Florida Department of Environmental Protection

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard
Jr.
Secretary

PERMITTEE:

Dixie Waste Services, LLC
201 Corporate Drive East
Langhorne, PA 19047

Air Permit Number: 0290016-002-AC
Expiration Date: June 30 , 2014
Dixie Waste Services, LLC
Major Source Air Construction Permit
Project: Municipal Solid Waste Gasification Plant

This is the final air construction permit, which authorizes the construction of a gasification plant fired by municipal solid waste, tires, and medical waste. Recovered heat from the gasification process will generate steam to produce electricity from a steam driven turbine. The proposed work will be conducted at the Dixie Waste Services, LLC site, which will be a gasification plant (Standard Industrial Classification No. 4953). The facility will be located in Dixie County at 322 NE 264th Street, Cross City, FL. The UTM coordinates Zone 17, 297.6 km East, and 3279.5 km North, Latitude/Longitude: 29° 37' 44" N; 83° 05' 25" W. As noted in the final permit, only minor changes and clarifications were made to the draft permit.

This final permit is organized by the following sections.

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard,

Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Jacksonville, Florida

DRAFT

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Christopher L. Kirts, P.E.
District Air Program Administrator

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on _____ to the persons listed below.

Mr. Edward C. Stanojev, Dixie Waste Services, LLC estanojev@elihoenergy.com
Mr. Frank Darabi, P.E., Darabi & Associates, Inc. fdarabi@darabiassociates.com
Ms. Joy Ezell hopeforcleanwater@yahoo.com
Ms. Joyce Tarnow tarnowj@bellsouth.net
Mr. Mike Cassidy, County Manager, Dixie County dixiecm51@bellsouth.net

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

DRAFT

_____
(Clerk) (Date)

Proposed Project
Dixie Waste Services, LLC has proposed a batch municipal waste combustion plant that consists of starved air modular combustors. Secondary combustion will occur in a thermal oxidizer, followed by a heat recovery boiler and steam turbine for the generation of electricity. This project consists of the following emissions units.

Facility ID No. 0290016

ID No. 001	**Emission Unit Description :** This is a batch municipal solid waste, tires, and medical waste combustion plant that consists of three starved air modular combustors. Heat is recovered for steam generation and electrical production through the use of a steam driven turbine. Municipal solid waste and tires are received directly at the processing plant and placed on the tipping floor for inspection and removal of inappropriate materials for combustion. Medical wastes are not placed on the tipping floor and are fed directly into the processing unit or tipping hopper for charge into the primary chamber of the combustor. Combustion is carefully controlled through the use of electronic monitors and processors to provide optimal combustion conditions for each phase of the process. The facility consists of three primary chambers connected to a common thermal oxidizer (secondary chamber). The air is supplied to the primary chamber at sub-stoichiometric conditions. The combustion in the primary chamber creates incomplete combustion products consisting of carbon monoxide (CO) and organic compounds. These gases (from each primary chamber) pass into cyclonic separators (individual for each primary chamber) to remove large particulate matter (PM) prior to being routed to the thermal oxidizer where additional air is added and the combustion is completed. Propane or natural gas will be utilized as the startup and sustaining fuel as required in the thermal oxidizer. An electrically powered inline thermal coupler will be considered as an alternative heat source. The waste residence time in the primary chamber is up to 12 hours at a temperature below 900 ^{o}F. The combustion of gases in the secondary chamber is at a temperature between 1800 and 2000 ^{o}F for a period of not less than 4 seconds. It normally takes 2-4 hours for the primary chamber to cool down before another burning cycle can be restarted. The exhaust gases from the thermal oxidizer are routed to the heat recovery boiler (HRB) to generate steam. Steam produced will power the steam driven turbine to generate up to approximately five megawatts of electricity. Exhaust gases from the HRB exit to a dry lime/carbon reactor to neutralize acidic gases prior to the airflow passing through the baghouse dust collector for final PM removal prior to exhausting to the atmosphere. The ash will be emptied from the primary cells using a completely closed system of conveyors and valves. The ash is then carried off to a central point and loaded into a seal container. It is noted that the HRB is classified as EU ID 002.
ID No. 002	**Emission Unit Description :** Heat Recovery Boiler, Cleaver Brooks M/N NB-200D or equivalent industrial watertube style boiler. Maximum heat input from the gasification/thermal oxidation process is approximately 60 MM Btu per hour. Estimated maximum heat input from natural gas/propane combustion in the HRB is 17.06 MMBtu per hour in order to provide appropriate heat for steam production as required. Normally maximum boiler heat required for steam production is 48.8 MMBtu per hour. As mentioned above the Exhaust gases from the HRB exit to a dry lime/carbon reactor to neutralize acidic gases prior to the airflow passing through the baghouse dust collector for final PM removal prior to exhausting to the atmosphere.

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- This facility is a major source of air pollutants, other than HAPs.
- This facility has one or more emissions units subject to NSPS (40 CFR 60).
- This facility has no emissions units subject to NESHAP (40 CFR Part 61 or Part 63)

1. Permitting Authority: The permitting authority for this project is the Northeast District Office Air Program, Florida Department of Environmental Protection (Department). The Northeast District Office's mailing address is 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256-7590. All documents related to applications for permits to operate an emissions unit shall be submitted to the Northeast District.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Northeast District Office. The mailing address and phone number of the District Office is: 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256. The Permitting Authority's telephone number is 904/256-1700.

3. Appendices: The following Appendices are attached as part of this permit:

   Appendix A. Citation Formats and Glossary of Common Terms

   Appendix B. General Conditions

   Appendix C. Common Conditions

   Appendix D. Common Testing Requirements

   Appendix E. 40 CFR 60, Appendix A

   Appendix F. Appendix BACT Determinations

   Appendix G. Appendix CEMS

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1) (a), F.A.C.]

