

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

EFFECTIVE DATE: May 14, 2018

REVISION DATE: December 15, 2020

ISSUED TO

Kent County Waste-to-Energy Facility

State Registration Number (SRN): N1604

LOCATED AT

950 Market Avenue SW, Grand Rapids, Michigan 49503

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-N1604-2018a

Expiration Date: May 14, 2023

Administratively Complete ROP Renewal Application
Due Between November 14, 2021 and November 14, 2022

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-N1604-2018a

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 Environment, Great Lakes, and Energy

Heidi Hollenbach, Grand Rapids 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).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:"² **(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.¹ **(R 336.1901(a))**
 - b. Unreasonable interference with the comfortable enjoyment of life and property.¹ **(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).² **(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 60604-3507. **(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))**
 - 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.² **(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(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(8))**

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.² **(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.² **(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.² **(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.² **(R 336.1201(4))**

Footnotes:

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

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

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

Fugitive Dust Control Strategy and Consolidated Plan for Waste and Odors

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall implement and maintain operational control strategies, as outlined in the most recent Fugitive Dust Control Strategy.² (R 336.1371(1), R 336.1372, R 324.5524, 40 CFR 52.21)
2. The permittee shall develop, maintain, and implement the operations and practices as outlined in the most recent Consolidated Plan for Waste and Odors (Handling of Hazardous or Unacceptable Waste/Odor Control Strategy Program).¹ (R 336.1901)

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install, maintain, and implement design controls as outlined in the most recent Fugitive Dust Control Strategy.² (R 336.1371(1), R 336.1372, R 324.5524, 40 CFR 52.21)

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 required records of fugitive dust control activities, as outlined in the most recent Fugitive Dust Control Strategy. (R 324.5524)
2. The permittee shall maintain required records of the operations and practices, as outlined in the most recent Consolidated Plan for Waste and Odors (Handling of Hazardous or Unacceptable Waste/Odor Control Strategy Program). (R 336.1213(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)

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall implement the provisions of the most recent Fugitive Dust Control Strategy.² **(R 336.1371(1), R 336.1372, R 324.5524, 40 CFR 52.21)**
2. The permittee shall implement the provisions of the most recent Consolidated Plan for Waste and Odors. **(R 336.1213(3))**

Footnotes:

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

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

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-ASHSYSTEM	Ash storage and handling equipment. There is a separate ash handling system for each combustor. Bottom ash and fly ash are quenched before being combined and transported by a single covered vibrating conveyor to an inclined belt conveyor and then to an enclosed ash storage building. Rooftop ventilation of the enclosure is equipped with vent filters.	9-23-1987	NA
EU-LIMESYSTEM	Lime storage and handling equipment. The lime is used in the dry scrubber for acid gas control. Pebble lime is transferred from bulk trucks through an enclosed conduit to a vented storage silo equipped with a filter to control particulate emissions from displaced silo air.	9-23-1987	NA
EU-COOLINGTOWER	Counter flow mechanical induced draft cooling tower with mist eliminators.	9-23-1987	NA
EU-UNIT-1	One 312.5 ton per day municipal solid waste (MSW) mass burn waterwall combustor unit, equipped with a baghouse, dry scrubber, carbon injection system and selective non-catalytic reduction (SNCR) system.	9-23-1987	FG-COMBUSTORS
EU-UNIT-2	One 312.5 ton per day municipal solid waste (MSW) mass burn waterwall combustor unit, equipped with a baghouse, dry scrubber, carbon injection system and selective non-catalytic reduction (SNCR) system.	9-23-1987	FG-COMBUSTORS
EU-COLDCLEANER	Any existing or future, new cold cleaner that is exempt from R 336.1201 permitting by R 336.1281(2)(h) or R 336.1285(2)(r)(iv).	NA	FG-COLDCLEANERS
EU-PUMPHOUSE-1	A 4-cylinder diesel power internal combustion engine used only to pump city water during fire emergencies. Rated at 170 HP; no control device.	12-29-1989	FG-CIRICEMACT

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-PUMPHOUSE-2	A 6-cylinder diesel power internal combustion engine used to pump city water during fire emergencies. Rated at 149 HP; no control device.	9-30-2008	FG-CIRICENSPS

**EU-ASHSYSTEM
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Ash storage and handling equipment. There is a separate ash handling system for each combustor. Bottom ash and fly ash are quenched before being combined and transported by a single covered vibrating conveyor to an inclined belt conveyor and then to an enclosed ash storage building. Rooftop ventilation of the enclosure is equipped with vent filters.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Enclosure, roof vent filters

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Visible Fugitive Ash Emissions	Emissions may be visible up to 9 minutes per 3-hour period ²	NA	Ash conveying system (including conveyor transfer points)	SC V.1-3, SC VI.1	40 CFR 52.21(j) R 336.1973(5)(b)

2. The visible fugitive ash emissions limit does not apply to visible emissions discharged into or within an enclosure or building, or during maintenance and repair of ash conveying systems. However, it does apply to visible emissions discharged to the atmosphere from buildings with ash conveying systems and enclosures of ash conveying systems.² (R 336.1973(5)(b))

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-ASHSYSTEM unless the roof vent filter is installed, maintained and operated in a satisfactory manner in accordance with the Michigan Air Pollution Control rules and existing law. (R 336.1213(3), R 336.1910)

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. On an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period), the permittee shall verify the emission rates of visible fugitive ash from EU-ASHSYSTEM by testing, at the permittee's expense and in accordance with Department requirements. The test shall utilize USEPA Method 22 – Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares.² **(R 336.1973(7)(c))**
2. The minimum observation time for the test shall be a series of three one-hour observations. The observation period shall include times when the facility is transferring ash from the combustor unit to the area where ash is stored or loaded into containers or trucks. **(R 336.1973(7)(c))**
3. The average duration of visible emissions per hour shall be calculated from the three one-hour observations. The average shall be used to determine compliance with SC I.1. **(R 336.1973(7)(c))**

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 conduct weekly visual inspections, while in operation, of opacity. In the event there is opacity observed, then there shall also be an inspection for roof vent filter integrity. A log of these inspections shall be maintained indicating the inspection date, compliance status of observed emissions and the individual conducting the inspection. These inspections do not need to comply with R 336.1303. **(R 336.1213(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))**
4. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing.² **(R 336.2001(3))**
5. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date.² **(R 336.2001(4))**
6. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test.² **(R 336.2001(5))**

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall implement and maintain a Malfunction Abatement Plan for the roof vent filter.² (**R 336.1910, R 336.1911**)

Footnotes:

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

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

**EU-LIMESYSTEM
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Lime storage and handling equipment. The lime is used in the dry scrubber for acid gas control. Pebble lime is transferred from bulk trucks through an enclosed conduit to a vented storage silo equipped with a filter to control particulate emissions from displaced silo air.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Bin vent filter

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate Matter	0.015 grain per dry standard cubic foot of exhaust gases ²	Instantaneous	EU-LIMESYSTEM	SC VI.1	40 CFR 52.21(j)
2. Opacity	5% opacity, based on a six-minute average ²	NA	EU-LIMESYSTEM	SC VI.1	40 CFR 52.21(j)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-LIMESYSTEM unless the bin vent filter is installed, maintained and operated in a satisfactory manner in accordance with the Michigan Air Pollution Control rules and existing law.² (40 CFR 52.21(j), R 336.1910)

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 conduct monthly visual inspections, while in operation, of opacity. In the event there is opacity observed, then there shall also be an inspection for roof vent filter integrity. A log of these inspections shall be maintained indicating the inspection date, compliance status of observed emissions and the individual conducting the inspection. These inspections do not need to comply with R 336.1303. (R 336.1213(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)

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall implement and maintain the Malfunction Abatement Plan for the bin vent filter.² (R 336.1910, R 336.1911)

Footnotes:

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

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

**EU-COOLINGTOWER
EMISSION UNIT CONDITIONS**

DESCRIPTION

Counter flow mechanical induced draft cooling tower with mist eliminators.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Mist eliminators.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-COOLINGTOWER unless the mist eliminators are installed and operating in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law.² (R 336.1910)

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install mist eliminators on EU-COOLINGTOWER.¹ (R 336.1901)

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 conduct semiannual inspections to confirm that mist eliminators are installed and operating in a satisfactory manner and shall maintain a log of these inspections. (R 336.1213(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)

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

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

D. FLEXIBLE GROUP 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-COMBUSTORS	Two identical municipal solid waste (MSW) mass burn waterwall combustor units. Each is equipped with a baghouse, a dry scrubber, a carbon injection system, and a selective non-catalytic reduction (SNCR) system. The MSW combustors produce steam for process use, export, and for electrical generation. Each unit is rated at 312.5 tons per day MSW at a higher heating value (hhv) of 4,800 BTU/lb, and 125 MMBTU per hour. The baghouses are subject to Compliance Assurance Monitoring (CAM) for Particulate Matter emissions.	EU-UNIT-1 EU-UNIT-2
FG-CIRICEMACT	Existing emergency stationary compression ignition reciprocating internal combustion engine (RICE) located at a major source of hazardous air pollutants (HAPs) which were manufactured or reconstructed prior to June 12, 2006 subject to 40 CFR Part 63, Subpart ZZZZ.	EU-PUMPHOUSE-1
FG-CIRICENSPS	New emergency stationary compression ignition reciprocating internal combustion engine (RICE) located at a major source of HAPs which were manufactured or reconstructed after June 12, 2006 subject to 40 CFR Part 60, Subpart IIII.	EU-PUMPHOUSE-2
FG-COLDCLEANERS	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	EU-COLDCLEANER

**FG-COMBUSTORS
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Two identical municipal solid waste (MSW) mass burn waterwall combustor units. Each is equipped with a baghouse, a dry scrubber, a carbon injection system, and a selective non-catalytic reduction (SNCR) system. The MSW combustors produce steam for process use, export, and for electrical generation. Each unit is rated at 312.5 tons per day MSW at a higher heating value (hhv) of 4,800 Btu/lb. and 125 MMBTU per hour. The baghouses are subject to Compliance Assurance Monitoring (CAM) for Particulate Matter emissions.

Emission Units: EU-UNIT-1, EU-UNIT-2

POLLUTION CONTROL EQUIPMENT

Each combustor is equipped with a baghouse, a dry scrubber, a carbon injection system, and a selective non-catalytic reduction (SNCR) system.

I. EMISSION LIMIT(S)

Pollutant	Limit (each unit)	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate Matter (PM)	25 mg/dscm, corrected to 7% oxygen ^a	At all times while firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a of this permit and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.12-14 (Stack test)	40 CFR 60.33b(a)(1)(i) R 336.1973(5)(d) See 40 CFR 60.33b(a)(1)(i), 40 CFR 60.39b(h)
2. Particulate Matter (PM)	0.010 grain/dscf, corrected to 7% oxygen ²	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	40 CFR 52.21(j)
3. Particulate Matter (PM)	2.6 pounds per hour ²	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	40 CFR 52.21(j)

Pollutant	Limit (each unit)	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
4. Opacity	10%	6-minute average while firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.12-14 SC VI.1 SC VI.35-37 (COMS)	R 336.1973(5)(d)
5. Opacity	10% ²	6-minute average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 SC VI.1 SC VI.35-37 (COMS)	40 CFR 52.21(j) R 336.1301(3)
6. Sulfur Dioxide (SO ₂)	29 ppmv on a dry basis (ppmvd), or 25% of uncontrolled emissions, whichever is less stringent, corrected to 7% oxygen	Based on a 24-hour daily geometric mean, when firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.7-11 SC VI.2-13 SC VI.29-41 (CEMS)	R 336.1973(5)(d)
7. Sulfur Dioxide (SO ₂)	50 ppmvd, or 25% of uncontrolled emissions, whichever is less stringent, but not to exceed 75 ppmvd, corrected to 7% oxygen ²	Based on an 8-hour block average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.7-11 SC VI.2-13 SC VI.29-41 (CEMS)	40 CFR 52.21(j)
8. Sulfur Dioxide (SO ₂)	15 pounds per hour, or 25% of uncontrolled emissions, whichever is less stringent, but not to exceed 22.45 pounds per hour ²	Based on an 8-hour block average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.7-11 SC VI.2-13 SC VI.29-41 (CEMS in conjunction with annual stack test)	40 CFR 52.21(j)

Pollutant	Limit (each unit)	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
9. Oxides of Nitrogen (NO _x)	205 ppmvd, corrected to 7% oxygen ²	Based on a 24-hour daily arithmetic average, when firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.5-6 SC V.8-10 SC VI.14-22 SC VI.29-41 (CEMS)	R 336.1973(5)(c)
10. Oxides of Nitrogen (NO _x)	400 ppmvd, corrected to 7% oxygen ²	Based on a 1-hour block average, when firing MSW or a combination of MSW and sweet natural gas	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.5-6 SC V.8-10 SC VI.14-22 SC VI.29-41 (CEMS)	40 CFR 52.21(j)
11. Oxides of Nitrogen (NO _x)	86 pounds per hour ²	Based on a 1-hour block average, when firing MSW or a combination of MSW and sweet natural gas	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.5-6 SC V.8-10 SC VI.14-22 SC VI.29-41 (CEMS in conjunction with annual stack test)	40 CFR 52.21(j)
12. Oxides of Nitrogen (NO _x)	86 pounds per hour ²	Based on a 1-hour block average, when firing sweet natural gas only	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.5-6 SC V.8-10 SC VI.14-22 SC VI.29-41 (CEMS in conjunction with annual stack test)	40 CFR 52.21(j)
13. Oxides of Nitrogen (NO _x)	350 ppmvd, corrected to 7% oxygen ²	Based on a 3-hour block average, when firing MSW or a combination of MSW and sweet natural gas	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.5-6 SC V.8-10 SC VI.14-22 SC VI.29-41 (CEMS)	40 CFR 52.21(j)

Pollutant	Limit (each unit)	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
14. Oxides of Nitrogen (NO _x)	75.25 pounds per hour ²	Based on a 3-hour block average, when firing MSW or a combination of MSW and sweet natural gas	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.5-6 SC V.8-10 SC VI.14-22 SC VI.29-41 (CEMS in conjunction with annual stack test)	40 CFR 52.21(j)
15. Oxides of Nitrogen (NO _x)	75.25 pounds per hour ²	Based on a 3-hour block average, when firing sweet natural gas only	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.5-6 SC V.8-10 SC VI.14-22 SC VI.29-41 (CEMS in conjunction with annual stack test)	40 CFR 52.21(j)
16. Carbon Monoxide (CO)	100 ppmvd, corrected to 7% oxygen ²	Based on a 4-hour block average, when firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.3-4 SC V.8-10 SC VI.23-41 (CEMS)	R 336.1973(5)(a)
17. Carbon Monoxide (CO)	200 ppmvd, corrected to 7% oxygen ²	Based on a 1-hour block average, when firing MSW or a combination of MSW and sweet natural gas	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.3-4 SC V.8-10 SC VI.23-41 (CEMS)	40 CFR 52.21(j)
18. Carbon Monoxide (CO)	26.05 pounds per hour ²	Based on a 1-hour block average, when firing MSW or a combination of MSW and sweet natural gas	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.3-4 SC V.8-10 SC VI.23-41 (CEMS in conjunction with annual stack test)	40 CFR 52.21(j)

