



Michigan Department of Environmental Quality  
Air Quality Division

EFFECTIVE DATE: April 23, 2014

ISSUED TO

**DETROIT THERMAL BEACON HEATING PLANT**

State Registration Number (SRN): B2814

LOCATED AT

541 Madison, Detroit, Michigan 48226

**RENEWABLE OPERATING PERMIT**

Permit Number: MI-ROP-B2814-2014

Expiration Date: April 23, 2019

Administratively Complete ROP Renewal Application Due Between  
October 23, 2017 and October 23, 2018

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 Michigan Air Pollution Control Rule 210(1), 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-B2814-2014

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(5) of Act 451. Pursuant to Michigan Air Pollution Control Rule 214a, 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 Environmental Quality

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Wilhemina McLemore, 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 Environmental Quality (MDEQ) 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 are 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 federally 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 state-only 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). **(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: **(R 336.1301(1))**
  - a. A 6-minute average of 20 percent opacity, except for one 6-minute average per hour of not more than 27 percent 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). **(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 states 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. **(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))**:
  - a. 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.
  - b. 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. **(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))**
  - a. The applicable requirements are included and are specifically identified in the ROP.
  - b. 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:
  - a. 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))**
  - b. 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))**
  - c. 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(9))**
- 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(7))**

## 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 reclaimer, 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, Part 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, Part 68.10(a):
- June 21, 1999,
  - Three years after the date on which a regulated substance is first listed under 40 CFR, Part 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, MDEQ.<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, MDEQ, 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.

### FG-FACILITY

### FLEXIBLE GROUP CONDITIONS

**DESCRIPTION** All process equipment at the facility including equipment covered by other permits, grandfathered equipment and exempt equipment.

**Emission Units:** EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER6, EU-BOILER7

**POLLUTION CONTROL EQUIPMENT:** Low NOx burners and flue gas recirculation for boilers No. 6 and No. 7

#### 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	FG-FACILITY	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	FG-FACILITY	SC VI.1	R336.1205(3)
3. Sulfur dioxide (SO <sub>2</sub> )	120 ppmv in exhaust gas (50 percent excess air)	As determined averaged over a three-hour time period or otherwise determined by the testing protocol agreed upon by AQD.	FG-FACILITY	SC II. 1. and SC V. 1.	R336.1402(4)

#### II. MATERIAL LIMIT(S)

1. The sulfur content of the No. 2 fuel oil and on-specification oil used in FG-FACILITY shall not exceed 0.30% by weight.<sup>2</sup> **(R336.1402(1))**

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

1. 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))**

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

1. NA

**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 AQD, verification of the SO<sub>2</sub> ppmv, corrected to 50% excess air emission rate from any boiler listed under FG-FACILITY when combusting distillate oil or on-specification oil, by testing at Permittee's expense, in accordance with Department requirements, will be required. 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. 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. **(R336.2001, R336.2003, R336.2004, R336.1213(3))**

See Appendix 5

**VI. MONITORING/RECORDKEEPING**

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 keep records, individually for each gas-fired boiler, of the number of hours during each calendar year that the boiler combusts liquid fuel (e.g., No. 2 fuel oil or on-specification oil) during periodic testing of boiler operation on liquid fuel or discretionary boiler operation using liquid fuel (i.e., not associated with periods of natural gas curtailment, gas supply interruption, or startups). **(R336.1213(3)(a))**
3. The permittee shall perform a daily non-certified visible emission observation of the stacks when the boilers are in use and oil is being combusted continuously for 24 hours or more. The permittee shall initiate corrective action upon observation of excessive visible emissions and shall maintain a written record of each required observation and corrective action. **(R 336.1213(3)(a)(i))**
4. The permittee shall maintain a complete record of fuel oil specifications and /or fuel analysis for each delivery, or storage tank, of fuel oil. These records may include purchase records for ASTM specification fuel oil, specifications or analyses provided by the vendor at the time of delivery, analytical results from laboratory testing, or any other records adequate to demonstrate compliance with the percent sulfur limit in fuel oil. **(R 336.1213(3)(a)(i))**