7. Source Obligation:

   a. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of

subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

8. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation of the facility. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting and Compliance Authority.

   [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

A. Municipal Solid Waste Gasification Plant

This section of the permit addresses the following emissions unit.

ID No. 001	**Emission Unit Description :** This is a batch municipal solid waste, tires, and medical waste combustion plant that consists of three starved air modular combustors. Heat is recovered for steam generation and electrical production through the use of a steam driven turbine. Municipal solid waste and tires are received directly at the processing plant and placed on the tipping floor for inspection and removal of inappropriate materials for combustion. Medical wastes are not placed on the tipping floor and are fed directly into the processing unit or tipping hopper for charge into the primary chamber of the combustor. Combustion is carefully controlled through the use of electronic monitors and processors to provide optimal combustion conditions for each phase of the process. The facility consists of three primary chambers connected to a common thermal oxidizer (secondary chamber). The air is supplied to the primary chamber at sub-stoichiometric conditions. The combustion in the primary chamber creates incomplete combustion products consisting of carbon monoxide (CO) and organic compounds. These gases (from each primary chamber) pass into cyclonic separators (individual for each primary chamber) to remove large particulate matter (PM) prior to being routed to the thermal oxidizer where additional air is added and the combustion is completed. Propane or natural gas will be utilized as the startup and sustaining fuel as required in the thermal oxidizer. An electrically powered inline thermal coupler will be considered as an alternative heat source. The waste residence time in the primary chamber is up to 12 hours at a temperature below 900 ^{o}F. The combustion of gases in the secondary chamber is at a temperature between 1800 and 2000 ^{o}F for a period of not less than 4 seconds. It normally takes 2-4 hours for the primary chamber to cool down before another burning cycle can be restarted. The exhaust gases from the thermal oxidizer are routed to the heat recovery boiler (HRB) to generate steam. Steam produced will power the steam driven turbine to generate up to approximately five megawatts of electricity. Exhaust gases from the HRB exit to a dry lime/carbon reactor to neutralize acidic gases prior to the airflow passing through the baghouse dust collector for final PM removal prior to exhausting to the atmosphere. The ash will be emptied from the primary cells using a completely closed system of conveyors and valves. The ash is then carried off to a central point and loaded into a seal container. The facility shall process up to 150 tons per day of municipal solid waste, tires, and medical/infectious hospital waste. Medical/infectious hospital waste shall be limited to eight per cent by weight of the total charge weight on a calendar quarter basis. Regulated air pollutants include Dioxins/Furans, Cadmium, Lead, Mercury, Opacity, Particulate Matter, Hydrogen Chloride, Nitrogen Oxides, Carbon Monoxide, Sulfur Dioxide, and Fugitive Ash. The following gases and pollutants shall be continuously monitored: oxygen (or carbon dioxide), sulfur dioxide, nitrogen oxides, carbon monoxide and opacity. Estimated emission point stack and discharge parameters are Height: 45 ft, Diameter: 5 ft, Temperature: 350 ° F, Maximum Air Flow: 40,000 ACFM. It is noted that the HRB is classified as EU ID 002.

A. Municipal Solid Waste Gasification Plant

EQUIPMENT

1. Municipal Waste Combustor: The permittee is authorized to install a municipal waste combustor including the municipal solid waste pit or hopper ,the municipal combustor unit (which includes the solid waste fuel feed system, grate system, flue gas system, and bottom ash system), and heat recovery boiler. Air Pollution control equipment includes individual cyclones for PM control after each primary chamber, lime/carbon injector reactor following the HRB for acidic gas control and and a baghouse dust collector following the lime/carbon injector reactor for PM control. [Application No. 0290016-002-AC]

PERFORMANCE RESTRICTIONS

2. Permitted Capacity: The facility shall process up to a maximum of 225 tons per day of municipal solid waste (MSW), tire derived fuel (TDF), and medical/infectious hospital waste (MIHW). MIHW shall be limited to eight per cent by weight of the total charge weight on a calendar quarter basis. [Rule 62-210.200(PTE), F.A.C., Rules 62-4.160(2)&(14)(b), F.A.C. and 40 CFR 60.50c(c)]
3. Authorized Fuel: Material combusted shall be limited to municipal solid waste, tires, medical/infectious hospital waste, propane, and natural gas. [Application No. 0290016-002-AC and Rule 62-210.200(PTE), F.A.C.]
4. Restricted Operation: The hours of operation of are not limited (8760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
5. Method of Operation – Startup/Auxiliary Fuels: The unit is permitted to use natural gas, propane gas, or diesel fuel as startup or auxiliary fuel.
[Rules 62-4.160(2)&(14)(b), F.A.C.]