Pollutant	Limit (each unit)	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
19. Carbon Monoxide (CO)	26.05 pounds per hour ²	Based on a 1-hour block average, when firing sweet natural gas only	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.3-4 SC V.8-10 SC VI.23-41 (CEMS in conjunction with annual stack test)	40 CFR 52.21(j)
20. Carbon Monoxide (CO)	50 ppmvd, corrected to 7% oxygen ²	Based on an 8-hour block average, when firing MSW or a combination of MSW and sweet natural gas	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.3-4 SC V.8-10 SC VI.23-41 (CEMS)	40 CFR 52.21(j)
21. Carbon Monoxide (CO)	6.51 pounds per hour ²	Based on an 8-hour block average, when firing MSW or a combination of MSW and sweet natural gas	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.3-4 SC V.8-10 SC VI.23-41 (CEMS in conjunction with annual stack test)	40 CFR 52.21(j)
22. Carbon Monoxide (CO)	6.51 pounds per hour ²	Based on an 8-hour block average, when firing sweet natural gas only	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.3-4 SC V.8-10 SC VI.23-41 (CEMS in conjunction with annual stack test)	40 CFR 52.21(j)
23. Hydrogen Chloride (HCl)	29 ppmvd, or 5% of uncontrolled emissions, whichever is less stringent, corrected to 7% oxygen	At all times while firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1, 2, 12, 13, 15 (Stack test)	R 336.1973(5)(d) R 336.1901
24. Hydrogen Chloride (HCl)	8.55 pounds per hour ¹	Based on a 3-hour block average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1, 2, 12, 13, 15 (Stack test)	R 336.1901

Pollutant	Limit (each unit)	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
25. Total Fluorides	2.5 milligrams per dry standard cubic meter, corrected to 7% oxygen ¹	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901
26. Total Fluorides	0.28 pound per hour ¹	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901
27. Non-methane Hydrocarbons	8.3 milligrams per dry standard cubic meter, corrected to 7% oxygen ²	Based on a 1-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1702(a)
28. Non-methane Hydrocarbons	0.94 pound per hour ²	Based on a 1-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1702(a)
29. Lead (Pb)	0.400 milligram per dry standard cubic meter, corrected to 7% oxygen ^b	At all times while firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.12, 13, 16 (Stack test)	40 CFR 60.33b(a)(4) R 336.1973(5)(d) See 40 CFR 60.39b(h)
30. Lead (Pb)	0.87 milligram per dry standard cubic meter, corrected to 7% oxygen ²	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	40 CFR 52.21(j)

Pollutant	Limit (each unit)	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
31. Lead (Pb)	0.10 pound per hour ¹	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901
32. Mercury (Hg)	0.050 milligram per dry standard cubic meter, or 15% of potential emissions, whichever is less stringent, corrected to 7% oxygen ^c	At all times while firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.12,13, 17, 18 (Stack test)	R 336.1973(5)(d) See 40 CFR 60.39b(h)
33. Mercury (Hg)	0.61 milligram per dry standard cubic meter, corrected to 7% oxygen ²	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	40 CFR 52.21(j)
34. Mercury (Hg)	0.07 pound per hour ²	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	40 CFR 52.21(j)
35. Sulfuric Acid Mist	39 milligrams per dry standard cubic meter, corrected to 7% oxygen ²	Based on a 1-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	40 CFR 52.21(j)
36. Sulfuric Acid Mist	4.4 pounds per hour ²	Based on a 1-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	40 CFR 52.21(j)
37. Arsenic (As)	6.2 micrograms per dry standard cubic meter, corrected to 7% oxygen ¹	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901

Pollutant	Limit (each unit)	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
38. Arsenic (As)	7.0 x 10 ⁻⁴ pound per hour ¹	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901
39. Beryllium (Be)	0.16 microgram per dry standard cubic meter, corrected to 7% oxygen ²	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	40 CFR 52.21(j)
40. Beryllium (Be)	1.83 x 10 ⁻⁵ pound per hour ²	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	40 CFR 52.21(j)
41. Cadmium (Cd)	35 micrograms per dry standard cubic meter, corrected to 7% oxygen ^d	At all times while firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.12, 13, 16 (Stack test)	R 336.1973(5)(d) See 40 CFR 60.39b(h)
42. Cadmium (Cd)	37 micrograms per dry standard cubic meter, corrected to 7% oxygen ¹	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901
43. Cadmium (Cd)	4.17 x 10 ⁻³ pound per hour ¹	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901

Pollutant	Limit (each unit)	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
44. Hexavalent Chromium	4.2 micrograms per dry standard cubic meter, corrected to 7% oxygen ¹	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901
45. Hexavalent Chromium	4.69 x 10 ⁻⁴ pound per hour ¹	Based on a 2-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901
46. Municipal Waste Combustor Organic Compounds, expressed as total mass dioxins/furans	30 nanograms per dry standard cubic meter, corrected to 7% oxygen ²	At all times while firing MSW or a combination of MSW and sweet natural gas, except during periods of startup, shutdown, and malfunction, as explained in Appendix 1a and 40 CFR 60.58b(a)(1) referenced by 40 CFR 60.38b	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.12, 13 SC V.19-21 (Stack test)	R 336.1973(5)(d)
47. Total Polychlorinated Dibenzop-dioxins (PCDD) and Total Polychlorinated Dibenzofurans (PCDFs) including all tetra through octa isomers	3.0 nanograms per dry standard cubic meter, expressed as 2,3,7,8 TCDD toxic equivalents using factors in Appendix 5, corrected to 7% oxygen ¹	Based on a 4-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901
48. Total Polychlorinated Dibenzop-dioxins (PCDD) and Total Polychlorinated Dibenzofurans (PCDFs) including all tetra through octa isomers	3.38. x 10 ⁻⁷ pound per hour, expressed as 2,3,7,8 TCDD toxic equivalents using factors in Appendix 5 ¹	Based on a 4-hour average	EU-UNIT-1 EU-UNIT-2 (The limit is applicable to each individual combustor.)	SC V.1-2 (Stack test)	R 336.1901

- ^a In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined PM limit shall be considered compliance with the PM limit established by **R 336.1973(5)(d)**, and also compliance with the emission limit(s) established by **40 CFR 60.33b** and **R 336.1213(2)**.
- ^b In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined Pb emission limit shall be considered compliance with the Pb emission limit(s) established **R 336.1973(5)(d)**, **R 336.1901**, and also compliance with the Pb emission limit(s) established by **40 CFR 60.33b**, and **R 336.1213(2)**.
- ^c In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined Hg emission limit shall be considered compliance with the Hg emission limit(s) established by **R 336.1973(5)(d)**, and also compliance with the Hg emission limit(s) established by **40 CFR 60.33b(a)(3)** and **R 336.1213(2)**.
- ^d In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined Cd emission limit shall be considered compliance with the Cd emission limit(s) established by **R 336.1973(5)(d)**, and also compliance with the Cd emission limit(s) established by **40 CFR 60.33b(a)(2)(i)** and **R 336.1213(2)**.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Steam Load	81,000 pounds of steam per hour ²	Based on a four-hour block average	EU-UNIT-1 EU-UNIT-2 (The limit applies to each combustor unit)	SC VI.42 & 45	R 336.1973(7) See 60.53b(b), 40 CFR 60.58b(i)(6)
2. Natural Gas	59,524 cubic feet ²	Per hour per unit	EU-UNIT-1 EU-UNIT-2 (The limit applies to each combustor unit)	SC VI.42	R 336.1205(3)
3. Natural Gas	104,000,000 cubic feet ²	Per calendar year per unit	EU-UNIT-1 EU-UNIT-2 (The limit applies to each combustor unit)	SC VI.42	R 336.1205(3)

- 4. The maximum allowed steam load shall not exceed 110% of the highest 4-hour average steam rate achieved during four consecutive hours during the most recent dioxin/furan performance test for which compliance with the applicable emission limits was demonstrated, except as allowed by 40 CFR 60.53b(b)(1) and 40 CFR 60.53b(b)(2), but still not to exceed 81,000 pounds per hour based on a 4-hour block average unless approved by the AQD District Supervisor.² (**R 336.1973(7)**); see 40 CFR 60.53b(b))
- 5. The maximum demonstrated particulate matter control device temperature shall be determined during each performance test for dioxins/furans during which compliance with the dioxin/furan emission limit is achieved. The maximum demonstrated particulate matter control device temperature shall be the highest 4-hour arithmetic average temperature achieved at the particulate matter control device inlet during four consecutive hours during which compliance with the dioxin/furan emission limit is achieved. Thereafter, the maximum average particulate matter control device inlet temperature for a 4-hour block period shall be limited to not more than 30°F more than the highest 4-hour arithmetic temperature achieved during 4 consecutive hours during the most recent test during which compliance with the dioxin/furan emission limit was achieved, except as specified in 40 CFR 60.53b(c)(1) and 40 CFR 60.53b(c)(2).² (**R 336.1973(7)**); see 40 CFR 60.58b(i)(9))
- 6. During the annual dioxin/furan or mercury performance test and the 2 weeks preceding the annual dioxin/furan or mercury performance test, no particulate matter control device temperature limit is applicable if a waiver is first obtained from the AQD. The temperature limit and/or load limit may also be waived in accordance with permission granted by the AQD for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or

advancing the state-of-the-art for controlling facility emissions. **(R 336.1973(7)(b))**; see 40 CFR 60.53b(b)(1), 40 CFR 60.53b(b)(2), 40 CFR 60.53b(c)(1), 40 CFR 60.53b(c)(2))

7. During each performance test for mercury and dioxins/furans, the permittee shall determine the average carbon mass feed rate in pounds per hour, based on an 8-hour block average basis. During the operation of EU-UNIT-1 and EU-UNIT-2, the carbon injection system operating parameters which are the primary indicators of the carbon mass feed rate must equal or exceed the levels documented during the performance test on an 8-hour block average basis.² **(R 336.1973(7)(c))**; see 40 CFR 60.58b(m))
8. During the annual dioxin/furan or mercury performance test and the 2 weeks preceding the annual dioxin/furan or mercury performance test, no limit is applicable for average mass carbon feed rate if a waiver is first obtained from the AQD. The limit for average mass carbon feed rate may be waived in accordance with permission granted by the AQD for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions. **(R 336.1973(7))**; see 40 CFR 60.58b(m)(2))

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not combust MSW in either EU-UNIT-1 or EU-UNIT-2 unless the unit's associated dry scrubber and baghouse systems are installed, maintained and operated in a satisfactory manner in accordance with the Michigan Air Pollution Control rules and existing law.² **(40 CFR 52.21(j), R 336.1910)**
2. The permittee shall not combust MSW in either EU-UNIT-1 or EU-UNIT-2 unless the unit's associated selective non-catalytic reduction system is installed, maintained and operated in a satisfactory manner in accordance with the Michigan Air Pollution Control rules and existing law, if the equipment is required to meet the 24-hour daily arithmetic average limit for nitrogen oxide emissions (SC I.9, above).² **(R 336.1973(5)(c), R 336.1910)**; see 40 CFR 60.33b, 40 CFR 60.52b)
3. The permittee shall not combust MSW in either of EU-UNIT-1 or EU-UNIT-2 unless the unit's associated carbon injection system is installed, maintained and operated in a satisfactory manner in accordance with the Michigan Air Pollution Control rules and existing law, if the equipment is required to meet the mercury and dioxin/furan emission limits set forth in SCs I.32, I.33, or I.46, above.² **(R 336.1973(5), R 336.1910)**; see 40 CFR 60.33b, 40 CFR 60.52b)
4. Only sweet natural gas shall be used as an auxiliary fuel.² **(R 336.1205(1), R 336.1901)**
5. The maximum demonstrated unit load shall be determined during the initial performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in SC I.46 is achieved. Thereafter, the maximum unit load shall be limited to the highest 4-hour arithmetic average load achieved during 4 consecutive hours during the most recent test during which compliance with the dioxin/furan emission limit was achieved. If a dioxin/furan performance test is being performed on only one unit at the facility, the permittee may elect to apply the same maximum municipal waste combustor unit load from the tested unit for the other unit.² **(R 336.1973(7)(c))**; see 40 CFR 60.58b(i)(8))
6. For each particulate matter control device employed at the affected facility, the maximum demonstrated particulate matter control device temperature shall be determined during the initial performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in SC I.46 is achieved. The maximum demonstrated particulate matter control device temperature shall be the highest 4-hour arithmetic average temperature achieved at the particulate matter control device inlet during four consecutive hours during the most recent test during which compliance with the dioxin/furan emission limit was achieved. Thereafter, the maximum average particulate matter control device inlet temperature for a 4-hour block period shall be limited to not more than 30°F more than the highest 4-hour arithmetic temperature achieved during 4 consecutive hours during the most recent test during which compliance with the dioxin/furan emission limit was achieved.² **(R 336.1973(7)(c))**; see 40 CFR 60.58b(i)(9))

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The lime slurry feed system shall be automatically modulated by interfacing with the sulfur dioxide continuous emission monitor (outlet). The lime slurry feed system may be operated manually during periods of maintenance and repair.² **(40 CFR 52.21(j))**
2. To determine compliance with the maximum particulate matter control device temperature requirements under 40 CFR 60.53b(c), the permittee shall install, calibrate, maintain, and operate a device for measuring on a continuous basis the temperature of the flue gas stream at the inlet to each particulate matter control device. [Temperature shall be calculated in 4-hour block arithmetic averages.] **(R 336.1973(7)(c); see 40 CFR 60.53b(c))**

V. TESTING/SAMPLING

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

Required Testing for non-Emission Guideline Limits

1. On an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period), alternating between EU-UNIT-1 and EU-UNIT-2, the permittee shall verify compliance with the emission limits (when firing at the maximum steam load level) for the following by stack testing:² **(R 336.2001, R 336.2003, R 336.2004)**
 - a. Particulate matter
 - b. Hydrogen chloride
 - c. Cadmium
 - d. Lead
 - e. Mercury
 - f. Non-methane hydrocarbons
 - g. Total fluorides
 - h. Sulfuric acid mist
 - i. Arsenic
 - j. Beryllium
 - k. Hexavalent chromium
 - l. Total polychlorinated dibenzodioxins (PCDD) and speciated tetra - through octa - PCDD
 - m. Total polychlorinated dibenzofurans (PCDF) and speciated tetra - through octa - PCDF
2. The stack testing shall be at owner's expense, in accordance with Department requirements. Stack testing procedures, the location of stack testing ports and whether EU-UNIT-1 and/or EU-UNIT-2 is to be tested must have prior approval by the Air Quality Division. All test results shall be submitted to the Air Quality Division in an acceptable format within 60 days following the date the test is completed.² **(R 336.2001, R 336.2003, R 336.2004)**
 - a. For the purposes of demonstrating compliance with the particulate matter emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 5, and shall perform three 2-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
 - b. For the purposes of demonstrating compliance with the hydrogen chloride emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 26, and shall perform three one hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**

- c. For the purposes of demonstrating compliance with the cadmium emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 29, and shall perform three 2-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
- d. For the purposes of demonstrating compliance with the lead emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 29, and shall perform three 2-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
- e. For the purposes of demonstrating compliance with the mercury emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 29, and shall perform three 2-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
- f. For the purposes of demonstrating compliance with the non-methane hydrocarbons emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 25a, and shall perform three 1-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
- g. For the purposes of demonstrating compliance with the total fluorides emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 13B, and shall perform three 2-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
- h. For the purposes of demonstrating compliance with the sulfuric acid mist emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 8, and shall perform three 1-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
- i. For the purposes of demonstrating compliance with the arsenic emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 29, and shall perform three 2-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
- j. For the purposes of demonstrating compliance with the beryllium emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 29, and shall perform three 2-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
- k. For the purposes of demonstrating compliance with the hexavalent chromium emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and CARB Method M425, and shall perform three 2-hour runs of the sampling test.² **(R 336.2001, R 336.2003, R 336.2004)**
- l. For the purposes of demonstrating compliance with the PCDD and PCDF emission limits, the permittee shall utilize the methods provided in 40 CFR Part 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 23, and shall perform three 4-hour runs of the sampling test.² See Appendix 5. **(R 336.2001, R 336.2003, R 336.2004)**

Required Testing for non-Emission Guideline Limits – Other

Carbon Monoxide

3. The permittee's CEMS will be used to verify compliance with the concentration limits for carbon monoxide when firing MSW or a combination of MSW and natural gas. Additionally, for the purposes of demonstrating compliance with the carbon monoxide mass emission limits, on an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period), alternating between EU-UNIT-1 and EU-UNIT-2, the permittee shall verify the emission rate (when firing at the maximum steam load level) by utilizing data from the permittee's CO continuous emissions monitor and either of the following to estimate mass emissions:
 - a. Steam flow data correlated to approximate air flows; or
 - b. Actual air flow data gathered during other stack testing and extrapolated to the appropriate time period.