See Appendices 3, 4 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's 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's District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

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

1. NA

**IX. OTHER REQUIREMENT(S)**

1. If any boiler combusts liquid fuel during periodic testing of boiler operation on liquid fuel or discretionary boiler operation using liquid fuel (i.e., not associated with periods of natural gas curtailment, gas supply interruption, or startups) for greater than a combined total of 48 hours during any calendar year, the boiler will no longer be considered a "gas-fired boiler" under the definition in 40 CFR Part 63.11237. The permittee will subsequently comply with all applicable requirements under 40 CFR Part 63 Subpart JJJJJJ (the "Boiler MACT for Area Sources") for the boiler. **(40 CFR 63.11194)**

**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 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	Boiler No. 1 - 570 million Btu/hr natural gas fired with No. 2 fuel oil backup . No Control Device	1/1/26 1/1/73	FG-BOILER_1,2, FG-FACILITY
EU-BOILER2	Boiler No. 2 - 570 million Btu/hr natural gas fired with No. 2 fuel oil backup No Control Device	1/1/26 11/20/74	FG-BOILER_1,2, FG-FACILITY
EU-BOILER3	Boiler No. 3 - 600 million Btu/hr natural gas fired with No. 2 fuel oil backup. No Control Device	1/1/59 1/1/73	FG-BOILER_3,6,7 FG-FACILITY
EU-BOILER4	Boiler No. 4 - 570 million Btu/hr natural gas and on-specification oil fired with No. 2 fuel oil backup. No Control Device	1/1/27 12/21/73	FG-BOILER_4,6,7 FG-FACILITY
EU-BOILER6	Boiler No. 6 – 180.2 million Btu/hr natural gas fired with No. 2 fuel oil backup. Boiler is equipped with low NOx burners and flue gas recirculation.	3/9/2007	FG-BOILER_6,7 FG-BOILER_3,6,7 FG-BOILER_4,6,7 FG-FACILITY
EU-BOILER7	Boiler No. 7 – 180.2 million Btu/hr natural gas fired with No. 2 fuel oil backup. Boiler is equipped with low NOx burners and flue gas recirculation.	3/9/2007	FG-BOILER_6,7 FG-BOILER_3,6,7 FG-BOILER_4,6,7 FG-FACILITY

**EU-BOILER3  
EMISSIONS UNIT 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.

**Flexible Group ID:** FG-BOILER\_3,6,7 and FG-FACILITY

**POLLUTION CONTROL EQUIPMENT** None

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	757.2 tons/yr <sup>2</sup>	Rolling 12 month time period, as determined at the end of each calendar month	EU-BOILER3	SC VI.2	40 CFR 52.21(j)
2. NOx	0.20 lb/MMBtu natural gas 0.3 lb/MMBtu distillate oil	Cumulative 5 month period May 1 <sup>th</sup> through September 30 <sup>th</sup> each calendar year	EU-BOILER3	SC VI.2	R336.1801(4)(b) & Table 81

**II. MATERIAL LIMIT(S)**

1. NA

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

1. Permittee shall only fire natural gas and/or No. 2 fuel oil in the boiler. **(R336.1213(3))**

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

1. NA

**V. TESTING/SAMPLING**

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

1. NA

**See Appendix 5**

**VI. MONITORING/RECORDKEEPING**

1. Records shall be maintained on file for a period of five years. **(R336.1213(3)(b)(ii))**
2. The permittee shall maintain the following records for EU-BOILER3<sup>2</sup>: **(R336.1205(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. 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 NOx emissions. NOx emissions shall be calculated for both natural gas and distillate oil combustion in accordance with the methodology contained in Appendix 7A.
3. The permittee shall calculate NOx 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. NOx emissions shall be calculated for both natural gas and distillate oil combustion in accordance with the methodology contained in Appendix 7A and 7B. **(R 336.1213(3))**

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's 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's District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

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:

- 1. NA

**IX. OTHER REQUIREMENT(S)**

- 1. 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).