EMISSIONS STANDARDS/DEFINITIONS

6. Definitions of waste:

Types of Waste	Definitions
Municipal Solid Waste	Municipal solid waste or municipal-type solid waste means household, commercial/retail, or institutional waste. Household waste includes material discarded by residential dwellings, hotels, motels, and other similar permanent or temporary housing. Commercial/retail waste includes material discarded by stores offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes materials discarded by schools, by hospitals (nonmedical), by nonmanufacturing activities at prisons and government facilities, and other similar establishments or facilities. Household, commercial/ retail, and institutional waste does include yard waste and refuse- derived fuel. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which include railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor

A. Municipal Solid Waste Gasification Plant

	vehicles (including motor vehicle parts or vehicle fluff). [40 CFR 60.1465]
Biological Waste	Solid waste that causes or have the capability of causing disease or infection and which includes biomedical wastes, diseased or dead animals, and other wastes capable of transmitting pathogens to human or animal. [Rule 62-210.200(39), F.A.C.]
Biomedical Waste	Any solid or liquid waste which may present a threat of infection to humans, including nonliquid tissue, body parts, blood, blood products and body fluids from humans and other primates; laboratory and veterinary wastes which contain human disease-causing agents; and discarded sharps. The following are also included: a) Used absorbent materials saturated with blood, blood products, body fluids, or excretions or secretions contaminated with visible blood; and absorbent materials saturated with blood or blood products that have dried. b) Non-absorbent, disposable devices that have been contaminated with blood body fluids, excretions or secretions visibly contaminated with blood, but have not been treated by a method listed in Section 381.0098, F.S., or a method approved pursuant to Chapter 64E-16, F.A.C. [Rule 62-210.200(41), F.A.C.]

7. Emissions Cap: The NOx emissions from this facility shall not exceed 245.5 tons on a 12-month rolling basis. Compliance with the NOx emissions cap shall be demonstrated with all valid NOx CEMS data including data collected during periods of startup, shutdown and malfunction.
[Rules 62-4.160(2), F.A.C., and Applicant's Requested Facility-wide Emissions Cap to escape PSD classification]

8. Emissions Limiting Standards: The unit shall meet the following limits 60 days after the municipal waste combustion unit reaches the maximum operating rate but no later than 180 days after its initial startup.
[40 CFR 60.1210 & 1215]

Pollutant	Emissions Limiting Standard * Note (1) * Note (2)	Averaging Time	Rule
Dioxins/Furans (total mass basis)	13 nanograms/dry standard cubic meter	3-run average (Minimum run duration is 4 hours)	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA
Cadmium	0.020 milligrams/dry standard cubic meter	3-run average (Run duration specified in test method)	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA

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Lead	0.20 milligrams/dry standard cubic meter	3-run average (Run duration specified in test method)	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA
Mercury	.070 milligrams/dry standard cubic meter	3-run average (Minimum run duration is 1 hour)	F.A.C. Rule 62-296.416(3)(a)1.
	0.080 milligrams/dry standard cubic meter	3-run average (Run duration specified in test method)	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA
Opacity	10 percent	Thirty 6-minute averages	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA
Particulate Matter	24 milligrams/dry standard cubic meter	3-run average (Run duration specified in test method)	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA
	0.030 grain per dry standard cubic foot of flue gas for biological waste incineration		F.A.C. Rule 62-296.401(4)(b)1.
Hydrogen Chloride	25 part per million by dry volume	3-run average (Minimum run duration is 1 hour)	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA
	4.0 pounds/hour or reduced by 90 % by weight	Hourly basis	F.A.C. Rule 62-296.401(4)(b) 2.
Nitrogen Oxides	500 part per million by dry volume	24-hour daily block arithmetic average concentration	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA
Carbon Monoxide	50 part per million by dry volume	4-hour block average	40 CFR 60.1215 Table 2 of NSPS, Subpart AAAA
	100 part per million by dry volume	Hourly average basis	F.A.C. Rule 62-296.401(4) (d) 3.

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Sulfur Dioxide	30 parts per million by dry volume	24-hour daily block arithmetic average concentration	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA
Fugitive Ash	Visible emissions for no more than 5 % of hourly observation period	Three 1-hour observation periods	40 CFR 60.1215 Table 1 of NSPS, Subpart AAAA

* Note (1): All emissions limits measured at 7 % oxygen.
* Note (2): For the pollutants that have multiple emissions limiting standards, the unit is assumed to be in compliance with the emissions limits as long as it meets the most stringent emissions limiting standard.

9. The emissions limitations of specific condition No. 8. shall apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction.
[40 CFR 60.1220]

10. For biological wastes incineration, the owner or operator shall operate with a combustion zone design temperature of no less than 1800 degrees Fahrenheit for at least 1.0 second gas residence time in the secondary (or last) combustion chamber. Primary chamber and stack shall not be utilized in calculating the residence time.
[Rule 62-296.401(4)(d)1., F.A.C.]

11. For biological waste incineration, mechanically fed unit shall incorporate an air lock system to prevent opening the incinerator to the room environment. The volume of the loading system shall be designed to prevent overcharging thereby assuring complete combustion of the waste.
[Rule 62-296.401(4)(d)2., F.A.C.]

12. For biological waste incineration, incineration or ignition of waste shall not begin until the secondary (or last) combustion chamber temperature requirement is attained. All air pollution control and continuous emissions monitoring equipment shall be operational and functioning properly prior to the incineration or ignition of the waste and until all the wastes are incinerated. The secondary (or last) combustion chamber temperature requirement shall be maintained until the wastes are completely combusted.
[Rule 62-296.401(4)(d) 4., F.A.C.]

13. For biological waste incineration, radioactive waste may not be burned unless the incinerator has been issued a Department of Health and Rehabilitative Services (DHRS) license to incinerate radioactive waste or the waste is of such quantity to be exempted in accordance with DHRS Chapter 10D-91 or Rule 10D-104.003, F.A.C.
[Rule 62-296.401(4)(d)5., F.A.C.]

14. For biological waste incineration, hazardous waste may not be burned unless the incinerator has been issued a hazardous waste permit by the Department or the waste is of such quantity to be exempted in accordance with Chapter 62-730, F.A.C.

A. Municipal Solid Waste Gasification Plant

[Rule 62-296.401(4)(d)6., F.A.C.]