For the 1-hour block emission limit, three 1-hour computations will be made, and averaged. For the 8-hour block emission limit, three 8-hour computations will be made, and averaged. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

4. In lieu of stack testing for the purposes of demonstrating compliance with the carbon monoxide mass emission limits during the combustion of natural gas only during startup and shutdown of operations, the permittee shall use the emission calculations in Appendix 7 to demonstrate compliance with these limits. However, upon written request by AQD pursuant to R 336.2001, the permittee shall use the methods provided in 40 CFR Part 60, Appendix A, Reference Method 19 for demonstrating compliance with the carbon monoxide mass emission limits during the combustion of natural gas only during startup and shutdown of operations. See Appendix 7. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

Nitrogen Oxides

5. The permittee's CEMS will be used to verify compliance with the concentration limits for oxides of nitrogen when firing MSW or a combination of MSW and natural gas. Additionally, for the purposes of demonstrating compliance with the nitrogen oxides mass emission limits, on an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period), alternating between EU-UNIT-1 and EU-UNIT-2, the permittee shall verify the emission rate (when firing at the maximum steam load level) by utilizing data from the permittee's NOx continuous emissions monitor and either of the following to estimate mass emissions:
 - a. steam flow data correlated to approximate air flows; or
 - b. actual air flow data gathered during other stack testing and extrapolated to the appropriate time period.

For the 1-hour block emission limit, three 1-hour computations will be made, and averaged. For the 3-hour block emission limit, three 3-hour computations will be made, and averaged. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

6. In lieu of stack testing requirement for the purposes of demonstrating compliance with the nitrogen oxides mass emission limits during the combustion of natural gas only during startup and shutdown of operations, the permittee shall use the emission calculations in Appendix 7 to demonstrate compliance with these limits. However, upon written request by AQD pursuant to R 336.2001, permittee shall use the methods provided in 40 CFR Part 60, Appendix A, Reference Method 19 demonstrating compliance with the nitrogen oxides mass emission limits during the combustion of natural gas only during startup and shutdown of operations. See Appendix 7. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

Sulfur Dioxide

7. The permittee's CEMS will be used to verify compliance with the concentration limits for sulfur dioxide when firing MSW or a combination of MSW and natural gas. Additionally, for the purposes of demonstrating compliance with the sulfur dioxide mass emission limit, on an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period), alternating between EU-UNIT-1 and EU-UNIT-2, the permittee shall verify the emission rate (when firing at the maximum steam load level) by utilizing data from the permittee's SO₂ continuous emissions monitor and either of the following to estimate mass emissions:
- steam flow data correlated to approximate air flows; or
 - actual air flow data gathered during other stack testing and extrapolated to the appropriate time period.

For the 8-hour block emission limit, three 8-hour computations will be made, and averaged. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

Relative Accuracy Test Audit (RATA)

8. EPA Test Methods 3A, 6C, 7E and 10 are used as the reference test method procedures for the RATA test program. These methods are instrumental test methods. They are conducted in accordance with **40 CFR Part 60, Appendix B, Performance Specifications 2, 3, 4/4A, and Appendix F**.
9. A sample is continuously extracted from the effluent stack gas stream. A portion of the sample stream is conveyed to each analyzer for the determination of O₂ or CO₂, SO₂, CO and NO_x. For each EPA Reference Method determination, the flue gas is sampled at three traverse points. The difference between the reference method sample and the facility's monitor readings are evaluated from a minimum of nine test runs. **(40 CFR Part 60, Appendix B, Performance Specifications 2, 3, 4/4A, and Appendix F)**
10. Relative accuracies are calculated on a concentration basis (ppm corrected to 7 percent O₂) for all pollutant parameters. To satisfy the RATA requirements of 40 CFR Part 60, Appendix B, the relative accuracy must not exceed 20 percent of the mean of the reference method or 10 percent of the applicable standard for SO₂ and NO_x. For CO the relative accuracy must not exceed 10.0 percent of the mean of the reference method or 5 percent of the applicable standard for CO. **(R 336.1973(7)(c), R 336.1902(1)(e); see 40 CFR 60.58b)**
11. If the permittee elects to comply with sulfur dioxide limits by showing percent reduction, if actual inlet emissions are less than 100 parts per million dry volume, then the relative accuracy criterion for inlet sulfur dioxide continuous emission monitoring systems should be no greater than 20 percent of the mean value of the reference method test data in terms of the units of the emission standard, or 5 parts per million dry volume absolute value the mean difference between the reference method and the continuous emission monitoring systems, whichever is greater. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(12))**

Required Stack Testing for Emission Guideline Limits

12. On an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period), the permittee shall conduct verification emission tests of the following for each of the EU-UNIT(s) while firing MSW or MSW and natural gas by stack testing, at the owner's expense, in accordance with the testing methods of 40 CFR 60.58b except as provided under 40 CFR 60.24(b)(2), and also allowing for the measurement of opacity by COMS at the permittee's option in lieu of Method 9 as provided under 40 CFR 60.11(e)(5).² **(40 CFR 60.11(e)(5), R 336.1973(7)(c); see 40 CFR 60.58b, 40 CFR 60.58b(c)(11))**
- Particulate matter and opacity
 - Hydrogen chloride
 - Cadmium

- d. Lead
 - e. Mercury
13. Stack testing procedures, the location of stack testing ports and the EU-UNIT to be tested must have prior approval by the Air Quality Division. All test results shall be submitted to the Air Quality Division in an acceptable format within 60 days following the date the test is completed.² **(R 336.1973(7)(c))**

Particulate Matter and Opacity

14. The procedures and test methods specified in paragraphs 40 CFR 60.58b(c)(1) through (c)(11) shall be used to determine compliance with the emission limits for particulate matter and opacity under SC I.1 and SC I.4. **(R 336.1973(7)(c); see 40 CFR 60.58b(c))**
- a. EPA Reference Method 1 shall be used to select sampling site and number of traverse points. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(1))**
 - b. EPA Reference Method 3, 3A or 3B, as applicable, shall be used for gas analysis. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(2))**
 - c. EPA reference Method 5 shall be used for determining compliance with the particulate matter emission limit. The minimum sample volume shall be 1.7 cubic meters. The probe and filter holder heating systems in the sample train shall be set to provide a gas temperature no greater than 160 +/- 14 degrees C. An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 5 run. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(3))**
 - d. The permittee may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of 40 CFR 60.58b. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(4))**
 - e. As specified under 60.8 of 40 CFR Part 60, Subpart A, all performance tests shall consist of three test runs. The average of the particulate matter emission concentrations from the three test runs is used to determine compliance. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(5))**
 - f. In accordance with paragraphs 40 CFR 60.58b(c)(7) and (c)(11), EPA Reference Method 9 shall be used for determining compliance with the opacity limit except as provided under 60.11(e)(5) of 40 CFR Part 60, Subpart A. This allows for the use of the continuous opacity monitor to demonstrate compliance in lieu of Method 9. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(6))**
 - g. The permittee shall conduct a performance test for particulate matter on an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period). **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(9))**
 - h. The permittee shall conduct a performance test for opacity on an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period), using the test method specified in paragraph (c)(6) of this section, except as may be provided under (f) above. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(11))**

Hydrogen Chloride

15. The procedures and test methods specified in paragraphs 40 CFR 60.58b(f)(1) through (f)(8) shall be used for determining compliance with the hydrogen chloride emission limit under SC I.23. **(R 336.1973(7)(c); see 40 CFR 60.58b(f))**

- a. EPA Reference Method 26 or 26A, as applicable, shall be used to determine the hydrogen chloride emission concentration. The minimum sampling time for Method 26 shall be 1 hour per run. **(R 336.1973(7)(c);** see 40 CFR 60.58b(f)(1))
- b. An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 26 test run for hydrogen chloride required by paragraph 40 CFR 60.58b(f)(1). **(R 336.1973(7)(c);** see 40 CFR 60.58b(f)(2))
- c. Equation 2 of 40 CFR 60.58b(f)(3) shall be used to compute percent reduction in potential hydrogen chloride emissions. **(R 336.1973(7)(c);** see 40 CFR 60.58b(f)(3))
- d. The permittee may request that compliance with the hydrogen chloride emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1973(7)(c);** see 40 CFR 60.58b(f)(4))
- e. As specified under 60.8 of 40 CFR Part 60, Subpart A, all performance tests shall consist of three test runs. The average of the hydrogen chloride emission concentrations or percent reductions from the three test runs is used to determine compliance. **(R 336.1973(7)(c);** see 40 CFR 60.58b(f)(5))
- f. The permittee shall conduct a performance test for hydrogen chloride emissions on an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period). **(R 336.1973(7)(c);** see 40 CFR 60.58b(f)(7))

Cadmium and Lead

16. Procedures and test methods specified in paragraph 40 CFR 60.58b(d)(1) and (d)(2) shall be used to determine compliance with the emission limits for cadmium and lead under SC 1.29 and SC 1.41. **(R 336.1973(7)(c);** see 40 CFR 60.58b(d)(1))
 - a. EPA Reference Method 1 shall be used for determining the location and number of sampling points. **(R 336.1973(7)(c);** see 40 CFR 60.58b(d)(1)(i))
 - b. EPA reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis. **(R 336.1973(7)(c);** see 40 CFR 60.58b(d)(1)(ii))
 - c. EPA Reference Method 29 shall be used for determining compliance with the cadmium and lead emission limits. **(R 336.1973(7)(c);** see 40 CFR 60.58b(d)(1)(iii))
 - d. An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 29 test run for cadmium and lead required under paragraph 40 CFR 60.58b(d)(1)(iii). **(R 336.1973(7)(c);** 40 CFR 60.58b(d)(1)(iv))
 - e. The permittee may request that compliance with the lead or cadmium emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1973(7)(c);** see 40 CFR 60.58b(d)(1)(v))
 - f. All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the cadmium or lead emission concentrations from three test runs or more shall be used to determine compliance. **(R 336.1973(7)(c);** see 40 CFR 60.58b(d)(1)(vi))

- g. The permittee shall conduct a performance test for cadmium and lead on an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period). **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(1)(vii))**

Mercury

- 17. Procedures and test methods specified in paragraphs 40 CFR 60.58b(d)(2)(i) through (d)(2)(xi) shall be used to determine compliance with the mercury emission limit under SC 1.32. **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2))**
 - a. EPA Reference Method 1 shall be used for determining the location and number of sampling points. **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2)(i))**
 - b. EPA reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis. **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2)(ii))**
 - c. EPA Reference Method 29 shall be used to determine the mercury emission concentration. The minimum sample volume when using Method 29 for mercury shall be 1.7 cubic meters. **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2)(iii))**
 - d. An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 29 test run for cadmium and lead required under paragraph 40 CFR 60.58b(d)(2)(iii). **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2)(iv))**
 - e. Equation 1 of 40 CFR 60.58b(d)(2)(v) provides the percent reduction in potential mercury emissions. **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2)(v))**
 - f. All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the mercury emission concentrations from three test runs or more shall be used to determine compliance. **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2)(vi))**
 - g. The permittee may request that compliance with the mercury emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2)(vii))**
 - h. The permittee shall conduct a performance test for mercury on an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period). **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2)(ix))**
 - i. The permittee of a facility where activated carbon injection is used to comply with the mercury emission limit shall follow the procedures specified in paragraph 40 CFR 60.58b(m) for measuring and calculating carbon usage. **(R 336.1973(7)(c); see 40 CFR 60.58b(d)(2)(xi))**
- 18. During each performance test of mercury, the permittee shall determine the average carbon mass feed rate in pounds per hour, based on an 8-hour block average basis. During the operation of EU-UNIT-1 and EU-UNIT-2, the carbon injection system operating parameters which are the primary indicators of the carbon mass feed rate must equal or exceed the levels documented during the performance test on an 8-hour block average basis. The total carbon usage of the facility for each calendar quarter shall be estimated using two independent methods. The two independent methods are: the weight of carbon delivered to the facility and the total of the average carbon mass feed rate to each of EU-UNIT-1 and EU-UNIT-2 multiplied by the operating time for EU-UNIT-1 and EU-UNIT-2.² **(R 336.1973(7)(c); see 40 CFR 60.58b(m))**

Dioxins/furans

19. The procedures and test methods specified in paragraphs 40 CFR 60.58b(g)(1) through (g)(9) shall be used for determining compliance with the dioxin/furan emission limit under SC I.46. **(R 336.1973(7)(c); 40 CFR 60.58b(g))**
- a. EPA Reference Method 1 shall be used for determining the location and number of sampling points. **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(1))**
 - b. EPA reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis. **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(2))**
 - c. EPA Reference Method 23 shall be used to determine the dioxin/furan emission concentration. **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(3))**
 - i. The minimum sample time shall be 4 hours per test run. **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(3)(i))**
 - ii. An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 23 test run for dioxins/furans. **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(3)(ii))**
 - d. The permittee shall conduct performance tests for dioxin/furan emissions in accordance with paragraph 40 CFR 60.58b(g)(3), according to one of the schedules specified below from paragraphs 40 CFR 60.58b(g)(5)(i) through (g)(5)(iii). **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(5))**
 - i. On an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period). **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(5)(i))**
 - ii. On an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period), or less frequently as allowed by the applicable Federal rule, the applicant shall verify the emission rate of total dioxin/furan for each of the EU-UNIT(s) while firing MSW by stack testing, at the owner's expense, in accordance with the requirements found in 40 CFR 60.58b(g)(5)(iii), 40 CFR 60.53b(b) and 40 CFR 60.53b(c). Total dioxin/furan shall include all tetra - through octo - polychlorinated isomers of dibenzodioxin and all tetra - through octo - polychlorinated isomers of dibenzofuran. Stack testing procedures, the location of stack testing ports, and the EU-UNIT to be tested must have prior approval by the Air Quality Division. All test results shall be submitted to the Air Quality Division in an acceptable format within 60 days following the date the test is completed.² **(R 336.1973(7)(c); see 40 CFR 60.53b(c), 40 CFR 60.58b(g)(5)(iii))**
 - iii. Where all performance tests over a 2-year period indicate that dioxin/furan emissions are less than or equal to 15 nanograms per dry standard cubic meter (total mass) for all affected facilities within a MSW plant, the permittee may elect to conduct annual performance tests for one affected facility per year at the MSW plant. At a minimum, a performance test for dioxin/furan emissions shall be conducted annually (no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period) for one affected facility at the MSW plant. Each year a different affected facility at the MSW combustor plant shall be tested, and the affected facilities at the plant shall be tested in sequence. If each annual performance test continues to indicate a dioxin/furan emission level less than or equal to 15 nanograms per dry standard cubic meter (total mass), the permittee may continue conducting a performance test on only one affected facility per year. If any annual performance test indicates a dioxin/furan emission level greater than 15 nanograms per dry standard cubic meter (total mass), performance tests thereafter shall be conducted annually on all affected facilities at the plant until and unless all annual performance tests for all affected facilities at the plant over a 2-year period indicate a dioxin/furan emission level less than or equal to 15 nanograms per dry standard cubic meter (total mass). **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(5)(iii))**