**EU-BOILER4  
EMISSIONS UNIT 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.

**Flexible Group:** FG-BOILER\_4,6,7 and FG-FACILITY

**POLLUTION CONTROL EQUIPMENT:** None

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	39 tons/yr <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)
2.NOx	0.20 lb/MMBtu natural gas 0.3 lb/MMBtu distillate oil	Cumulative 5 month period May 1 <sup>th</sup> through September 30 <sup>th</sup> each calendar year	EU-BOILER4	SC VI.3	R336.1801(4)(b) & Table 81

**II. MATERIAL LIMIT(S)**

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

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

1. All on-spec oil used in EU-BOILER4 shall comply with the requirements specified in Appendix 3A COMPLIANCE MONITORING PLAN (CMP) FOR FACILITIES BURNING ON-SPEC OIL (OSO). **(R336.1201(3))**

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

1. NA

**V. TESTING/SAMPLING**

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

1. NA

**See Appendix 5**

**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-BOILER<sup>4</sup> 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, 40 CFR 279.23)**
2. The permittee shall calculate NOx emissions from EU-BOILER<sup>4</sup> 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 calculate NOx 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. NOx 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(5)(a))**

**See Appendices 3, 4 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's 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's District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

**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:

1. NA

**IX. OTHER REQUIREMENT(S)**

1. 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).

### D. FLEXIBLE GROUP CONDITIONS

Part D outlines 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	Boilers No.1 and No.2	EU-BOILER1 EU-BOILER2
FG-BOILER_6,7	Boilers No.6 and No.7	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-FACILITY	All process equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment. FG-FACILITY is included under SOURCE-WIDE CONDITIONS.	EU-BOILER1 through 4, EU-BOILER6 EU-BOILER7

**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** None

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1.NOx	0.20 lb/MMBtu when using natural gas	Cumulative 5 month period May 1 <sup>th</sup> through September 30 <sup>th</sup> each calendar year	FG-BOILER_1, 2,	SC VI.1	R336.1801(4)(b) & Table 81
2.NOx	0.3 lb/MMBtu when using distillate oil	Cumulative 5 month period May 1 <sup>th</sup> through September 30 <sup>th</sup> each calendar year	FG-BOILER_1, 2,	SC VI.1	R336.1801(4)(b) & Table 81

**II. MATERIAL LIMIT(S)**

1. NA

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

1. Permittee shall only fire natural gas and/or No. 2 fuel oil in the boilers. **(R336.1213(3))**

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

1. NA

**V. TESTING/SAMPLING**

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

1. NA

**See Appendix 5**

**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 NOx 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. NOx 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(5)(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's 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's District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

**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:

1. NA

**IX. OTHER REQUIREMENT(S)**

1. 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\_6,7**  
**FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION:** 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-BOILER6, EU-BOILER7

**POLLUTION CONTROL EQUIPMENT:** Low NOx burners and flue gas recirculation

**I. EMISSION LIMIT(S)**

Pollutant		Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirement
1.1a	CO*	0.073 lb/MMBtu <sup>2</sup>	Test Protocol	FG-BOILER_6,7	SC V.1	40 CFR 52.21(j)
1.1b	CO**	0.155 lb/MMBtu <sup>2</sup>	Test Protocol	FG-BOILER_6,7	SC V.2.	40 CFR 52.21(j)
1.1c	CO	84.6 lb/hour <sup>2</sup>	Test Protocol and Calendar Month Average	FG-BOILER_6,7	SC V.1, SC. V.2, and SC. VI.3	40 CFR 52.21(j)
1.1d	NOx*	0.036 lb/MMBtu <sup>2</sup>	Test Protocol	FG-BOILER_6,7	SC V.3	40 CFR 52.21(j), 40 CFR Part 60 Section 60.44b
1.1e	NOx**	0.140 lb/MMBtu <sup>2</sup>	Test Protocol	FG-BOILER_6,7	SC V.3	40 CFR 52.21(j), 40 CFR Part 60 Section 60.44b
1.1f	NOx	76.4 lb/hour <sup>2</sup>	Test Protocol	FG-BOILER_6,7	SC V.3	40 CFR 52.21(j)
1.1g	NOx	155.3 tons/yr <sup>2</sup>	Rolling 12 month time period as determined at the end of each calendar month	FG-BOILER_6,7	SC VI.3	40 CFR 52.21(j)
1.1h	PM <sub>10</sub> *	0.007 lb/MMBtu <sup>2</sup>	Test Protocol	FG-BOILER_6,7	SC V.1	40 CFR 52.21(j)
1.1i	PM <sub>10</sub> **	0.040 lb/MMBtu <sup>2</sup>	Test Protocol	FG-BOILER_6,7	SC V.2	40 CFR 52.21(j)
1.1j	PM <sub>10</sub>	21.8 lb/hour <sup>2</sup>	Test Protocol and Calendar Month Average	FG-BOILER_6,7	SC V.1, SC. V.2, and SC. VI.3	40 CFR 52.21(j)
1.1k	SO2	39 tons/yr <sup>2</sup>	Rolling 12 month time period as determined at the end of each calendar month	FG-BOILER_6,7	SC VI.2 and SC VI.3	R336.1205(3)