CONTINUOUS EMISSION MONITORING SYSTEMS

15. To continuously monitor emissions, the owner or operator shall perform four tasks:
    (a) Install continuous emission monitoring systems for certain gaseous pollutants.
    (b) Make sure the continuous monitoring systems are operating correctly.
    (c) Make sure that minimum amount of monitoring data is obtained.
    (d) Install a continuous opacity monitoring system.
    [40 CFR 60.1225]

INSTALLATION

16. The owner or operator shall install, calibrate, maintain, and operate continuous emission monitoring systems for oxygen (or carbon dioxide), sulfur dioxide, nitrogen oxides, carbon monoxide and opacity. Install the continuous emission monitoring system for sulfur dioxide and nitrogen oxides at the outlet of the air pollution control device.
    [40 CFR 60.1230 (a) & 40 CFR 60.1270(a), Rule 62-296.401(4)(g), F.A.C.]

17. The owner or operator shall install, evaluate, and operate each continuous emission monitoring system according to the "Monitoring Requirements" in 40 CFR 60.13 of Appendix E (attached). The owner or operator shall comply with the Appendix CEMS (attached).
    [40 CFR 60.1230 (b) 40 CFR 60.1270(b), Rule 62-4.070, F.A.C.]

18. The owner or operator shall monitor the oxygen (or carbon dioxide) concentration at each location where he/she monitors sulfur dioxide and carbon monoxide. Additionally, the owner or operator shall also monitor the oxygen (or carbon dioxide) concentration at the location where he/she monitors nitrogen oxides.
    [40 CFR 60.1230(c)]

19. The owner or operator may choose to monitor carbon dioxide instead of oxygen as a diluent gas. If the owner or operator chooses to monitor carbon dioxide, then an oxygen monitor is not required, and shall establish the relationship between oxygen and carbon dioxide during the initial evaluation of the continuous emissions monitoring systems. The relationship can be reestablished during annual evaluations. To establish the relationship, the owner or operator shall use these three procedures:
    (a) Use EPA Reference Method 3 or 3A to determine oxygen concentration at the location of your carbon dioxide monitor.
    (b) Conduct at least three test runs for oxygen. Make sure each test run represents a 1-hour average and that sampling continues for at least 30 minutes in each hour.
    (c) Use the fuel-factor equation in EPA Reference Method 3B to determine the relationship between oxygen and carbon dioxide.

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[40 CFR 60.1230(d) and 40 CFR 60.1255]

20. If the owner or operator chooses to demonstrate compliance by monitoring the percent reduction of sulfur dioxide, he/she shall also install a continuous emission monitoring system for sulfur dioxide and oxygen (or carbon dioxide) at the inlet of the air pollution control device.
[40 CFR 60.1230(e)]

OPERATION AND QUALITY ASSURANCE

21. Conduct initial, daily, quarterly, and annual evaluations of the continuous emission monitoring systems that measure oxygen (or carbon dioxide), sulfur dioxide, nitrogen oxides and carbon monoxide. Conduct initial and annual evaluations for the monitoring systems that measure opacity.
[40 CFR 60.1240(a) and 40 CFR 60.1270]

22. Complete the initial evaluation of the continuous emission monitoring systems and continuous opacity monitoring system within 60 days after the municipal waste combustion unit reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup.
[40 CFR 60.1240(b) and 40 CFR 60.1270 (c)]

23. For initial and annual evaluations, collect data concurrently (or within 30 to 60 minutes) using the oxygen (or carbon dioxide) continuous emission monitoring system, the sulfur dioxide, nitrogen oxides, or carbon monoxide continuous emission monitoring systems, as appropriate, and the appropriate test methods specified in table below.

Pollutant	Use these methods to validate pollutant concentration level	Use these methods to measure oxygen (or CO_2)
Sulfur Dioxide	Method 6 or 6C	Method 3, or 3A
Nitrogen Oxides	Method 7, 7A, 7B, 7C, 7D or 7E	Method 3, or 3A
Carbon Monoxide	Method 10, 10A, or 10 B	Method 3, or 3A

[40 CFR 60.1240(c), Table 3 of NSPS, Subpart AAAA]

24. Performance Specifications for CEMS: Collect these data during each initial and annual evaluation of the continuous emission monitoring systems following the applicable performance specifications in appendix B (attached). Table below shows the performance specifications that apply to each continuous emissions monitoring system.

Pollutant	Span Value	Performance Specification for CEMS	If needed to meet minimum data requirements, use these alternative methods to collect data
Opacity	100 percent opacity	P.S.1	Method 9
Nitrogen Oxides	Control device outlet: 125	P.S.2	Method 7E

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	percent of the maximum expected hourly potential nitrogen oxides emissions of the unit		
Sulfur Dioxide	Inlet to control device: 125 percent of the maximum expected sulfur dioxide emissions of the unit Control device outlet: 50 percent of the maximum expected hourly potential sulfur dioxide emissions of the unit	P.S.2	Method 6C
Carbon Monoxide	125 percent of the maximum expected hourly potential carbon monoxide emissions of the unit	P.S.4A	Method 10 with alternative interference trap
Oxygen or Carbon Dioxide	25 percent oxygen or 25 percent carbon dioxide	P.S.3	Method 3A or 3B

[40 CFR 60.1240(c) and Table 4 of NSPS, Subpart AAAA]

25. Quality Assurance: The owner or operator shall follow the quality assurance procedures in appendix F (attached) for each continuous emission monitoring system. These procedures include daily calibration drift and quarterly accuracy determinations.
[40 CFR 60.1240(d)]

26. Exemption: The oxygen (or carbon dioxide) continuous emissions monitoring system is exempted from these two requirements:
(a) Section 2.3 of performance specification 3 in appendix B – relative accuracy requirement (attached).
(b) Section 5.1.1 of appendix F – relative accuracy test audit (attached).
[40 CFR 60.1245]