- iv. If the permittee selects to follow the performance testing schedule specified in paragraph 40 CFR 60.58b(g)(5)(iii), the permittee shall follow the procedures specified in 40 CFR 60.59b(g)(4) for reporting the selection of this schedule. **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(6))**
 - v. If activated carbon is used to comply with the dioxin/furan emission limits specified in SC I.46 or the dioxin/furan emission level specified in paragraph 40 CFR 60.58b(g)(5)(iii), the permittee shall follow the procedures specified in paragraph 40 CFR 60.58b(m) for measuring and calculating the carbon usage rate.² **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(7))**
 - vi. The permittee may request that compliance with the dioxin/furan emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(8))**
 - vii. As specified under 60.8 of 40 CFR Part 60, Subpart A, all performance tests shall consist of three test runs. The average of the dioxin/furan emission concentrations from the three test runs is used to determine compliance. **(R 336.1973(7)(c); see 40 CFR 60.58b(g)(9))**
20. During each performance test of dioxin/furans, the permittee shall determine the average carbon mass feed rate in pounds per hour, based on an 8-hour block average basis. During the operation of the EU-UNIT(s), the carbon injection system operating parameters which are the primary indicators of the carbon mass feed rate must equal or exceed the levels documented during the performance test on an 8-hour block average basis. The total carbon usage of the facility for each calendar quarter shall be estimated using two independent methods. The two independent methods are: the weight of carbon delivered to the facility and the total of the average carbon mass feed rate to each of the EU-UNIT(s) multiplied by the operating time for each of the EU-UNIT(s).² **(R 336.1973(7)(c); see 40 CFR 60.58b(m))**
21. During each performance test of dioxins/furans, permittee shall determine the maximum particulate matter control device inlet temperature and steam load level in accordance with 40 CFR 60.58b(i)(7) and 40 CFR 60.58b(i)(8). **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(7), 40 CFR 60.58b(i)(8))**

See Appendices 5 and 7

VI. MONITORING/RECORDKEEPING

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

For each combustor, the permittee shall install, calibrate, maintain, operate, and monitor on a continuous basis, the following:²

Continuous Opacity Monitoring System (COMS)

- 1. The permittee shall install, calibrate, maintain and operate a continuous opacity monitoring system (COMS; following the baghouse) for measuring opacity and shall follow the methods and procedures specified in paragraphs 40 CFR 60.58b(c)(8)(i) through (c)(8)(iv). **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(8))**
 - a. The output of the COMS shall be recorded on a 6-minute average basis. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(8)(i))**
 - b. The COMS shall be installed, evaluated, and operated in accordance with 60.13 of 40 CFR Part 60, Subpart A. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(8)(ii))**
 - c. The COMS shall conform to Performance Specification 1 in Appendix B of 40 CFR Part 60. **(R 336.1973(7)(c); see 40 CFR 60.58b(c)(8)(iii))**

SO2 CEMS – General Requirements

2. EPA Reference Method 19, Section 4.3 shall be used to calculate the daily geometric mean sulfur dioxide emission concentration. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(1))**
3. EPA Reference Method 19, Section 5.4, shall be used to determine the daily geometric average percent reduction in the potential sulfur dioxide emission concentration. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(2))**
4. The permittee may request that compliance with the sulfur dioxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(3))**
5. Compliance with the sulfur dioxide emission limit shall be determined based on: **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(6))**
 - a. the 24-hour daily geometric average of the hourly arithmetic average emission concentrations using CEMS outlet data if compliance is based on an emission concentration; **or**
 - b. CEMS inlet and outlet data if compliance is based on a percent reduction.
6. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(e)(7)(i) and (e)(7)(ii) for 90 percent of the operating hours per calendar quarter, and for 95 percent of the operating hours per calendar year that the affected facility is combusting MSW. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(7))**
 - a. At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(7)(i))**
 - b. Each sulfur dioxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(7)(ii))**
7. The 1-hour arithmetic averages required under paragraph 40 CFR 60.58b(e)(6) of this section shall be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 24-hour daily geometric average emission concentrations and daily geometric average emission percent reductions. The 1-hour arithmetic averages shall be calculated using the data points required under 60.13(e)(2) of 40 CFR Part 60, Subpart A. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(8))**
8. All valid CEMS data shall be used in calculating average emission concentrations and percent reductions even if the minimum CEMS data requirements of paragraph 40 CFR 60.58b(e)(7) are not met. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(9))**
9. The procedures of 60.13 of 40 CFR Part 60, Subpart A shall be followed for the installation, evaluation, and operation of the CEMS. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(10))**
10. The CEMS shall be operated according to Performance Specification 2 in Appendix B of 40 CFR Part 60. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(12))**
 - a. During each Relative Accuracy Test run of the CEMS required by Performance Specification 2 in Appendix B of 40 CFR Part 60, sulfur dioxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the CEMS and the test methods specified in paragraphs 40 CFR 60.58b(e)(12)(i)(A) and (e)(12)(i)(B). **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(12)(i))**
 - i. For sulfur dioxide, EPA Reference Method 6, 6A, or 6C shall be used. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(12)(i)(A))**

- ii. For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(12)(i)(B))**
 - b. The span value of the CEMS at the inlet to the sulfur dioxide control device (if permittee has elected to use the percent reduction to demonstrate compliance) shall be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the combustor. The span value of the CEMS at the outlet of the sulfur dioxide control device shall be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the combustor. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(12)(ii))**
11. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(e)(7)(i) and (e)(7)(ii) for 90 percent of the operating hours per calendar quarter, and for 95 percent of the operating hours per calendar year that the affected facility is combusting MSW. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(7))**

Sulfur dioxide CEMS – following the baghouse

- 12 The permittee shall install, calibrate, maintain, and operate a CEMS for sulfur dioxide emissions discharged to the atmosphere and record the output of the system.² **R 336.1973(7)(c); see 40 CFR 60.58b(e)(5))**

Sulfur dioxide CEMS – prior to the dry scrubber

13. If the permittee elects to comply with sulfur dioxide limits by showing percent reduction, the permittee shall install, calibrate, maintain, and operate a CEMS for measuring sulfur dioxide emissions and diluent concentrations entering the dry scrubber. If the permittee elects to not utilize percent reduction for compliance, then the permittee may remove this CEMS.² **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(4))**

Nitrogen oxides CEMS – following the baghouse

14. EPA Reference Method 19, section 4.1, shall be used for determining the daily arithmetic average nitrogen oxides emission concentration. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(1))**
15. The permittee may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(2))**
16. The permittee shall install, calibrate, maintain and operate a CEMS for measuring nitrogen oxides discharged to the atmosphere, and record the output of the system. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(4))**
17. Following the date that the initial performance test for nitrogen oxides is completed or is required to be completed under 60.8 of 40 CFR Part 60, Subpart A, compliance with the emission limit for nitrogen oxides required under 40 CFR 60.52b(d) shall be determined based on the 24-hour daily arithmetic average of the hourly emission concentrations using CEMS outlet data. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(5))**
18. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(e)(7)(i) and (e)(7)(ii) for 90 percent of the operating hours per calendar quarter, and for 95 percent of the operating hours per calendar year that the affected facility is combusting MSW. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(7))**
- a. At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(6)(i))**
 - b. Each nitrogen oxides 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(6)(ii))**

19. The 1-hour arithmetic averages required by paragraph 40 CFR 60.58b(h)(5) of this section shall be expressed as parts per million by volume (dry basis) and used to calculate the 24-hour daily arithmetic average concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under 60.13(e)(2) of 40 CFR Part 60, Subpart A. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(7))**
20. All valid CEMS data must be used in calculating emission averages even if the minimum CEMS data requirements of paragraph 40 CFR 60.58b(h)(6) are not met. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(8))**
21. The permittee shall operate the CEMS according to Performance Specification 2 in Appendix B of 40 CFR Part 60 and shall follow the procedures and methods specified in paragraphs 40 CFR 60.58b(h)(10)(i) and (h)(10)(ii). **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(10))**
 - a. During each Relative Accuracy Test run of the CEMS required by Performance Specification 2 in Appendix B of 40 CFR Part 60, nitrogen oxides and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the CEMS and the test methods specified in paragraphs 40 CFR 60.58b(h)(10)(i)(A) and (h)(10)(i)(B). **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(10)(i))**
 - i. For nitrogen oxides, EPA Reference Method 7, 7A, 7C, 7D or 7E shall be used. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(10)(i)(A))**
 - ii. For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(10)(i)(B))**
 - b. The span value of the CEMS shall be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of the combustor. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(10)(ii))**
22. When nitrogen oxide emissions data are not obtained because of CEMS system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the administrator or EPA Method 19 to provide, as necessary, valid emissions data for a minimum of 90 percent of the operating hours per calendar quarter that the affected facility is operated and combusting MSW and for 95 percent of the operating hours per calendar year that the affected facility is operated and combusting MSW. **(R 336.1973(7)(c); see 40 CFR 60.58b(h)(12))**

Carbon monoxide CEMS – following the baghouse

23. Compliance with the carbon monoxide emission limits in SC I.16 shall be determined using a 4-hour block arithmetic average. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(1))**
24. The permittee shall install, calibrate, maintain, and operate a CEMS for measuring carbon monoxide at the combustor outlet and record the output of the system and shall follow the procedures and methods specified in paragraphs 40 CFR 60.58b(i)(3)(i) through (i)(3)(iii) of this section.² **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(3))**
 - a. CEMS shall be operated according to Performance Specification 4A in Appendix B of 40 CFR Part 60. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(3)(i))**
 - b. During each Relative Accuracy Test run of the CEMS required by Performance Specification 4A in Appendix B of 40 CFR Part 60, carbon monoxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the CEMS and the test methods specified in paragraphs 40 CFR 60.58b(i)(3)(ii)(A) and (i)(3)(ii)(B). **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(3)(ii))**
 - i. For carbon monoxide, EPA Reference Method 10, 10A, or 10B shall be used. **R 336.1973(7)(c); see 40 CFR 60.58b(i)(3)(ii)(A))**
 - ii. For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(3)(ii)(B))**

- c. The span value of the CEMS shall be 125 percent of the maximum estimated hourly potential carbon monoxide emissions of the combustor. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(3)(iii))**
25. The 4-hour block and 24-hour daily arithmetic averages specified in paragraphs 40 CFR 60.58b(i)(1) and (i)(2) of this section shall be calculated from 1-hour arithmetic averages expressed in ppmv corrected to 7 percent oxygen (dry basis). The 1-hour arithmetic averages shall be calculated using the data points generated by the CEMS. At least 2 data points shall be used to calculate each 1-hour arithmetic average. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(4))**
26. The permittee may request that compliance with the carbon monoxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(5))**
27. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(e)(7)(i) and (e)(7)(ii) for 90 percent of the operating hours per calendar quarter, and for 95 percent of the operating hours per calendar year that the affected facility is combusting MSW. **(R 336.1973(7)(c); see 40 CFR 60.58b(e)(7))**
 - a. At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average. **(R 336.1973(7)(c); see 40 CFR 60.58(b)(i)(10)(i))**
 - b. At a minimum, each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(R 336.1973(7)(c); see 40 CFR 60.58(b)(i)(10)(ii))**
28. All valid CEMS data must be used in calculating the parameters specified under paragraph 40 CFR 60.58b(i) even if the minimum data requirements of paragraph 40 CFR 60.58b(i)(10) are not met. When carbon monoxide CEMS data are not obtained because of CEMS system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the administrator or EPA Method 10 to provide, as necessary, the minimum valid emission data. **(R 336.1973(7)(c); see 40 CFR 60.58(b)(i)(11))**

Oxygen or CO₂ CEMS – prior to dry scrubber and following the baghouse

29. The span value of the oxygen (or carbon dioxide) monitor shall be 25 percent. **(R 336.1973(7)(c); see 40 CFR 60.58b(b)(1))**
30. The monitor shall be installed, evaluated, and operated in accordance with 60.13 of 40 CFR Part 60, Subpart A. **(R 336.1973(7)(c); see 40 CFR 60.58b(b)(2))**
31. The monitor shall conform to Performance Specification 3 in Appendix B of 40 CFR Part 60 except for section 2.3 (relative accuracy requirement). **(R 336.1973(7)(c); see 40 CFR 60.58b(b)(4))**
32. The quality assurance procedures of Appendix F of 40 CFR Part 60 except for section 5.1.1 (relative accuracy test audit) shall apply to the monitor. **(R 336.1973(7)(c); see 40 CFR 60.58b(b)(5))**
33. If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels shall be established during the initial performance test according to the procedures and methods specified in paragraphs 40 CFR 60.58b(b)(6)(i) through (b)(6)(iv). This relationship may be reestablished during performance compliance tests. **(R 336.1973(7)(c); see 40 CFR 60.58b(b)(6))**
 - a. The fuel factor equation in Method 3B shall be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3, 3A, or 3B as applicable, shall be used to determine the oxygen concentration at the same location as the carbon dioxide monitor. **(R 336.1973(7)(c); see 40 CFR 60.58b(b)(6)(i))**

- b. Samples shall be taken for at least 30 minutes in each hour. **(R 336.1973(7)(c);** see 40 CFR 60.58b(b)(6)(ii))
 - c. Each sample shall represent a 1-hour average. **(R 336.1973(7)(c);** see 40 CFR 60.58b(b)(6)(iii))
 - d. A minimum of 3 runs shall be performed. **(R 336.1973(7)(c);** see 40 CFR 60.58b(b)(6)(iv))
34. The relationship between carbon dioxide and oxygen that is established in accordance with paragraph 40 CFR 60.58b(b)(6) shall be submitted to the EPA Administrator as part of the initial performance test report and, if applicable, as part of the annual test report if the relationship is reestablished during the annual performance test. **(R 336.1973(7)(c);** see 40 CFR 60.58b(b)(7))

General – all CEMS and COMS as applicable:

35. The calibration requirements of 40 CFR 60.13(d)(2) shall be fulfilled. **(40 CFR 60.13(d)(2))**
36. The zero and span check requirements of 40 CFR 60.13(d)(1) shall be completed at least once daily in accordance with written procedure. **(40 CFR 60.13(d)(1))**
37. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation as follows: **(40 CFR 60.13(d))**
- a. Opacity: complete one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period; **(40 CFR 60.13(e)(1))**
 - b. Other pollutants: complete one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period; **(40 CFR 60.13(e)(2))**
 - c. All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of Appendix B of 40 CFR Part 60 shall be used. **(40 CFR 60.13(f))**
 - d. Initial data reduction shall be in accordance with 40 CFR 60.13(h). **(40 CFR 60.13(h));** Subsequent data reduction shall be in accordance with R 336.2175. **(R 336.2175)**
38. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(e)(7)(i) and (e)(7)(ii) for 90 percent of the operating hours per calendar quarter, and for 95 percent of the operating hours per calendar year that the affected facility is combusting MSW. **(R 336.1973(7)(c);** see 40 CFR 60.58b(e)(7))
- a. At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average. **(R 336.1973(7)(c);** see 40 CFR 60.58b(i)(10)(i))
 - b. At a minimum, each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(R 336.1973(7)(c);** see 40 CFR 60.58b(i)(10)(ii))
39. All valid CEMS data must be used in calculating the parameters specified under paragraph 40 CFR 60.58b(i) even if the minimum data requirements of paragraph 40 CFR 60.58b(i)(10) are not met. When carbon monoxide CEMS data are not obtained because of CEMS system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the administrator or EPA Method 10 to provide, as necessary, the minimum valid emission data. **(R 336.1973(7)(c);** see 40 CFR 60.58b(i)(11))
40. Block averages must have valid hourly block data for each hour of the block period for there to be a valid block average calculation. **(R 336.1213(3))**

41. Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 in Appendix F of 40 CFR Part 60. (Note, for determining CEMS availability for quarterly reports or minimum daily data collection or otherwise, daily calibration drift tests shall not be considered either outages or hours of operation. A retest of a failed daily calibration drift test or a quarterly accuracy determination that results in the CEMS being offline shall be counted as downtime.) **(R 336.1973(7)(c); see 40 CFR 60.58b)**

Other Monitoring:

42. When operating, the permittee shall monitor and record the following for each combustor on a continuous basis and with instrumentation acceptable to AQD:²
- a. Natural gas combustion rate. **(40 CFR 52.21(j), R 336.1205)**
 - b. Pressure drop across each dry scrubber. **(40 CFR 52.21(j), R 336.1205)**
 - c. Pressure drop across each baghouse. **(40 CFR 52.21(j), R 336.1205)**
 - d. Inlet temperature of each dry scrubber. **(40 CFR 52.21(j), R 336.1205)**
 - e. Steam pressure. **(40 CFR 52.21(j), R 336.1205)**
 - f. The 4-hour block arithmetic average unit load. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(8))**
 - g. The 4-hour block arithmetic average particulate matter control device inlet temperature. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(9))**
 - h. Under 40 CFR 60.13(e) there is an exception to the continuous monitoring requirement for average unit loads during system breakdowns, repairs, calibration checks, and zero and span adjustments. **(40 CFR 60.13(e))**
43. The permittee shall monitor and record on a once-a-day basis for each combustor, with instrumentation acceptable to AQD, the following:² **(R 336.1201)**
- a. Slurry density of a single slurry grab sample prior to the slurry being routed to each dry scrubber.
 - b. Slurry flow rate to each dry scrubber.
 - c. The daily MSW feed rate by calculating an estimated daily feed rate based on a calendar month average daily MSW feed rate based upon a back calculation utilizing steam production and the estimated HHV of MSW.
44. If carbon injection is needed for compliance purposes, the permittee shall monitor and record for each combustor's carbon injection system, in a manner and with instrumentation acceptable to AQD, the following:²
- a. Estimated hourly carbon injection rate during operation of each combustor. **(R 336.1973(7)(c); see 40 CFR 60.58b(m)(3)(ii))**
 - b. Estimated total carbon usage for each calendar quarter. **(R 336.1973(7)(c); see 40 CFR 60.58b(m)(3))**
 - c. Carbon injection operating parameter data. **(R 336.1973(7)(c); see 40 CFR 60.58b(m)(2))**
 - d. Pneumatic injection pressure or other carbon injection system operational indicator shall be used to provide additional verification of proper carbon injection system operation. The operational indicator shall provide an instantaneous visual and/or audible alarm to alert the operation of a potential interruption in the carbon feed that would not normally be indicated by direct monitoring. The carbon injection system operation indicator used to provide additional verification of carbon injection system operation including the basis for selecting

the indicator and operator response to the indicator alarm, shall be include in section (e)(6) of the site-specific operating manual required under 40 CFR 60.54b(e). **(R 336.1973(7)(c); see 40 CFR 60.58b(m)(4))**

- e. Calendar dates when the estimated 8-hour block average feed rates or carbon injection system operating parameters recorded were less than the 8-hour block average carbon feed rates established during the most recent performance test for mercury and dioxins/furans.² **(R 336.1973(7)(e); see 40 CFR 60.39b(a), 40 CFR 60.59b(d)(14))**
45. The procedures specified in paragraphs 40 CFR 60.58b(i)(6)(i) through (i)(6)(v) shall be used to determine compliance with steam load level requirements under 40 CFR 60.53b(b) and the limit set forth in SC II.1 of FG-COMBUSTOR. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(6))**
- a. The permittee shall install, calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; measure steam (or feedwater) flow in kg/hr (or lb/hr) on a continuous basis; and record the output of the monitor. Steam (or feedwater) flow shall be calculated in 4-hour block arithmetic averages.² **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(6)(i))**
 - b. To calculate steam or feedwater flow, the permittee shall use the method referenced in 40 CFR 60.58b(i)(6). **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(6)(ii))**
 - c. Measurement devices such as flow nozzles and orifices are not required to be recalibrated after they are installed. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(6)(iii))**
 - d. All signal conversion elements associated with steam (or feedwater flow) measurements must be calibrated according to the manufacturer's instructions before each dioxin/furan performance test, and at least once per year. **(R 336.1973(7)(c); see 40 CFR 60.58b(i)(6)(iv))**
46. The total carbon usage of the plant (kg or lbs) for each calendar quarter shall be estimated by two independent methods, according to the procedures in paragraphs 40 CFR 60.58b(m)(3)(i) and (m)(3)(ii). **(R 336.1973(7)(c); see 40CFR 60.58b(m)(3))**
- a. The permittee shall utilize the weight of the carbon delivered to the plant. **(R 336.1973(7)(c); see 40 CFR 60.58b(m)(3)(i))**
 - b. The permittee shall estimate the average carbon mass feed rate in kg/hr or lbs/hr for each hour of operation for each affected facility based on the parameters specified under paragraph 40 CFR 60.58b(m)(1), and sum the results for all affected facilities at the plant for the total number of hours of operation during the calendar quarter. **(R 336.1973(7)(c); see 40 CFR 60.58b(m)(3)(ii))**
47. The permittee shall maintain records of the information specified below, as applicable, for each affected facility for at least five (5) years: **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d))**
- a. Calendar date of each record. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(1))**
 - b. Emission concentrations and parameters measured using CMS as specified in 40 CFR 60.59b(d)(2)(1) and (d)(2)(ii). **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2))**
 - i. The following shall be available for submittal (but is not required for submittal at this time) or on-site review by an inspector. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i))**
 - A. All 6-minute average opacity levels as specified under 40 CFR 60.58b(e). **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i)(A))**
 - B. All 1-hour average sulfur dioxide concentrations as specified under 40 CFR 60.58b(e). **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i)(B))**

- C. All 1-hour average nitrogen oxides emission concentrations as specified under 40 CFR 60.58b(h). **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i)(C))**
- D. All 1-hour average carbon monoxide emission concentrations, MSW combustor unit load measurements, and particulate matter control device inlet temperatures as specified under 40 CFR 60.58b(i). **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i)(D))**
- ii. Average concentrations and percent reductions, as applicable, specified in paragraphs 40 CFR 60.58b(d)(2)(ii)(A) through (D), and shall be available for submittal or on-site review by an inspector. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(ii))**
 - A. All 24-hour daily geometric average sulfur dioxide emission concentrations and all 24-hour daily geometric average percent reductions in sulfur dioxide emissions as specified under 40 CFR 60.58b(e). **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(ii)(A))**
 - B. All 24-hour daily arithmetic average nitrogen oxides emission concentrations as specified under 40 CFR 60.58b(h). **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(ii)(B))**
 - C. All 4-hour block or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable, as specified under 40 CFR 60.58b(i). **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(ii)(C))**
 - D. All 4-hour block arithmetic average combustor load levels and particulate matter control device inlet temperatures as specified under 40 CFR 60.58b(i). **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(ii)(D))**
- c. Identification of the calendar dates when any of the average emission concentrations, percent reductions (if applicable), operating parameter(s) recorded under paragraphs 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D) (see above), or the opacity levels recorded under 40 CFR 60.59b(d)(2)(i)(A) are above the applicable limits (see above), with reasons for such exceedances and a description of corrective actions taken. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(3))**
 - i. This identification shall be completed quarterly, by the 30th day after the end of each calendar quarter. **(R 336.1213(3))**
- d. For affected facilities that apply activated carbon for mercury or dioxin/furan control, the following records shall be maintained: **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(4))**
 - i. Average carbon mass feed rate (in kg/hr or lb/hr) estimated as required by 40 CFR 60.58b(m)(1)(i) during the initial mercury performance test and all subsequent performance tests, with supporting calculations. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(4)(i))**
 - ii. Average carbon mass feed rate (in kg/hr or lb/hr) estimated as required under 40 CFR 60.58b(m)(1)(ii) during the initial dioxin/furan performance test and all subsequent performance tests, with supporting calculations. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(4)(ii))**
 - iii. Average carbon mass feed rate (in kg/hr or lb/hr) estimated for each hour of operation as required under 40 CFR 60.58b(m)(3)(ii), with supporting calculations. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(4)(iii))**
 - A. The computation of average carbon mass feed rate for each hour of operation will be performed monthly. **(R 336.1213(3))**
 - iv. The total carbon usage for each calendar quarter estimated using two methods as specified by 40 CFR 60.58b(m)(3), with supporting calculations. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(4)(iv))**

- A. These computations will be performed quarterly by the 30th day of the month following the calendar quarter. **(R 336.1213(3))**
- v. Carbon injection system operating parameter data for the parameter(s) that are the primary indicator(s) of carbon feed rate. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(4)(v))**
 - A. Initially, the carbon injection system operating parameter that will be used is the gravimetric measuring device. **(R 336.1213(3))**
 - B. Secondly, a pneumatic injection pressure alarm (visual and/or audio) system. **(R 336.1973(7)(c); see 40 CFR 58b(m)(4))**
- e. Identification of the calendar dates for which the minimum number of hours (see 40 CFR 60.58b) of any of the data specified in the following (40 CFR 60.59b(d)(6)(i) through (d)(6)(v)) have not been obtained including reasons for not obtaining sufficient information and a description of the corrective actions taken. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(6))**
 - i. Sulfur dioxide emissions data. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(i))**
 - ii. Nitrogen oxide emissions data. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(ii))**
 - iii. Carbon monoxide emissions data. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(iii))**
 - iv. Unit load data. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(iv))**
 - v. Particulate matter control device temperature data. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(v))**
 - vi. This identification of calendar dates shall be completed quarterly by the 30th day following the end of the calendar quarter. **(R 336.1213(3))**
- f. Identification of each occurrence that sulfur dioxide emissions data, nitrogen oxides emissions data, or operational data have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(7))**
 - i. This identification shall include all data exclusion due to the failure to have data for an entire block average period. **(R 336.1213(3))**
- g. Results of daily drift tests and quarterly accuracy determinations for sulfur dioxide, nitrogen oxides, and carbon monoxide CEMS as required by 40 CFR Part 60, Appendix F, Procedure 1. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(8))**
- h. Test reports documenting the results of the initial performance test and all annual performance tests listed in 40 CFR 60.59b(d)(9)(i) and (d)(9)(ii), along with supporting calculations, which shall include: **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(9))**
 - i. The results of the initial performance test and all annual performance tests conducted to determine compliance with the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission limits. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(9)(i))**
 - ii. For the initial dioxin/furan performance test and all subsequent dioxin/furan performance tests, the maximum demonstrated combustor unit load and maximum demonstrated particulate matter control device temperature (for each particulate matter control device. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(d)(9)(ii))**

- i. The following records per 40 CFR 60.59b(d)(12): **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(d)(12))
 - i. Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been provisionally certified by ASME or state-equivalent certification program as required by 40 CFR 60.54b(a) including the dates of initial and renewal certifications and documentation of the current certification. **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(d)(12)(i))
 - ii. Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been fully certified by ASME or state-equivalent certification program as required by 40 CFR 60.54b(b) including the dates of initial and renewal certifications and documentation of the current certification. **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(d)(12)(ii))
 - iii. Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have completed the EPA municipal waste combustor operator training course or a state-approved equivalent course as required by 40 CFR 60.54b(d) including documentation of training completion. **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(d)(12)(iii))
 - iv. Records showing when a certified operator is temporarily off site, which shall include: **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(d)(12)(iv))
 - A. If the certified chief facility operator and certified shift supervisor are off site for more than 12 hours, but for 2 weeks or less, and no other certified operator is on site, record the dates that the certified chief facility operator and certified shift supervisor were off site.
 - B. When all certified chief facility operators and certified shift supervisors are off site for more than 2 weeks and no other certified operator is on site, keep records of:
 1. Time of day that all certified persons are off site.
 2. The conditions that cause those people to be off site.
 3. The corrective actions taken by the owner or operator of the affected facility to ensure a certified chief facility operator or certified shift supervisor is on site as soon as practicable; and
 4. Copies of the written reports submitted every 4 weeks that summarize the actions taken by the owner or operator of the affected facility to ensure that a certified chief facility operator or certified shift supervisor will be on site as soon as practicable.
- j. Records showing the names of the persons who have completed a review of the operating manual as required by 40 CFR 60.54b(f) including the date of the initial review and subsequent annual reviews. **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(d)(13))
- k. For affected facilities that apply activated carbon for mercury or dioxin/furan control, identification of the calendar dates when the average carbon mass feed rates recorded under 40 CFR 60.59b(d)(4)(iii) were less than either of the hourly carbon feed rates estimated during performance tests for mercury or dioxin/furan emissions and recorded under 40 CFR 60.59b(d)(4)(i) and (ii) respectively, with reasons for such feed rates and a description of corrective actions taken. **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(d)(14))
- l. For affected facilities that apply activated carbon for mercury or dioxin/furan control, identification of the calendar dates when the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate recorded under 40 CFR 60.59b(d)(4)(v) are below the level(s) established during the performance tests specified in 40 CFR 60.58b(m)(1)(i) and (ii), with reasons for such occurrences and a description of corrective actions taken. **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(d)(15))