\* This limit is applicable when burning 100% natural gas.

\*\* This limit is applicable when burning 100% No. 2 fuel oil.

**II. MATERIAL LIMIT(S)**

1. NA

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

1. Permittee shall only fire natural gas and/or No. 2 fuel oil in the boilers. **(R336.1213(3))**
2. Any No.2 Fuel Oil fired in the boilers shall have a maximum sulfur content of 0.3 percent by weight. **(40 CFR 60.42b(a))**

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

1. NA

**V. TESTING/SAMPLING**

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

1. Once during the term of the ROP, the permittee shall verify the CO and PM10 emission rates from FG-BOILER\_6,7 when burning natural gas, by testing at owner's expense, in accordance with Department requirements. 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. **(R 336.2001, R 336.2003, R 336.2004, R336.1213(3))**
2. Once during the term of the ROP, should distillate oil be combusted in EU-BOILER6 or EU-BOILER7 for greater than 48 hours during any calendar year, the permittee shall verify the CO and PM10 emission rates from the affected boiler within FG-BOILER\_6,7 when burning No. 2 fuel oil, by testing at owner's expense, in accordance with Department requirements. 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. **(R 336.2001, R 336.2003, R 336.2004, R336.1213(3))**
3. Quality assurance of the NOx 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 annually thereafter, as identified in the Alternative Monitoring System Plan submitted to and approved by the Administrator. 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. **(R 336.2001, R 336.2003, R 336.2004, R336.1213(3), 40 CFR 60.49b(c)(3))**
4. Quality assurance of the NOx 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. Quality assurance of the NOx 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. **(R 336.1213(3))**

**See Appendix 5**

**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 submit the date of initial startup of each boiler. This notification shall include the following: **(40 CFR Part 60 Section 60.49b(a))**
  - a. The design heat input capacity of each boiler and the identification of the fuels to be combusted in the boilers.
  - b. The annual capacity factor at which the permittee anticipates operating the facility, based on all fuels fired and based on each individual fuel fired.<sup>2</sup>
2. The permittee shall obtain and maintain fuel receipts from the fuel oil supplier which certify that the oil meets the definition of distillate oil as defined in 40 CFR Part 60 Section 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 meeting the definition was combusted in **FG-BOILER\_6,7** during the reporting period.<sup>2</sup> **(40 CFR Part 60 Section 60.49b(r))**
3. The permittee shall maintain the following records for FG-BOILER\_6,7:<sup>2</sup> **(R336.1205(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. 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 sulfur dioxide and NOx emissions. Sulfur dioxide and NOx emissions shall be calculated for both natural gas and distillate oil combustion in accordance with the methodology contained in Appendix 7A. **(R336.1205(3))**
4. The permittee shall maintain records of the predicted NOx emission rates and the monitored boiler operating conditions for FG-BOILER\_6,7, as identified in the Alternative Monitoring System Plan submitted to and approved by the Administrator. **(40 CFR 60.49b(c))**
5. 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))**
6. 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))**

**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's 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's District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

**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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV016-026	120 <sup>2</sup>	250	40 CFR 52.21(c) and (d)
2. SV016-027	120 <sup>2</sup>	250	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.