27. Evaluation Frequency: The owner or operator shall conduct annual evaluations of the continuous emissions monitoring systems and continuous opacity monitoring system no more than 12 months after the previous evaluation was conducted. The owner or operator shall also evaluate the continuous emissions monitoring systems daily and quarterly as specified in appendix F (attached).
[40 CFR 60.1250]

28. Minimum Monitoring Data: The owner or operator shall obtain:

(a) 1-hour arithmetic averages and shall make sure that the averages for sulfur dioxide, nitrogen oxides, and carbon monoxide are in part per million by dry volume at 7% oxygen (or the equivalent carbon dioxide level). Use the 1-hour averages of oxygen (or carbon dioxide) data from the continuous emissions monitoring system to determine the actual oxygen (or carbon dioxide) level and to calculate emissions at 7 % oxygen (or the equivalent carbon dioxide level).

(b) At least two data points per hour in order to calculate a valid 1-hour arithmetic average. 40 CFR 60.13(e)(2) of subpart A (attached) requires the continuous emission monitoring systems to complete at least one cycle of operation (sampling, analyzing, and data recording) for each 15-minute period.

(c) Obtain valid 1-hour averages for 75 percent of the operating hours per day and for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.

(d) If the owner or operator does not obtain the minimum data required in paragraphs (a) through (c) of this condition, he/she is in violation of this data collection requirement regardless of the emission level monitored, and shall notify the Department according to specific condition No. 59.

(d) If the owner or operator does not obtain the minimum data required in paragraphs (a) and (c) of this condition, he/she shall still use all valid data from the continuous emission monitoring systems in calculating emission concentrations and percent reductions in accordance with specific condition No. 29.

[40 CFR 60.1260]

29. 1-hour Arithmetic Averages Conversion: The owner or operator shall:

(a) Use the equation in below to calculate emissions at 7 percent oxygen.

Concentration correction to 7 percent oxygen.

$C_7\% = C_{unc} *(13.9) * (1/ (20.9 - C_{O2}))$

Where:

$C_7\%$ = concentration corrected to 7 percent oxygen.
C_{unc} = uncorrected pollutant concentration.
C_{O2} = concentration of oxygen (%).

(b) Use EPA Reference Method 19, section 4.3, to calculate the daily geometric average concentrations of sulfur dioxide emissions. If the owner or operator is monitoring the percent reduction of sulfur dioxide, use EPA Reference Method 19, section 5.4, to determine the daily geometric average percent reduction of potential sulfur dioxide emissions.

(c) Use EPA Reference Method 19, section 4.1, to calculate the daily arithmetic average for concentrations of nitrogen oxides.

(d) Use EPA Reference Method 19, section 4.1, to calculate the 4-hour or 24-hour daily block averages (as applicable) for concentrations of carbon monoxide.
[40 CFR 60.1265]

30. The data obtained from the continuous opacity monitoring system shall not be used to determine compliance with the opacity limit.
[40 CFR 60.1270(e)]

OTHER MONITORING REQUIREMENTS

31. The owner or operator shall monitor these parameters:
    (a) Load level of each municipal waste combustion unit.
    (b) Temperature of flue gases at the exit of the secondary combustion chamber and the inlet to the PM control device.
    (c) Carbon feed rate if activated carbon is used to control dioxins/furans or mercury emissions.
    (d) Flue gas stream flow rate at or near the CEMS location.
[40 CFR 60.1315, Rule 62-4.070, F.A.C.]

32. The owner or operator shall determine, to the satisfaction of the Department, one or more operating parameters that can be used to continuously estimate load level (for example, the feed rate of municipal solid waste or refuse-derived fuel). The owner or operator shall continuously monitor the selected parameters.
[40 CFR 60.1320(b)]

33. The owner or operator shall install, calibrate, maintain, and operate a device to continuously measure the temperature of the flue gas stream at the outlet of the secondary chamber in accordance with the manufacturer's instructions. The owner or operator shall also install, calibrate, maintain, and operate a device to continuously measure the temperature of the flue gas stream at the inlet of each particulate matter control device.
[40 CFR 60.1325, Rule 62-296.401(4)(f), Rule 62-296.416(4)(b), F.A.C.]

34. Where continuous parameter monitoring systems are used, obtain 1-hour arithmetic averages for three parameters:
    (a) Load level of the municipal waste combustion unit.
    (b) Temperature of the flue gases at the inlet of each particulate matter control device.
    (c) Carbon feed rate if activated carbon is used to control dioxins/furans or mercury emissions.
    (d) Flue gas stream flow rate
[40 CFR 60.1335(a), Rule 62-4.070, F.A.C.]

35. Obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average.
[40 CFR 60.1135 (b)]

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36. Obtain valid 1-hour averages for, at a minimum, 75 percent of the operating hours per day and for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.
[40 CFR 60.1135 (c)]

37. If the owner or operator does not obtain the minimum data required in specific condition 34, 35, and 36 of this subsection, the owner or operator is in violation of this data collection requirement and he/she shall notify the Department according to specific condition No. 59.
[40 CFR 60.1135 (d), Rule 62-4.070, F.A.C.]

COMPLIANCE DEMONSTRATIONS AND TESTING REQUIREMENTS

38. Stack Testing: Owner or operator shall conduct initial and annual stack tests to measure the emission levels of dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash to demonstrate compliance with the emissions limiting standards. The testing requirements are shown below.