48. The permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. **(40 CFR 60.7(b))**
 - a. For the purposes of the condition above, the definition of startup, shutdown, and malfunction shall be that applicable to 40 CFR Part 60, Subpart Cb operations. See Appendix 1a. **(R 336.1213(3))**
 - b. The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a "permanent" form suitable for filing and inspection. **(40 CFR 60.7(f))**
49. The permittee may substitute continuous emission monitoring for stack testing requirements pursuant to 40 CFR 60.58b(c)(10) (for PM), 40 CFR 60.58b(d)(4) (for Hg), 40 CFR 60.58b(f)(8) (for HCl), and/or 40 CFR 60.58b(g)(10) (for dioxin/furans), however in that case the permittee must comply with the provisions of 40 CFR 60.58b(n) through 40 CFR 60.58b(q). **(R 336.1973(7)(c); see 40 CFR 60.58b(n) through (q))**
50. The permittee shall keep records as required by the Malfunction Abatement Plan as may be appropriately amended during the term of this permit.² **(R 336.1910, R 336.1911)**
51. The permittee shall continuously measure the pressure drop and record a minimum of once every 15 minutes for an hourly average as an indicator of proper operation of the dust collector. The indicator range for proper operation is 3.5" WC or greater. **(40 CFR 64.6(c)(1)(i and ii))**
52. Each differential pressure gauge shall continuously monitor the pressure drop across each baghouse in FG-COMBUSTORS. The averaging period is hourly. The hourly averages shall be checked once per shift by operators. The monitor shall be calibrated twice per year at approximately 6-month intervals. **(40 CFR 64.6(c)(1)(iii))**
53. An excursion is defined as a 1-hour block average equal to or less than 3.5" WC. **(40 CFR 64.6(c)(2))**
54. Upon detecting an excursion or 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 excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**
55. 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 the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, 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. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
56. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
57. 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 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))**
4. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing.² **(R 336.2001(3))**
5. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date.² **(R 336.2001(4))**
6. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test.² **(R 336.2001(5))**

Quarterly Excess Emissions and Monitoring Systems Performance Report

7. The permittee shall submit quarterly excess emissions and monitoring systems performance reports, postmarked by the 30th day following the end of each calendar quarter period.² **(40 CFR 60.7(c), R 336.2170)**
8. This quarterly excess emissions and monitoring systems performance report will relate to the emission limits monitored by CEMS and COMS and the performance of the CEMS and COMS. **(40 CFR 60.7(c), R 336.1213(3))**

Stack Test Reports

9. Emission test plans and schedules shall meet the requirements of Rules 2001, 2003, and 2004 and have prior approval of the AQD District Supervisor. A complete report of the test results shall be submitted in accordance with AQD requirements. **(R 336.2001, R 336.2002, R 336.2004)**

Semiannual Emission Guideline Operating and Data Availability Summary Report

10. From the permit issuance date forward, postmarked on or before March 15 (for reporting period July 1 through December 31) and postmarked on or before September 15 (for reporting period January 1 through June 30), (note, this schedule has been altered per 40 CFR 60.59b(l) under the delegated authority to AQD), a report shall be submitted in compliance with 40 CFR 60.59b(g) that shall include the following:² **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(g)
 - a. A summary of data collected for all pollutants and parameters regulated under the Emission Guidelines, as follows: **(R 336.1973(7)(e))**; see 40 CFR 60.39b, 40 CFR 60.59b(g)(1))

- i. A list of the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels achieved during any performance tests performed per 40 CFR 60.59b(d)(9) during the applicable period. **(R 336.1973(7)(e)**; see 40 CFR 60.39b, 40 CFR 60.59b(g)(1)(i))
- ii. A list of the highest emission level recorded for each Emission Guideline block period applicable to the following: sulfur dioxide, nitrogen oxides, carbon monoxide, unit load level, and particulate matter control device inlet temperature based on the data recorded under paragraphs 40 CFR 60.59b(d)(2)(ii)(a) through (d)(2)(ii)(d). **(R 336.1973(7)(e)**; see 40 CFR 60.39b; 40 CFR 60.59b(g)(1)(ii))
- iii. The block periods are as follows: **(R 336.1213(3))**
 - A. 24-hour daily geometric average sulfur dioxide emission concentrations and/or all 24-hour daily geometric average percent reductions in sulfur dioxide emissions;
 - B. 24-hour daily arithmetic average nitrogen oxides emission concentrations;
 - C. 4-hour block and/or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable;
 - D. 4-hour block arithmetic average municipal waste combustor unit load levels; and
 - E. 4-hour block arithmetic average particulate matter control device inlet temperatures.
- iv. List the highest opacity level measured, based on the data recorded under paragraph 40 CFR 60.59b(d)(2)(i)(A). **(R 336.1973(7)(e)**; see 40 CFR 60.39b, 40 CFR 60.59b(g)(1)(iii))
- v. The total number of days that the minimum number of hours of data for sulfur dioxide, nitrogen oxides, carbon monoxide, unit load, and particulate matter control device inlet temperature data were not obtained based on the data recorded under paragraph 40 CFR 60.59b(d)(6) of this section. **(R 336.1973(7)(e)**; see 40 CFR 60.39b, 40 CFR 60.59b(g)(1)(iv))
- vi. This report does not need to list the reasons for not obtaining sufficient data, or the corrective actions taken. The standards to be used for the minimum number of hours of data are as follows: **(R 336.1213(3))**
 - A. Sulfur dioxide emission data - 40 CFR 60.58b(e)(7)
 - B. Nitrogen oxides emission data - 40 CFR 60.58b(h)(6)
 - C. Carbon monoxide emission data - 40 CFR 60.58b(i)(10)
 - D. Municipal waste combustor unit load data - 40 CFR 60.58b(i)(10)
 - E. Particulate matter control device temperature data - 40 CFR 60.58b(i)(10)
- vii. The total number of hours that data for sulfur dioxide, nitrogen oxides, carbon monoxide, unit load, and particulate matter control device inlet temperature were excluded from the calculation of average emission concentrations or parameters based on the data recorded under paragraph 40 CFR 60.59b(d)(7) of this section. **(R 336.1973(7)(e)**; see 40 CFR 60.39b, 40 CFR 60.59b(g)(1)(v))
- viii. This report does not need to list the reasons for excluding the data or corrective actions taken. Total hours of data excluded from the computation of an applicable block hour average due to the fact that there is not valid data for all periods within the block period shall be reported pursuant to this provision. See 40 CFR 60.51b definitions for applicable block averages. **(R 336.1213(3))**
- ix. Notification of intent to begin the reduced dioxin/furan performance testing during the following calendar year and notification of intent to apply the average carbon mass feed rate and carbon injection system operating parameters levels as established during performance testing. **(R 336.1973(7)(e)**; see 40 CFR 60.59b(g)(4))

- x. Documentation of period when all certified chief facility operators and certified shift supervisors were off site for more than 12 hours. **(R 336.1973(7)(e); see 40 CFR 60.59b(g)(5))**
- b. The summary of data reported under paragraph 40 CFR 60.59b(g)(1) shall also include the types of data specified in 40 CFR 60.59b(g)(1)(i) through (v) for the 12-month period preceding the period being reported. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(g)(2))**
- c. The summary of data shall also highlight any emission or parameter levels that did not achieve the emission or parameter limits specified under the Emission Guideline. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(g)(3))**
 - i. For the purposes of the condition above, "highlight" shall mean to list the limit exceeded, the duration of the exceedance, and the date of the exceedance. Quarterly emission reports may be incorporated by reference. This report does not need to list the reasons for not achieving the emission or parameter limits or corrective actions taken. **(R 336.1213(3))**
- d. A notification of intent to begin reduced dioxin/furan performance testing schedule specified in 40 CFR 60.58b(g)(5)(iii) during the following calendar year may be made in this report. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(g)(4))**
 - i. Once notice is given, it need not be repeated semiannually. **(R 336.1213(3))**
- e. Documentation of periods when all certified chief facility operators and certified shift supervisors are off site for more than 12 hours. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(g)(5))**

Semiannual Emission Guideline Excess Emission Report

- 11. From the permit issuance date forward, postmarked on or before March 15 (for reporting period July 1- December 31) and postmarked on or before September 15 (for reporting period January 1- June 30), a report shall be submitted in compliance with 40 CFR 60.59b(h) that includes the information specified in 40 CFR 60.59b(h)(1) through (h)(5) for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit specified under the Emission Guidelines. Note, the schedule has been altered per 40 CFR 60.59b(l) under the authority delegated to AQD.² **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(h))**
 - a. The semiannual report shall include information recorded under paragraph 40 CFR 60.59b(d)(3) for sulfur dioxide, nitrogen oxides, carbon monoxide, unit load level, particulate matter control device inlet temperature, and opacity. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(h)(1))**
 - i. This will be an identification of calendar dates when the average emission concentrations, percent reductions, or operating parameters under an Emission Guideline limit was exceeded, reasons for exceedances, and a description of corrective action(s) taken. **(R 336.1973(7)(e), R 336.1213(3); see 40 CFR 60.59b(d)(3))**
 - b. For each date recorded as required by paragraph 40 CFR 60.59b(d)(3) and reported as required by 40 CFR 60.59b(h)(1), the semiannual report shall include the applicable sulfur dioxide, nitrogen oxides, carbon monoxide, unit load level, particulate matter control device inlet temperature, or opacity data which was in exceedance, as applicable, recorded under paragraphs 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D) and (d)(2)(i)(A), as applicable, which shall include data for the entire calendar day. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(h)(2))**
 - c. If the test reports recorded under paragraph 40 CFR 60.59b(d)(9) document any particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels that were above the applicable permit limits, the semiannual report shall include a copy of the test report documenting the emission levels and the corrective actions taken. **(R 336.1973(7)(e); see 40 CFR 60.39b, 40 CFR 60.59b(h)(3))**

- i. This requirement to include stack test results is applicable only if a permit limit was exceeded. **(R 336.1213(3))**
- d. For any 8-hour block period during which the carbon injection system does not comply with the parameter limit established under the permit, the semiannual report shall include the information recorded under paragraph 40 CFR 60.59b(d)(15) for the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate. **(R 336.1973(7)(e);** see 40 CFR 60.39b, 40 CFR 60.59b(h)(4))
 - i. This information will list the date, the reason for the occurrence, and a description of the corrective action(s) taken. **(40 CFR 60.59b(d)(15), R 336.1213(3))**
 - ii. For each day listed in the condition above, the semiannual report shall include the carbon feed rate hourly average data recorded under paragraph 40 CFR 60.59b(d)(4)(iii) for the calendar day. **(R 336.1973(7)(e);** see 40 CFR 60.39b, 40 CFR 60.59b(h)(5))

Emission Guideline Reports – General

- 12. All reports submitted under paragraphs 40 CFR 60.59b (g) and (h), shall be submitted as a paper copy, postmarked on or before the submittal dates specified under these paragraphs, and maintained on-site as a paper copy for a period of 5 years. **(R 336.1973(7)(e);** see 40 CFR 60.39b, 40 CFR 60.59b(j))
- 13. All records specified under paragraphs 40 CFR 60.59b(d) and (e) shall be maintained on site in either paper copy or computer-readable format, unless an alternative format is approved by the Administrator. **(R 336.1973(7)(e);** see 40 CFR 60.39b, 40 CFR 60.59b(k))
- 14. A different annual or semiannual date for submitting the periodic reports required by paragraphs 40 CFR 60.59b(g), and (h) has been established by a mutual agreement between the owner/operator and the Administrator, in accordance with the procedures specified in 60.19(c) of 40 CFR Part 60, Subpart A. **(R 336.1973(7)(e);** see 40 CFR 60.39b, 40 CFR 60.59b(l))

Reports - General Federal Requirements

- 15. Notification of the date construction or reconstruction of an affected facility commenced, shall be made no later than 30 days after such date. **(40 CFR 60.7(a)(1))**
- 16. Notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies shall be made, unless that change is specifically exempted under an applicable subpart or in Section 60.14(e) of 40 CFR Part 60. This notice shall be postmarked 60 days (or as soon as practicable) before the change is commenced. **(40 CFR 60.7(a)(4))**
- 17. If facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, notification of the proposed replacements shall be made, postmarked 60 days (or as soon as practicable) before the construction of the replacements is commenced. **(40 CFR 60.15(d))**
- 18. 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))**
- 19. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**

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. SV-COMBUSTOR-1	56 ²	278 ²	40 CFR 52.21(c), 40 CFR 52.21(d), R 336.1901
2. SV-COMBUSTOR-2	56 ²	278 ²	40 CFR 52.21(c), 40 CFR 52.21(d), R 336.1901

IX. OTHER REQUIREMENT(S)

1. The permittee shall implement and maintain the Malfunction Abatement Plan, revised April 2012, as may be appropriately amended during the term of this permit.² **(R 336.1910, R 336.1911)**
2. The permittee shall calculate the annual capacity factor for natural gas and MSW each calendar quarter based on daily firing rates. This shall be completed within 30 days of the end of each calendar quarter.² **(R 336.1205(3))**
3. The chief facility operator and each shift supervisor shall obtain and maintain a current provisional operator certificate from either ASME or a state certification program.² **(R 336.1973(7)(f))**; see 40 CFR 60.35b, 40 CFR 60.54b(a))
4. The chief facility operator and each shift supervisor shall have completed or have scheduled a full certification exam with either ASME or a state certification program.² **(R 336.1973(7)(f))**; see 40 CFR 60.35b, 40 CFR 60.54b(b))
5. The combustors shall not operate unless one of the following persons is on duty and at the affected facility: a fully or provisionally certified chief facility operator; shift supervisor; or control room operator.² **(R 336.1973(7)(f))**; see 40 CFR 60.35b, 40 CFR 60.54b(c)(2))
6. A provisionally certified control room operator on-site may fulfill the requirements of 40 CFR 60.54b(c) to have a certified chief facility operator or shift supervisor (or provisionally certified chief facility operator or shift supervisor) on site at all times for twelve hours or less without notice. A provisionally certified control room operator on-site may fulfill the requirements of 40 CFR 60.54b(c) to have a certified chief facility operator or shift supervisor (or provisionally certified chief facility operator or shift supervisor) on site at all times for more than twelve hours but no more than two weeks without notice or less without further notice, however the period of such fulfillment must be reported in the semiannual report under 40 CFR 60.59b(g)(5). Filling in for longer than two weeks requires written notice pursuant to 40 CFR 60.54b(c)(2)(iii).² **(R 336.1973(7)(f))**; see 40 CFR 60.35b, 40 CFR 60.54b(c)(2))
7. The permittee shall develop and update on a yearly basis a site-specific operating manual that addresses the following:² **(R 336.1973(7)(f))**; see 40 CFR 60.35b, 40 CFR 60.54b(e))
 - a. Summary of applicable permit standards and limits
 - b. Description of basic combustion theory applicable to a MSW unit
 - c. Procedures for receiving, handling and feeding MSW
 - d. Procedures for startup, shutdown, and malfunction
 - e. Procedures for maintaining proper combustion air levels
 - f. Procedures for operating within Emission Guideline standards
 - g. Procedures for responding to periodic upset or off-specification conditions