**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)**

1. NA

**II. MATERIAL LIMIT(S)**

1. NA

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

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

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

1. NA

**V. TESTING/SAMPLING**

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

1. NA

**See Appendix 5**

**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 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.<sup>1</sup> **(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)**

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

1. NA

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

1. 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 Units:** 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. SO2	39 tons/yr (from burning on-spec oil in EU-BOILER4 and any fuel in EU-BOILER6, and/or EU-BOILER7 <sup>2</sup> )	Rolling 12 month time period, as determined at the end of each calendar month	FG-BOILER_4,6,7	SC VI.2	40 CFR 52.21(j) R336.1205(3)

**II. MATERIAL LIMIT(S)**

1. NA

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

1. Permittee shall only fire natural gas, No. 2 fuel oil and/or on-specification oil in the boilers.<sup>2</sup> ((R336.1213(3)))

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

1. NA

**V. TESTING/SAMPLING**

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

1. NA

See Appendix 5

**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 oil meets the definition of on-specification oil as defined in Appendix 3. 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 meeting the definition was combusted in **FG-BOILER\_4,6,7** during the reporting period. **(40 CFR Part 60 Section 60.49b(r))**

- 2. 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, 4, 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)**

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

- 1. NA

**IX. OTHER REQUIREMENT(S)**

- 1. 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 the requirements identified in the table below are not applicable to the specified emission unit(s) and/or flexible group(s). This determination is incorporated into the permit shield provisions set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii). If the permittee makes a change that affects the basis of the non-applicability determination, the permit shield established as a result of that non-applicability decision is no longer valid for that emission unit or flexible group.

Emission Unit/Flexible Group ID	Non-Applicable Requirement	Justification
EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4	40 CFR Part 60, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971	<p>40 CFR Part 60, Subpart D does not apply to the Boilers 1 through 4 as the change from coal burning boilers to natural gas/no.2 fuel oil boilers does not constitute as a modification as defined in §60.2.</p> <p>A Michigan Department of Natural Resources staff activity report dated September 23, 1975 indicates that there is a significant reduction in the majority of pollutants when changing from coal to natural gas/fuel oil. Therefore the change in fuel type did not qualify as a modification as defined under Part 60</p>

## APPENDICES

### Appendix 1: Abbreviations and Acronyms

The following is an alphabetical listing of abbreviations/acronyms that may be used in this permit.

AQD	Air Quality Division	MM	Million
acfm	Actual cubic feet per minute	MSDS	Material Safety Data Sheet
BACT	Best Available Control Technology	MW	Megawatts
BTU	British Thermal Unit	NA	Not Applicable
°C	Degrees Celsius	NAAQS	National Ambient Air Quality Standards
CAA	Federal Clean Air Act	NESHAP	National Emission Standard for Hazardous Air Pollutants
CAM	Compliance Assurance Monitoring	NMOC	Non-methane Organic Compounds
CEM	Continuous Emission Monitoring	NOx	Oxides of Nitrogen
CFR	Code of Federal Regulations	NSPS	New Source Performance Standards
CO	Carbon Monoxide	NSR	New Source Review
COM	Continuous Opacity Monitoring	PM	Particulate Matter
department	Michigan Department of Environmental Quality	PM-10	Particulate Matter less than 10 microns in diameter
dscf	Dry standard cubic foot	pph	Pound per hour
dscm	Dry standard cubic meter	ppm	Parts per million
EPA	United States Environmental Protection Agency	ppmv	Parts per million by volume
EU	Emission Unit	ppmw	Parts per million by weight
°F	Degrees Fahrenheit	PS	Performance Specification
FG	Flexible Group	PSD	Prevention of Significant Deterioration
GACS	Gallon of Applied Coating Solids	psia	Pounds per square inch absolute
gr	Grains	psig	Pounds per square inch gauge
HAP	Hazardous Air Pollutant	PeTE	Permanent Total Enclosure
Hg	Mercury	PTI	Permit to Install
hr	Hour	RACT	Reasonable Available Control Technology
HP	Horsepower	ROP	Renewable Operating Permit
H <sub>2</sub> S	Hydrogen Sulfide	SC	Special Condition
HVLP	High Volume Low Pressure *	scf	Standard cubic feet
ID	Identification (Number)	sec	Seconds
IRSL	Initial Risk Screening Level	SCR	Selective Catalytic Reduction
ITSL	Initial Threshold Screening Level	SO <sub>2</sub>	Sulfur Dioxide
LAER	Lowest Achievable Emission Rate	SRN	State Registration Number
lb	Pound	TAC	Toxic Air Contaminant
m	Meter	Temp	Temperature
MACT	Maximum Achievable Control Technology	THC	Total Hydrocarbons
MAERS	Michigan Air Emissions Reporting System	tpy	Tons per year
MAP	Malfunction Abatement Plan	µg	Microgram
MDEQ	Michigan Department of Environmental Quality	VE	Visible Emissions
mg	Milligram	VOC	Volatile Organic Compounds
mm	Millimeter	yr	Year