Pollutant	Use these methods to determine the sampling location	Use these methods to measure pollutant concentration	Additional Information
Dioxins/Furans	Method 1	Method 23 *	The minimum sampling time must be 4 hours per test run while the municipal waste combustion unit is operating at full load
Cadmium	Method 1	Method 29 *	Compliance testing must be performed while the municipal waste combustion unit is at full load
Lead	Method 1	Method 29 *	Compliance testing must be performed while the municipal waste combustion unit is at full load
Mercury	Method 1	Method 29 *	Compliance testing must be performed while the municipal waste combustion unit is at full load
Opacity	Not applicable	Method 9	3-hour observation period (thirty 6-minutes average)
Particulate Matter	Method 1	Method 5 *	The minimum sample volume must be 1.7 cubic meters. The probe and filter holder heating systems in the sample train must be set to provide a gas temperature no greater than 160 ± 14º C
Hydrogen Chloride	Not applicable	Method 26 *	Test run must be at least 1 hour long
Fugitive Ash	Not applicable	Method 22 (visible emission)	The three 1-hour observation period must include periods when the facility transfer fugitive ash from the municipal combustion unit to the area where the fugitive ash is stored or loaded into containers or trucks

Note * - Must simultaneously measure oxygen (or carbon dioxide) using Method 3 or 3A.

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39. Compliance Demonstration Using CEMS: The owner or operator shall use the data from the continuous emissions monitoring systems (CEMS) to determine compliance with the emissions limiting standards for sulfur dioxide, nitrogen oxides and carbon monoxide. [40 CFR 60.1235]

40. Compliance Demonstration for the NOx Emissions Cap: The owner or operator shall determine the monthly NO_X emissions using the data collected from the continuous emission monitoring system and the flow meter.

    The monthly NOx emissions shall be based on 30 - operating day block average that shall be computed as the arithmetic average of all the valid hourly average occurring with each 30 operating day block. An operating day is any day that the permitted unit incinerates wastes. The rolling 12-month NOx emissions shall be determined from the monthly emissions record for the current month and the preceding eleven months and shall be expressed in tons per 12-month rolling period. The owner or operator shall install a computer system to illustrate 24-hour average flow rate, 24 – hour NOx concentration average, 30-day NOx emissions and 12-month rolling NOx emissions in quantifiable terms that provide specific data directly in relation to and support of data requirements that will relate to the NOx emissions cap in tons.
    [Rule 62-4.070, F.A.C.]

41. Testing Schedule: The owner or operator shall conduct initial stack tests within 60 days after the municipal waste combustion unit reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup. After the initial stack test, owner or operator shall conduct each annual stack test within 12 months after the previous stack test.
    [40 CFR 60.1295]

42. Testing Frequency Relaxation: The owner or operator may test less often if all stack tests for a given pollutant over 3 consecutive years show that the unit complies with the emission limit. In this case, owner or operator is not required to conduct a stack test for that pollutant for the next 2 years. However, another stack test shall be conducted within 36 months of the anniversary date of the third consecutive stack test that shows compliances with the emission limit. Thereafter, the owner or operator shall perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the owner or operator shall conduct annual stack tests for that pollutant until all stack tests over a 3-year period show compliance.
    [40 CFR 60.1305(a)]

43. Alternative Testing Schedule: The owner or operator may not deviate from the 12-month testing schedules specified in specific condition 41 and 42 unless he/she applies to the Department for an alternative schedule, and the Department approves the request for alternative scheduling prior to the date on which the owner or operator would otherwise have been required to conduct the next stack test.
    [40 CFR 60.1310]

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44. Performance Test: The stack tests shall follow the specifications of 40 CFR 60.8 (Performance Test) of subpart A (attached).
[40 CFR 60.1300]

GOOD COMBUSTION PRACTICES

OPERATOR TRAINING

45. EPA or State-Approved Operator Training Course: Three types of employees shall complete the EPA-approved operator training course:
(a) Chief facility operators.
(b) Shift supervisors.
(c) Control room operators.

These employees shall complete the operator training course no later than:
- Within six months after the municipal waste combustion unit starts up, or
- The date before an employee assumes responsibilities that affect operation of the municipal waste combustion unit.

[40 CFR 60.1155(a), 40 CFR 60.1160 (a)&(b)]

46. Plant-Specific Training Course: All employees with responsibilities that affect how a municipal waste combustion unit operates shall complete the plant-specific training course. Include at least six types of employees:
(a) Chief facility operators.
(b) Shift supervisors.
(c) Control room operators.
(d) Ash handlers.
(e) Maintenance personnel.
(f) Crane or load handlers.

The owner or operator shall develop a specific operating manual for the plant and submit it to the Department no later than six months after the municipal waste combustion unit starts up. The manufacturer's equipment training program (if any) shall be part of the plant specific training course. The operator of the equipment shall attend the manufacturer's equipment-training course and obtain certification. The owner is responsible to assure that the operator's manuals are provided and employees are trained by manufacturers representatives, and these Operation and Maintenance manuals are maintained on site at all times and updated as required and that all operators are certified in relation to the required training.

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The owner or operator shall establish a program to review the plant-specific operating manual with people whose responsibilities affect the operation of the municipal waste combustion unit. Complete the initial review by the later of two dates:

- Six months after the municipal waste combustion unit starts up.
- The date before an employee assumes responsibilities that affect operation of the municipal waste combustion unit.