- h. Procedures for minimizing particulate matter carryover
 - i. Procedures for handling ash
 - j. Procedures for monitoring emissions
 - k. Reporting and recordkeeping procedures
8. A current copy of the operating manual referenced above shall be kept at the facility at all times. The manual and records shall be available for inspection upon request. **(R 336.1973(7)(f)**; see 40 CFR 60.35b, 40 CFR 60.54b(g))
9. The permittee shall establish a training program to review the operating manual with each person with responsibilities affecting the operation of an affected facility:²
- a. by December 19, 1996; **(R 336.1973(7)(f)**; see 40 CFR 60.35b, 40 CFR 60.54b(f)(1)(iii)) **or**
 - b. the date prior to the day the person assumes such responsibilities. **(R 336.1973(7)(f)**; see 40 CFR 60.35b, 40 CFR 60.54b(f)(1)(ii)) **and**
 - c. annually following the initial review. **(R 336.1973(7)(f)**; see 40 CFR 60.35b, 40 CFR 60.54b(f)(2))
10. The permittee shall submit any request for a change in the maximum allowed steam load level to the AQD District Supervisor for review and approval. Any such request must include a demonstration that the maximum allowable steam load level for each combustor shall not exceed the steaming rate for which compliance with the concentration and mass emission limitations were demonstrated.² **(R 336.1973(7)(b)**; see 40 CFR 60.53b(b)(2))
11. Except as provided by 40 CFR 60.56b, the standards of the Emission Guidelines apply at all times except during periods of startup, shutdown or malfunction. The duration of startup, shutdown, or malfunction periods are limited to 3 hours per occurrence, except as provided in 40 CFR 60.58b(a)(1)(iii). **(R 336.1973(7)(c)**; see 40 CFR 60.58b(a)(1))
12. For the purpose of compliance with the carbon monoxide emission limit in SC I.16, if a loss of boiler water level control (e.g., boiler waterwall tube failure) or a loss of combustion air control (e.g., loss of combustion air fan, induced draft fan, combustion grate bar failure) is determined to be a malfunction, the duration of the malfunction period is limited to 15 hours per occurrence. **(R 336.1973(7)(c)**; see 40 CFR 60.58b(a)(1)(iii))
13. The permittee may demonstrate compliance with the nitrogen oxides emission limitation per 40 CFR 60.33b(d) utilizing the nitrogen oxide emission averaging procedures allowed by and described in 40 CFR 60.33b(d)(1), as applicable. **(R 336.1973(5)(c)**; see 40 CFR 60.33b(d)(1))
14. The permittee shall comply with all applicable portions of **40 CFR Part 60, Subpart Cb –Emissions Guidelines and Compliance Times For Large Municipal Waste Combustors That Are Constructed On Or Before September 20, 1994** (and the portions of **40 CFR Part 60, Subpart Eb – Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or For Which Modification or Reconstruction is Commenced After June 19, 1996** referenced therein) and **40 CFR Part 60, Subpart A – General Provisions. (40 CFR Part 60)**
15. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**

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

Footnotes:

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

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

FG-CIRICEMACT FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Existing emergency compression ignition engines < 500 HP that commenced construction or reconstruction before June 12, 2006.

Emission Unit: EU-PUMPHOUSE-1

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Any stationary RICE shall be installed, maintained, and operated in a satisfactory manner. The permittee shall meet the following work practice standards as specified in 40 CFR 63.6602 and Table 2c, Item 1:
 - a. Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in SC III.4;
 - b. Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first; and
 - c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

If the affected source is being operated during an emergency and it is not possible to shut down the engine to perform the work practice standards on the schedule required, the work practice standard can be delayed until the emergency is over. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State or local law has been abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. **(40 CFR 63.660, 40 CFR Part 63, Subpart ZZZZ, Table 2c, Item 1)**

2. The permittee must be in compliance with the emission limitations and operating limitations in this subpart that apply to the source at all times. **(40 CFR 63.6605(a))**
3. The permittee at all times must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(40 CFR 63.6605(b))**
4. The permittee may utilize an oil analysis program in order to extend the specified oil change requirement. The oil analysis must be performed at the same frequency as oil changes are required in Table 2c. **(40 CFR 63.6625(i))**

5. If the results of oil analysis exceed limits as specified below, the permittee must change the oil within two days or before commencing operation, whichever is later.
 - a. Total Base Number is less than 30% of the Total Base Number of the oil when new.
 - b. Viscosity of the oil has changed by more than 20% from the viscosity of the oil when new.
 - c. Percent water content (by volume) is greater than 0.5%. **(40 CFR 63.6625(i))**
6. The permittee shall maintain and operate the stationary RICE per the manufacturer's emission related written instructions or develop a maintenance plan which must provide for the maintenance and operation of the engine in a manner consistent with good air pollution control practices for minimizing emissions. **(40 CFR 63.6625(e), 40 CFR 63.6640(a), 40 CFR Part 63, Subpart ZZZZ, Table 6 Item 9)**
7. The permittee shall minimize the time spent at idle during startup and minimize the startup time of the stationary RICE to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply. **(40 CFR 63.6625(h))**
8. The permittee shall not exceed 100 hours per year for maintenance checks and readiness testing. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. **(40 CFR 63.6640(f)(1)(ii))**
9. The permittee may operate the stationary RICE for non-emergency situations for up to 50 hours per year as allowed in 40 CFR 63.6640 (f)(1)(iii). **(40 CFR 63.6640(f)(1)(iii))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain the stationary RICE with a non-resettable hour meter to track the hours of operation. **(40 CFR 63.6625(f))**

V. TESTING/SAMPLING

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

1. If using an oil analysis program, the permittee shall, at a minimum analyze the Total Base Number, Viscosity, and percent water content. **(40 CFR 63.6625(i))**

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 the following records:
 - a. Records of the occurrence and duration of each malfunction of operation or the air pollution control monitoring equipment. **(40 CFR 63.6655(a)(2), 40 CFR 63.6660)**
 - b. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. **(40 CFR 63.6655(a)(5), 40 CFR 63.6660, 40 CFR 63.6605(b))**
 - c. Records to demonstrate continuous compliance with operating limitations in SC III.1. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(d), 40 CFR 63.6660)**
 - d. Records of the maintenance conducted to demonstrate the stationary RICE was operated and maintained according to the manufacturer's emission related written instructions or developed maintenance plan. **(40 CFR 63.6655(e), 40 CFR 63.6660)**
 - e. Records of hours of operation recorded through the non-resettable hour meter. The permittee shall document how many hours were spent during emergency operation, including what classified the operation as emergency and how many hours were spent during non-emergency operation. **(40 CFR 63.6655(f), 40 CFR 63.6660)**

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. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines. **(40 CFR 63.6595(a)(1), 40 CFR Part 63, Subparts A and ZZZZ)**

Footnotes:

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

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

**FG-CIRICENSPS
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Existing emergency compression ignition engines < 500 HP that commenced construction or reconstruction after June 12, 2006. Compliance with the RICE MACT (40 CFR Part 63, Subpart ZZZZ) emission and operating limitations in this flexible group shall be no later than May 3, 2013. This equipment is classified as a new source subject to regulation under 40 CFR 63.6590(a)(2)(ii). The provisions of 40 CFR Part 63, Subpart ZZZZ shall not apply per 40 CFR 63.6590(c). The applicable New Source Performance Standards of 40 CFR Part 60, Subpart IIII do apply.

Emission Unit: EU-PUMPHOUSE-2

POLLUTION CONTROL EQUIPMENT

None

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NMHC+NOx	10.5 g/KW-hr	While Operating	EU-PUMPHOUSE-2	SC III.6 SC VI.2	40 CFR Part 60, Subpart IIII, Table 4
2. CO	5.0 g/KW-hr	While Operating	EU-PUMPHOUSE-2	SC III.6 SC VI.2	40 CFR 60.4211(b)(3), 40 CFR 60.4205(c), 40 CFR Part 60, Subpart IIII, Table 4
3. PM	0.80 g/KW-hr	While Operating	EU-PUMPHOUSE-2	SC III.6 SC VI.2	40 CFR 60.4211(b)(3), 40 CFR 60.4205(c), 40 CFR Part 60, Subpart IIII, Table 4

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Diesel Fuel	Maximum per-gallon sulfur content of 1,000 ppm	While Operating	EU-PUMPHOUSE-2	SC VI.3	40 CFR 60.4207, 40 CFR 80.510(b)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. **(40 CFR 60.4211(f))**
2. Maintenance checks and readiness testing of the emergency stationary RICE is limited to 100 hours per year; however, it may operate above this limit if Federal, State or local standards require maintenance and testing beyond 100 hours per year. **(40 CFR 60.4211(f))**

3. There is no time limit on the use of an emergency stationary RICE in emergency situations. **(40 CFR 60.4211(f))**
4. The permittee may operate the emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. These 50 hours cannot be used for peak shaving or to generate to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4211(f))**
5. Any operation of the emergency stationary RICE beyond the operations set forth in SC III.1-4 above is prohibited. **(40 CFR 60.4211(f))**
6. The permittee shall maintain and operate the emergency stationary RICE per the manufacturer's emission related written instructions or develop a maintenance plan which must provide for the maintenance and operation of the engine in a manner consistent with good air pollution control practices for minimizing emissions. **(40 CFR 60.4211(a), 40 CFR 60.4211(g))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain records of the engine manufacturer data indicating it is a certified engine in compliance with the standards of this section. **(40 CFR 60.4211(b)(3))**
2. The permittee shall maintain records of the time of operation of each emergency stationary RICE and the reason it was in operation during that time. **(40 CFR 60.4214(b))**
3. The permittee shall maintain records of the type/grade of fuel used in each emergency stationary RICE. **(R 336.1213(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. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 60, Subpart A and Subpart IIII. **(40 CFR Part 60 Subparts A and IIII)**

Footnotes:

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

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

FG-COLDCLEANERS FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

Emission Unit: EU-COLDCLEANER

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall not use cleaning solvents containing more than five percent by weight of the following halogenated compounds: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chloroform, or any combination thereof. **(R 336.1213(2))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Cleaned parts shall be drained for no less than 15 seconds or until dripping ceases. **(R 336.1611(2)(b), R 336.1707(3)(b))**
2. The permittee shall perform routine maintenance on each cold cleaner as recommended by the manufacturer. **(R 336.1213(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The cold cleaner must meet one of the following design requirements:
 - a. The air/vapor interface of the cold cleaner is no more than ten square feet. **(R 336.1281(2)(h))**
 - b. The cold cleaner is used for cleaning metal parts and the emissions are released to the general in-plant environment. **(R 336.1285((2)r)(iv))**
2. The cold cleaner shall be equipped with a device for draining cleaned parts. **(R 336.1611(2)(b), R 336.1707(3)(b))**
3. All new and existing cold cleaners shall be equipped with a cover and the cover shall be closed whenever parts are not being handled in the cold cleaner. **(R 336.1611(2)(a), R 336.1707(3)(a))**
4. The cover of a new cold cleaner shall be mechanically assisted if the Reid vapor pressure of the solvent is more than 0.3 psia or if the solvent is agitated or heated. **(R 336.1707(3)(a))**

5. If the Reid vapor pressure of any solvent used in a new cold cleaner is greater than 0.6 psia; or, if any solvent used in a new cold cleaner is heated above 120 degrees Fahrenheit, then the cold cleaner must comply with at least one of the following provisions:
 - a. The cold cleaner must be designed such that the ratio of the freeboard height to the width of the cleaner is equal to or greater than 0.7. **(R 336.1707(2)(a))**
 - b. The solvent bath must be covered with water if the solvent is insoluble and has a specific gravity of more than 1.0. **(R 336.1707(2)(b))**
 - c. The cold cleaner must be controlled by a carbon adsorption system, condensation system, or other method of equivalent control approved by the AQD. **(R 336.1707(2)(c))**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

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

1. For each new cold cleaner in which the solvent is heated, the solvent temperature shall be monitored and recorded at least once each calendar week during routine operating conditions. **(R 336.1213(3))**
2. The permittee shall maintain the following information on file for each cold cleaner: **(R 336.1213(3))**
 - a. A serial number, model number, or other unique identifier for each cold cleaner.
 - b. The date the unit was installed, manufactured or that it commenced operation.
 - c. The air/vapor interface area for any unit claimed to be exempt under Rule 281(2)(h).
 - d. The applicable Rule 201 exemption.
 - e. The Reid vapor pressure of each solvent used.
 - f. If applicable, the option chosen to comply with Rule 707(2).
3. The permittee shall maintain written operating procedures for each cold cleaner. These written procedures shall be posted in an accessible, conspicuous location near each cold cleaner. **(R 336.1611(3), R 336.1707(4))**
4. As noted in Rule 611(2)(c) and Rule 707(3)(c), if applicable, an initial demonstration that the waste solvent is a safety hazard shall be made prior to storage in non-closed containers. If the waste solvent is a safety hazard and is stored in non-closed containers, verification that the waste solvent is disposed of so that not more than 20 percent, by weight, is allowed to evaporate into the atmosphere shall be made on a monthly basis. **(R 336.1213(3), R 336.1611(2)(c), R 336.1707(3)(c))**

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

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 ₂ 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 ₂ 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 _x	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 ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		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 1a. Definitions for Terms Used in This Permit

The following are definitions of specific terms used in this ROP to supplement those provided by state and federal rules. Terms not otherwise defined are to be interpreted in a general, common knowledge sense.

MSW

Municipal solid waste and/or solid waste as defined by 40 CFR 60.51(b) and per the provisions of the Consolidated Plan.

Consolidated Plan

The Consolidated Plan shall be the Consolidated Plan for MSW Handling/Odor Control, revised April 2012, *as may be appropriately amended during the term of this permit.*

Emission Guideline(s)

All applicable portions of **40 CFR Part 60, Subpart Cb** –“Emissions Guidelines and Compliance Times For Large Municipal Waste Combustors That Are Constructed On Or Before September 20, 1994”, and the portions of **40 CFR Part 60, Subpart Eb** – “Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or For Which Modification or Reconstruction is Commenced After June 19, 1996” referenced therein.

Startup (for purposes of Emission Guideline requirements):

The setting in operation of the affected facility for any purpose. **(40 CFR 60.2)**

The Emission Guideline standards do not apply during periods of startup. The duration of startup periods is limited to 3 hours per occurrence. **(40 CFR 60.58b(a)(1))**

During periods of startup, shutdown, or malfunction, monitoring data shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of 40 CFR 60.59b(d)(7). **(40 CFR 60.58b(a)(1)(i))**

The startup period commences when the affected facility begins the continuous burning of municipal solid waste and does not include any warm-up period when the affected facility is combusting fossil fuel or other non-municipal solid waste fuel, and no municipal solid waste is being fed to the combustor. **(40 CFR 60.58b(a)(1))**

Continuous burning is the continuous, semi-continuous, or batch feeding of municipal solid waste for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of municipal solid waste solely to provide thermal protection of the grate or hearth during the startup period when municipal solid waste is not being fed to the grate is not considered to be continuous burning. **(40 CFR 60.58b(a)(1)(ii))**

The period when no MSW is being fed to the grate and the boilers are being fired solely on natural gas is not part of the Emission Guideline startup period.

Startup (for purposes other than Emission Guideline requirements):

The setting in operation of a process or process equipment for any purpose. **(R 336.1119(p))**

The startup period commences when the affected facility first begins burning natural gas, and does not include any period when the affected facility is combusting fossil fuel and MSW or MSW alone. The entire period when no MSW is being fed to the grate and the boilers are being fired solely on natural gas, but excluding any time which is considered Shutdown or malfunction, is part of the startup.

The startup period ends when the affected facility begins the continuous burning of MSW.