\*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 pounds per square inch gauge (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 Table C-4.

**Appendix 3A  
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.

### **Fuel Oil Sulfur Monitoring**

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.

### **Appendix 4. Recordkeeping**

Specific recordkeeping requirement formats and procedures are detailed in Part 3A or the appropriate Requirement Tables. In addition, the following specific records are required:

**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.

**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.

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

**Appendix 5. Testing Procedures**

Specific testing requirements plans, procedures, and averaging times are detailed in the appropriate Requirement tables. 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-B2814-2009. 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-B2814-2009 is being reissued as Source-Wide PTI No. MI-PTI-B2814-2014.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
104-12	NA	Allowance to temporarily operate Boilers 6 and 7 with their economizers bypassed for the purpose of data collection. The trial period of operation in economizer bypass mode was allowed solely for the purpose of conducting stack testing to quantify the increase, if any, of NOx emissions. This permit was voided as the trial period of operation never occurred under this permit number.	FG-BOILER_6,7
104-12A	NA	Allowance to temporarily operate Boilers 6 and 7 with their economizers bypassed for the purpose of data collection. The trial period of operation in economizer bypass mode was allowed solely for the purpose of conducting stack testing to quantify the increase, if any, of NOx emissions. This permit was voided after the trial period of operation.	FG-BOILER_6,7

**Appendix 7. Emission Calculations**

Specific emission calculations to be used with monitoring, testing or recordkeeping data:

**Appendix 7A**  
**Procedures for Calculating Sulfur Dioxide and NOx 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 157\*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 NOx 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.

<b>Emission Unit</b>	<b>NOx emission factor, natural gas</b>	<b>NOx emission factor, oil</b>
EU-BOILER3	280 lbs. NOx per million cubic feet of natural gas	24 lbs. NOx per 1,000 gallons of distillate oil combusted
EU-BOILER4	280 lbs. NOx per million cubic feet of natural gas	24 lbs. NOx per 1,000 gallons of distillate and on-specification oil combusted
EU-BOILER6 EU-BOILER7	37 lbs. NOx per million cubic feet of natural gas.	19.6 lbs NOx per 1,000 gallons of distillate oil.

**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), 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 each fuel combusted multiplied by its respective heating value), is less than or equal to the emission limit.

**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 2007 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.

<b>Emission Unit</b>	<b>CO - 2007 Stack Test – Natural Gas (lb/MMBtu)</b>	<b>PM10 - 2007 Stack Test – Natural Gas (lb/MMBtu)</b>	<b>CO- 2007 Stack Test – Fuel Oil (lb/MMBtu)</b>	<b>PM10- 2007 Stack Test – Fuel Oil (lb/MMBtu)</b>
EU-BOILER6	0.001	0.002	0.003	0.003
EU-BOILER7	0.003	0.002	0.001	0.008

## **Appendix 8. Reporting**

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

The permittee shall use the MDEQ, AQD, Report Certification form (EQP 5736) and MDEQ, 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.