The owner or operator shall update the manual annually and review it with staff annually.
[40 CFR 60.1165 & 40 CFR 60.1170]

47. Plant-Specific Operating Manual: The following items shall be included in the operating manual.

(a) A summary of all applicable standards in this subpart.
(b) A description of the basic combustion principles that apply to municipal waste combustion units.
(c) Procedures for receiving, handling, and feeding municipal solid waste.
(d) Procedures to be followed during periods of startup, shutdown, and malfunction of the municipal waste combustion unit.
(e) Procedures for maintaining a proper level of combustion air supply.
(f) Procedures for operating the municipal waste combustion unit within the standards contained in this subpart.
(g) Procedures for responding to periodic upset or off- specification conditions.
(h) Procedures for minimizing carryover of particulate matter.
(i) Procedures for handling ash.
(j) Procedures for monitoring emissions from the municipal waste combustion unit.
(k) Procedures for recordkeeping and reporting.
(l) Any manufacturer's equipment training.

The owner or operator shall keep the operating manual in an easily accessible location at the plant. It must be available for review or inspection by all employees who must review it and by the Department.
[40 CFR 60.1175 & 40 CFR 60.1180]

OPERATOR CERTIFICATION

48. Each chief facility operator and shift supervisor shall obtain and keep a current provisional operator certification from the American Society of Mechanical Engineers (ASME QRO-1-2005 (incorporated by reference in 40 CFR 60.17)). Each chief facility operator and shift supervisor shall obtain a provisional certification by the later of two dates:

- Six months after the municipal waste combustion unit starts up.
- Six months after they transfer to the municipal waste combustion unit or 6 months after they are hired to work at the municipal waste combustion unit.

[40 CFR 60.1185 (a) & (b)]

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49. Each chief facility operator and shift supervisor shall take one of these actions:
    (a) Obtain a full certification from the American Society of Mechanical Engineers or a State certification program in Florida State.
    (b) Schedule a full certification exam with the American Society of Mechanical Engineers (ASME QRO-1-2005 (incorporated by reference in 40 CFR 60.17).

    The chief facility operator and shift supervisor shall obtain the full certification or be scheduled to take the certification exam by the later of two dates:
    - Six months after the municipal waste combustion unit starts up.
    - Six months after they transfer to the municipal waste combustion unit or 6 months after they are hired to work at the municipal waste combustion unit.

    [40 CFR 60.1185 (c) & (d)]

50. After the required date for full or provisional certifications, the owner or operator shall not operate the municipal waste combustion unit unless one of four employees is on duty:
    (a) A fully certified chief facility operator.
    (b) A provisionally certified chief facility operator who is scheduled to take the full certification exam.
    (c) A fully certified shift supervisor.
    (d) A provisionally certified shift supervisor who is scheduled to take the full certification exam.

    [40 CFR 60.1190]

51. If the certified chief facility operator and certified shift supervisor both must leave the municipal waste combustion unit, a provisionally certified control room operator at the municipal waste combustion unit may fulfill the certified operator requirement. Depending on the length of time that a certified chief facility operator and certified shift supervisor are away, the facility shall meet one of three criteria:

    (a) When the certified chief facility operator and certified shift supervisor are both offsite for less than 8 hours, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, the Department.

    (b) When the certified chief facility operator and certified shift supervisor are offsite for more than 8 hours, but less than 2 weeks, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, the Department. However, owner or operator shall record the period when the certified chief facility operator and certified shift supervisor are offsite and include this information in the annual report as specified according to the specific condition No. 59.

    (c) When the certified chief facility operator and certified shift supervisor are offsite for more than 2 weeks, and no other certified operator is onsite, the provisionally certified

control room operator may perform those duties without notice to, or approval by, the Department. However, owner or operator shall take two actions:

(i) Notify the Department in writing. In the notice, state what caused the absence and what the owner or operator is doing to ensure that a certified chief facility operator or certified shift supervisor is onsite.

(ii) Submit a status report and corrective action summary to the Department every 4 weeks following the initial notification. If the Department notifies the owner or operator that the status report or corrective action summary is disapproved, the municipal waste combustion unit may continue operation for 90 days, but then must cease operation. If corrective actions are taken in the 90-day period such that the Department withdraws the disapproval, municipal waste combustion unit operation may continue.

[40 CFR 60.1195]

OPERATING REQUIREMENTS

52. The owner or operator shall not operate the municipal waste combustion unit at loads greater than 110 percent of the maximum demonstrated unit load of the municipal waste combustion unit (4-hour block average).
Maximum demonstrated load of a municipal waste combustion unit means the highest 4-hour block arithmetic average municipal waste combustion unit load achieved during 4 consecutive hours in the course of the most recent dioxin/furan stack test that demonstrates compliance with the applicable emission limit for dioxins/furans specified in specific condition No. 8.

    [40 CFR 60.1200(a) & 40 CFR 60.1465]

53. The owner or operator shall not operate the municipal waste combustion unit so that the temperature at the inlet of the particulate matter control device exceeds 17 deg. C above the maximum demonstrated temperature of the particulate matter control device (4-hour block average) as specified under ``Definitions'' (40 CFR 60.1465).

    Maximum demonstrated temperature of the particulate matter control device means the highest 4-hour block arithmetic average flue gas temperature measured at the inlet of the particulate matter control device during 4 consecutive hours in the course of the most recent stack test for dioxin/furan emissions that demonstrates compliance with the limits specified in specific condition No. 8.
    [40 CFR 60.1200(b) & 40 CFR 60.1465, Rule 62-296.416(4)(a), F.A.C.]