Continuous burning is the continuous, semi-continuous, or batch feeding of MSW for purposes of waste disposal, energy production, or providing heat to the combustion system. The startup period ends when the 40 CFR 60.58b(a)(1)(i) startup period commences.

The duration of the startup period is not limited by rule.

Shutdown (for purposes of Emission Guideline requirements):

The cessation of operation of an affected facility for any purpose. **(40 CFR 60.2)**

The Emission Guideline standards do not apply during periods of shutdown. The duration of the shutdown period is limited to 3 hours per occurrence, except as allowed by **40 CFR 60.58b(a)(1)(iii)**.

During periods of startup, shutdown, or malfunction, monitoring data shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of 40 CFR 60.59b(d)(7). **(40 CFR 60.58b(a)(1)(i))**

The shutdown period commences 30 minutes after the affected facility begins the shutdown process or procedure necessary to end the continuous burning of municipal solid waste as evidenced by the feed chute damper being closed.

The shutdown period ends and the affected facility is "off line" when the oxygen concentration in the flue gas is sustained at a value greater than or equal to 16 percent. Note, however, for SO₂ and NO_x, 40 CFR 60.58b(b)(8) allows a diluent cap of 14 percent. This option is available for definition of shutdown periods for these limits.

When the facility is "off line" it shall not be considered to be operating.

Shutdown (for purposes other than Emission Guideline requirements):

The cessation of operation of a source for any purpose. **(R 336.1119(d))**

The shutdown period commences 30 minutes after the affected facility begins the process or procedure necessary to end the continuous burning of municipal solid waste as evidenced by the feed chute damper being closed.

The shutdown period ends and the affected facility is "off line" when the oxygen concentration in the flue gas is sustained at a value greater than or equal to 16 percent.

When the facility is "off line" it shall not be considered to be operating.

Malfunction (for purposes of Emission Guideline requirements):

"Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal, or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 60.2)**

Durations of malfunction periods are limited to 3 hours per occurrence, except if a malfunction is caused by a loss of boiler water level or a loss of combustion air control, then as provided in 40 CFR 60.58b(a)(1)(iii), for CO limits the malfunction period is extended to 15 hours per occurrence. During periods of startup, shutdown, or malfunction, monitoring data shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of 40 CFR 60.59b(d)(7). **(40 CFR 60.58b(a)(1)(i))**

For the purpose of compliance with CO emission limits, if a loss of boiler water level control (e.g. boiler waterwall tube failure) or a loss of combustion air control (e.g., loss of combustion air fan, induced draft fan, combustion grate bar failure) is determined to be a malfunction, the duration of the malfunction period is limited to 15 hours per occurrence. During such periods of malfunction, monitoring data shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of 40 CFR 60.59b(d)(7). **(40 CFR 60.58b(a)(1)(iii))**

Malfunction (for purposes other than Emission Guideline requirements):

“Malfunction” means any sudden, infrequent and not reasonably preventable failure of a source, process, process equipment, or air pollution control equipment to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(R 336.1113(d))**

CEM Data Point:

A valid CEM data point is produced when a CEM (except COM) completes a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. **(40 CFR 60.13(e)(2))**

One-Hour Average:

One-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. **(40 CFR 60.13(h))**

At least two data points per hour shall be used to calculate each 1-hour average. **(40 CFR 60.58b)** [For example, **40 CFR 60.58b(e)(7)(i)**]

If at least two data points are not available to calculate a 1-hour average the period is not considered in determining compliance with a standard.

One-Hour period:

Any 60-minute period commencing on the hour. **(40 CFR 60.2)**

Block Average (General):

A block average is the period that starts on the hour and ends on the hour, and encompasses the same hours each day.

Partial Block Period

A block period that does not have MSW continuously burning due to start up or shutdown or the unit being off line, or which has an exemption of data use due to startup, shutdown, or malfunction exclusion provisions under the Emission Guidelines. The exemption of data use under the Emission Guidelines may create a partial block period. Emission standards or limitations applicable to block periods are not applicable to partial block periods.

Block Average (for purposes of Emission Guideline requirements):

Four-hour block average or 4-hour block average means the average of all hourly emission concentrations when the affected facility is operating and combusting municipal solid waste measured over 4-hour periods of time from 12:00 midnight to 4 a.m., 4 a.m. to 8 a.m., 8 a.m. to 12:00 noon, 12:00 noon to 4 p.m., 4 p.m. to 8 p.m., and 8 p.m. to 12:00 midnight. **(40 CFR 60.51b)**

Twenty Four-hour block average or 24-hour block average means the average of all hourly emission concentrations when the affected facility is operating and combusting municipal solid waste measured over the 24-hour period of time from 12:00 midnight to the following 12:00 midnight. **(40 CFR 60.51b)**

Except for “geometric averages or geometric means”, block averages shall be determined by dividing the sum of the hourly averages by the number of hours in a block. In the event there is no valid data (or there is only exempt data) for one of the hours in a block period, then a block average cannot be determined for that block period.

In the event that two valid data points cannot be determined for one or more of the hours in a block period, then a block average cannot be determined for that block period, thus creating a “partial block period”.

Block Average (for purposes other than Emission Guideline requirements):

An 8-hour block average means the average of all hourly emission concentrations or mass emissions measured over 8-hour periods of time for one of the following time blocks: Midnight to 8:00 AM; 8:00 AM to 4:00 PM; and 4:00 PM to Midnight.

A 3-hour block average means the average of all hourly emission concentrations or mass emissions measured over 3-hour periods of time for one of the following time blocks: Midnight to 3:00 AM; 3:00 AM to 6:00 AM; 6:00 AM to 9:00 AM; 9:00 AM to Noon; Noon to 3:00 PM; 3:00 PM to 6:00 PM; 6:00 PM to 9:00 PM, and 9:00 PM to Midnight.

Except for “geometric averages or geometric means”, block averages shall be determined by dividing by the sum of the hourly averages by the number of hours in a block. In the event there is no valid data for one of the hours in a block period, then a block average cannot be determined for that block period.

In the event that two valid data points cannot be determined for one or more of the hours in a block period, then a block average cannot be determined for that block period, thus creating a “partial block period”.

Daily Geometric Mean/Average

When a “24-hour daily geometric mean” [daily geometric average] is to be determined, this shall be done for a single 24-hour period each day, that being the 24-hour block period that runs from midnight to midnight.

24-hour daily arithmetic average

When a “24-hour daily arithmetic average” is to be determined, this shall be done for a single 24-hour period each day, that being the 24-hour block period that runs from midnight to midnight.

Good Combustion Practices (GCP)

As defined by USEPA (1989), good combustion practices (GCP) for municipal waste combustors are designed to prevent and control air pollutant emissions. GCP incorporates numeric limits for three specific combustor operating parameters: CO emissions, maximum operating load, and minimum temperature of flue gases at the PM control device. Each of these parameters is continuously monitored for each combustor.

Annual Basis for Testing

For the purposes of required emissions testing, an “annual basis” or “calendar year basis” means repeated testing no less than 9 calendar months and no more than 15 calendar months following the previous performance test, but completing five performance tests in each 5-year calendar period.

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 FG-COMBUSTORS.

I. CEMS Requirements

Requirement	SO2 Monitor	SO2 Monitor	NOx Monitor	CO Monitor	Opacity Monitor	Oxygen Monitor	Oxygen Monitor
Location specification	Inlet to scrubber [^]	Outlet of baghouse	Outlet of baghouse	Outlet of baghouse	Outlet of baghouse	Inlet to scrubber [^]	Outlet of baghouse
Initial Performance Evaluation Specification for installation, calibration, maintenance, operation, monitoring and accuracy determination	40 CFR 60.8 of Subpart A	40 CFR 60.8 of Subpart A	40 CFR 60.8 of Subpart A	40 CFR 60.8 of Subpart A	40 CFR 60.8 of Subpart A	40 CFR 60.8 of Subpart A	40 CFR 60.8 of Subpart A
Span Value	125% of maximum estimated potential hourly SO2, 40 CFR 60.58b(e)(12)(B)(ii)	50% of maximum estimated hourly potential SO2, 40 CFR 60.58b(e)(12)(B)(ii)	125 % of the maximum estimated hourly potential nitrogen oxide emissions, 40 CFR 60.58 (b)(h)(10)	125 % of the maximum estimated hourly potential nitrogen oxide emissions, 40 CFR 60.58 (b)(i)(3)	The opacity monitor span value shall be 0 - 20 % and a upper range of 50 - 100 %, 60.13 (d)(1)	The span value shall be 25% oxygen 40 CFR 60.58(b)(b)(1)	The span value shall be 25% oxygen 40 CFR 60.58(b)(b)(1)
Sample Collection Type	ppmvd @ 7 % O2, 60.58(e)(7).	ppmvd @ 7 % O2, 60.58(e)(7).	ppmvd @ 7 % O2, 60.58(e)(6).	ppmvd @ 7 % O2, 60.58(e)(6).	Percent	Percent Dry	Percent Dry
Record Retention	The facility shall maintain records for a period of 5 years, 60.59b(d)	The facility shall maintain records for a period of 5 years, 60.59b(d)	The facility shall maintain records for a period of 5 years, 60.59b(d)	The facility shall maintain records for a period of 5 years, 60.59b(d)	The facility shall maintain records for a period of 5 years, 60.59b(d)	The facility shall maintain records for a period of 5 years, 60.59b(d)	The facility shall maintain records for a period of 5 years, 60.59b(d)
Compliance Testing Frequency, Number of	Annual	Annual	Annual	Annual	Annual	Annual	Annual

Reports and Due Dates

Quality Assurance Reports: Due Dates	40 CFR 60 Appendix F	40 CFR 60 Appendix F	40 CFR 60 Appendix F	40 CFR 60 Appendix F	40 CFR 60 Appendix F	40 CFR 60 Appendix F	40 CFR 60 Appendix F	
	CGA test are performed three of four calendar quarters. RATA is performed once every four quarters. Report due 30 days after of each calendar quarter. 40 CFR Appendix F	CGA test are performed three of four calendar quarters. RATA is performed once every four quarters. Report due 30 days after of each calendar quarter. 40 CFR Appendix F	CGA test are performed three of four calendar quarters. RATA is performed once every four quarters. Report due 30 days after of each calendar quarter. 40 CFR Appendix F	CGA test are performed three of four calendar quarters. RATA is performed once every four quarters. Report due 30 days after of each calendar quarter. 40 CFR Appendix F	CGA test are performed three of four calendar quarters. RATA is performed once every four quarters. Report due 30 days after of each calendar quarter. 40 CFR Appendix F	Neutral density filter audit performed annually. Report due 30 days after annual audit. 40 CFR Appendix F	CGA test are performed three of four calendar quarters. RATA is performed once every four quarters. Report due 30 days after of each calendar quarter. 40 CFR Appendix F	CGA test are performed three of four calendar quarters. RATA is performed once every four quarters. Report due 30 days after of each calendar quarter. 40 CFR Appendix F
Requirement	SO2 Monitor	SO2 Monitor	NOx Monitor	CO Monitor	Opacity Monitor	Oxygen Monitor	Oxygen Monitor	
Notification and Record Keeping	60.59b(d)	60.59b(d)	60.59b(d)	60.59b(d)	60.59b(d)	60.59b(d)	60.59b(d)	
Due Dates	Monitoring system performance report due 30 days after each calendar quarter, 40 CFR 60.7	Monitoring system performance report due 30 days after each calendar quarter, 40 CFR 60.7	Monitoring system performance report due 30 days after each calendar quarter, 40 CFR 60.7	Monitoring system performance report due 30 days after each calendar quarter, 40 CFR 60.7	Monitoring system performance report due 30 days after each calendar quarter, 40 CFR 60.7	Monitoring system performance report due 30 days after each calendar quarter, 40 CFR 60.7	Monitoring system performance report due 30 days after each calendar quarter, 40 CFR 60.7	

(^)The inlet to scrubber monitors for SO₂ and O₂ are necessary only if the facility utilizes the percent reduction compliance option for SO₂.

II. Steam Flow Monitors

The steam flow monitors shall be installed in accordance with **40 CFR 60.58b(i)(6)**, and **R 336.1201**.

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

The permittee shall use the following approved test plans, procedures, and averaging times to measure the pollutant emissions for the applicable requirements referenced in Tables EU-ASHSYSTEM and FG-COMBUSTORS.

I. EU-ASHSYSTEM

The permittee shall perform an annual performance test for fugitive ash emissions from EU-ASHSYSTEM. Visible fugitive ash emissions from the ash conveying system (which includes the conveyor system and conveyor transfer points) portion of EU-ASHSYSTEM to the atmosphere shall not exceed 5 percent of the observation period (i.e., nine

minutes per three-hour period) as determined by USEPA Reference Method 22 observations as specified in 40 CFR 60.58b(k). The minimum observation time shall be a series of three one-hour observations. The limit does not cover visible emissions discharged inside buildings or enclosures of EU-ASHSYSTEM; however, the limit does apply to visible fugitive ash emissions discharged to the atmosphere from buildings or enclosures of EU-ASHSYSTEM. This emission limit does not apply during maintenance and repair of EU-ASHSYSTEM. **(40 CFR 60.36b(k), 40 CFR 60.58b(k), R 336.1973(5)(b)R 336.1902(1)(e))**

II. FG-COMBUSTORS

Toxic Equivalency Factors for PCDDs and PCDFs (1987)

<u>Compound</u>	<u>Toxic Equivalency Factor</u>
Mono through tri CDD	0
2378-TCDD	1
Other TCDDs	0.01
2378-PeCDDs	0.5
Other PeCDDs	0.005
2378-HxCDDs	0.04
Other HxCDDs	0.0004
2378-HpCDDs	0.001
Other HpCDDs	0.00001
OCDD	0
Mono through tri CDF	0
2378-TCDFs	0.1
Other TCDFs	0.001
2378-PeCDFs	0.1
Other PeCDFs	0.001
2378-HxCDFs	0.01
Other HxCDFs	0.0001
2378-HpCDFs	0.001
Other HpCDFs	0.00001
OCDF	0

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-N1604-2013. 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-N1604-2013 is being reissued as Source-Wide PTI No. MI-PTI-N1604-2018a.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
NA	NA	NA	NA

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 FG-COMBUSTORS.

- A. **Mass emission rates** shall be calculated from the raw ppm data from the CEM, the accepted F-factor and fuel flow meter using the flow rate equation as stated below:

$$(PPM) \times (M.W.) \times (C) = LB/CF$$

$$(LB/CF) \times (F-Factor)/(1.0E+6) \times (20.9/(20.9 - \%O_2)) \times (CF/HR) \times (1.0E+6 \text{ BTU}/1.0E3 \text{ CF}) = LB/HR$$

PPM: Parts per million of the pollutant

M.W.: Molecular Weight of the pollutant - 28.01 (CO) and 46 (NO₂)

C: Constant for Carbon Monoxide = (2.59E-9) - Conversion factor to convert PPM to LB/CF

Constant for Nitrogen Dioxide = (2.59E-9) - Conversion factor to convert PPM to LB/CF

LB: Pound(s)

CF: Cubic Feet

HR: Hour

F-Factor for Natural Gas = 8710 dscf/MMBTU

Actual O₂ = 0-25%

- B. **Steam flow rates** shall be calculated using the method described in 40 CFR 60.58b(i)(6).

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.