shall maintain a copy of the approved QAP on site or at the corporate offices and be available for AQD inspection.

### **D. Laboratory Analysis Frequency**

The laboratory analysis required in this CMP shall be completed per Method 1 and/or Method 2 as applicable.

#### **Method 1 - Pre-Qualification: For a dedicated tank of OSO, one split sample analysis is required.**

For a single batch of OSO, the laboratory analysis shall be required once prior to any shipments from that batch being received at the facility. For Method 1 pre-qualification, a batch is a quantity of OSO contained in the supplier's storage unit where no additional oil is put into the storage unit after a representative sample has been collected for analysis. If additional oil is added to the storage unit, both a new supplier certificate of analysis and laboratory analysis are necessary.

Upon receipt of a shipment of OSO, the shipping paper shall be reviewed to determine if the OSO originated from a pre-qualified batch. All OSO shipments which are not from a pre-qualified batch are required to complete the quarterly sample analysis in Method 2.

**Verification:** A list of OSO batches that have been pre-qualified, along with records of the OSO analytical data from both the supplier and the permittee for the same batch, shall be maintained a minimum of 5 years.

#### **Method 2 - On-Site Qualification: For all shipments which are not a pre-qualified batch, a quarterly split sample analysis is required.**

When the permittee accepts OSO that is not pre-qualified by Method 1, a minimum of one sample per calendar quarter shall be submitted for the required laboratory analysis. The quarterly sample(s) shall be selected from all OSO batches accepted by the permittee that are not pre-qualified by Method 1. Unless an alternative plan is approved by the AQD District Supervisor, the time interval between collection of samples shall be a minimum of 45 days.

**Verification:** A list of all OSO batches accepted and those that have been selected for quarterly sampling, along with records of the OSO analytical data from both the supplier and the permittee for the same batch, shall be maintained a minimum of 5 years.

## **Appendix 4. Recordkeeping**

Specific recordkeeping requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.



## Appendix 5. Testing Procedures

There are no specific testing requirement plans or procedures for this ROP. Therefore, this appendix is not applicable.

## Appendix 6. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-B2814-2014. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (\*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Source-Wide PTI No MI-PTI-B2814-2014 is being reissued as Source-Wide PTI No. MI-PTI-B2814-2024.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
62-21	NA	Boiler No. 6 and Boiler No. 7, each 180.2 million Btu/hr, natural gas fired with No. Both boilers are equipped with low NO <sub>x</sub> burners and flue gas recirculation.  This PTI modified the Time Period/Operating Scenario for NO <sub>x</sub> emission limits from "Test Protocol" to "Calendar Day". This PTI also modifies and clarifies other conditions for these boilers.	FG-BOILER_6,7

## Appendix 7. Emission Calculations

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in Source-Wide Conditions, EU-BOILER3, EU-BOILER4, FG-BOILER\_6,7, FG-BOILER\_4,6,7, FG-BOILER\_1-4\_RULE801.

### **Appendix 7A** **Procedures for Calculating Sulfur Dioxide and NO<sub>x</sub> Emissions**

#### Sulfur Dioxide:

The sulfur dioxide emissions shall be calculated by multiplying the amount of each fuel consumed by the appropriate emissions factor. Default emission factors to be used are: 0.6 lb/MMft<sup>3</sup> for natural gas, and 142\*S lb per thousand gallons of oil for No.2 fuel oil and on-specification oil, where S is the sulfur content of the No.2 fuel oil (or on-specification oil) in weight percent. In the event that stack testing is performed, emission factors based on the stack testing shall be used in lieu of the default emission factors.

#### Nitrogen Oxides:

Annual NO<sub>x</sub> emissions shall be calculated by multiplying the amount of each fuel consumed by the appropriate emission factor. Default emission factors are indicated in the following table. In the event that stack testing is performed, emission factors based on the stack testing shall be used in lieu of the default emission factors. Annual NO<sub>x</sub> emissions for EU-BOILER6 and EU-BOILER7 shall be calculated using PEMS data.

Emission Unit	NOx emission factor, natural gas	NOx emission factor, oil
EUBOILER3	280 lbs. NOx per million cubic feet of natural gas <sup>a</sup>	24 lbs. NOx per 1,000 gallons of distillate oil combusted <sup>b</sup>
EUBOILER4	280 lbs. NOx per million cubic feet of natural gas <sup>a</sup>	24 lbs. NOx per 1,000 gallons of distillate and on-specification oil combusted <sup>b</sup>

<sup>a</sup> AP-42 Table 1.4-1 for uncontrolled pre-NSPS boilers.

<sup>b</sup> AP-42 Table 1.3-1 for No. 2 oil fired boilers.

### **Appendix 7B** **Procedures for Calculating NOx Emissions During Ozone Control Period**

If the emission limit is in the form of pounds of oxides of nitrogen per million British thermal unit, then the unit is in compliance if the sum of the mass emissions from the unit that occurred during the ozone control period (calculated per Appendix 7A) for that fuel, divided by the sum of the heat input from the unit that occurred during the ozone control period (calculated as the sum of the mass or volume of the fuel combusted multiplied by its respective heating value), is less than or equal to the emission limit for that fuel.

### **Appendix 7C** **Procedures for Calculating CO and PM10 Emissions**

Pounds per hour CO and PM10 emissions shall be calculated on a monthly basis to demonstrate continuous compliance by multiplying the amount of each fuel consumed, by the fuel heat content, by the lb/MMBtu from stack testing, divided by the hours of operation. Emission factors from the 2007 and 2018 stack testing are indicated in the following table. In the event that more recent stack testing is performed, emission factors based on the most recent stack testing shall be used in lieu of emission factors provided in the following table.

Emission Unit	CO - 2018 Stack Test – Natural Gas (lb/MMBtu)	PM10 – 2018 Stack Test – Natural Gas (lb/MMBtu)	CO- 2007 Stack Test – Fuel Oil (lb/MMBtu)	PM10- 2007 Stack Test – Fuel Oil (lb/MMBtu)
EU-BOILER6	0.001	0.003	0.003	0.003
EU-BOILER7	0.001	0.005	0.001	0.008

## **Appendix 8. Reporting**

### **A. Annual, Semiannual, and Deviation Certification Reporting**

The permittee shall use 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.

### **B. Other Reporting**

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.