54. The municipal waste combustion unit is exempt from limits on load level, temperature at the exit of the secondary combustion chamber, and carbon feed rate during any of five situations:
(a) During the annual tests for dioxins/furans.
(b) During the 2 weeks preceding your annual tests for dioxins/ furans.
(c) Whenever the Department permits the owner or operator to do any of five activities:

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(i) Evaluate system performance.
(ii) Test new technology or control technologies.
(iii) Perform diagnostic testing.
(iv) Perform other activities to improve the performance of the municipal waste combustion unit.
(v) Perform other activities to advance the state of the art for emission controls for the municipal waste combustion unit.
[40 CFR 60.1200(e)]

55. The operating requirements of this permit shall apply at all time except during periods of municipal waste combustion unit startup, shutdown, or malfunction. Each startup, shutdown, or malfunction must not last for longer than 3 hours.
[40 CFR 1205 (a) & (b)]

RECORDKEEPING AND REPORTING REQUIREMENTS

RECORDKEEPING

56. The owner or operator shall keep the following records for at least 5 years unless specified by rule.

Type of Record	Item
Material Separation Plan and Siting Analysis [40 CFR 60.1350]	• The date of each record. • The final materials separation plan. • The siting analysis. • A record of the location and date of the public meetings. • The responses to the public comments received during the public comment periods.
Operator training and certification [40 CFR 60.1355]	• Records of provisional certifications. Include three items: - Names of the chief facility operator, shift supervisors, and control room operators who are provisionally certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program. - Dates of the initial provisional certifications. - Documentation showing current provisional certifications. • Records of full certifications. Include three items: - Names of the chief facility operator, shift supervisors, and control room operators who are fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program. - Dates of initial and renewal full certifications. - Documentation showing current full certifications. • Records showing completion of the operator training course. Include three items: - Names of the chief facility operator, shift supervisors, and control room operators who have completed the EPA or State municipal waste combustion operator training course. - Dates of completion of the operator training course. - Documentation showing completion of the operator training course. • Records of reviews for plant-specific operating manuals. Include three items:

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	- Names of persons who have reviewed the operating manual. - Date of the initial review. - Dates of subsequent annual reviews. • Records of when a certified operator is temporarily offsite. Include two main items: - If the certified chief facility operator and certified shift supervisor are offsite for more than 8 hours, but less than 2 weeks, and no other certified operator is onsite, record the dates that the certified chief facility operator and certified shift supervisor were offsite. - When the certified chief facility operator and certified shift supervisor are offsite for more than 2 weeks and no other certified operator is onsite, keep records of four items: (i) Your notice that all certified persons are offsite. (ii) The conditions that cause these people to be offsite. (iii) The corrective actions you are taking to ensure a certified chief facility operator or certified shift supervisor is onsite. (iv) Copies of the written reports submitted every 4 weeks that summarize the actions taken to ensure that a certified chief facility operator or certified shift supervisor will be onsite. • Records of calendar dates. Include the calendar date on each record. • Record of operator's certificate for biological waste incineration. The certificate shall be kept onsite for the duration of the operator's employment and for an additional two years after the termination of employment. [Rule 62-296.401(4)(d) 7.c., F.A.C.]
Stack tests [40 CFR 60.1360]	• The results of the stack tests for eight pollutants or parameters recorded in the appropriate units of measure specified in table 1 of this subpart: (1) Dioxins/furans. (2) Cadmium. (3) Lead. (4) Mercury. (5) Opacity. (6) Particulate matter. (7) Hydrogen chloride. (8) Fugitive ash. • Test reports including supporting calculations that document the results of all stack tests. • The maximum demonstrated load of the municipal waste combustion units and maximum temperature at the inlet of the particulate matter control device during all stack tests for dioxin/furan emissions. • The calendar date of each record.
Continuously monitored pollutants and parameters.	• Records of monitoring data. Document six parameters measured using continuous monitoring systems: - All 6-minute average levels of opacity. - All 1-hour average concentrations of sulfur dioxide emissions. - All 1-hour average concentrations of nitrogen oxides emissions. - All 1-hour average concentrations of carbon monoxide emissions.

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	- All 1-hour average load levels of the municipal waste combustion unit. - All 1-hour average flue gas temperatures at the secondary chamber exit. • Records of average concentrations and percent reductions. Document five parameters: - All 24-hour daily block geometric average concentrations of sulfur dioxide emissions or average percent reductions of sulfur dioxide emissions. - All 24-hour daily arithmetic average concentrations of nitrogen oxides emissions. - All 4-hour block or 24-hour daily block arithmetic average concentrations of carbon monoxide emissions. - All 4-hour block arithmetic average load levels of the municipal waste combustion unit. - All 4-hour block arithmetic average flue gas temperatures at the secondary chamber exit. • Records of exceedances. Document three items: - Calendar dates whenever any of the five pollutant or parameter levels recorded or the opacity level recorded did not meet the emission limits or operating levels specified in this permit. - Reasons the unit exceeded the applicable emission limits or operating levels. - Corrective actions the owner or operator took, or are taking, to meet the emission limits or operating levels. • Records of minimum data. Document three items: - Calendar dates for which the owner or operator did not collect the minimum amount of data required under specific condition 3.14, 4.4, 4.5, 4.6 and 4.7. Record these dates for five types of pollutants and parameters: (i) Sulfur dioxide emissions. (ii) Nitrogen oxides emissions. (iii) Carbon monoxide emissions. (iv) Load levels of the municipal waste combustion unit. (v) Temperatures of the flue gases at the secondary chamber exit. - Reasons the owner or operator did not collect the minimum data. - Corrective actions the owner or operator took, or are taking, to obtain the required amount of data. • Records of exclusions. Document each time the unit has excluded data from the calculation of averages for any of the following five pollutants or parameters and the reasons the data were excluded: (1) Sulfur dioxide emissions. (2) Nitrogen oxides emissions. (3) Carbon monoxide emissions. (4) Load levels of your municipal waste combustion unit. (5) Temperatures of the flue gases at the exit of the secondary chamber. • Records of drift and accuracy. Document the results of your daily drift tests and quarterly accuracy determinations according to procedure 1 of appendix F (attached). Keep these records for the sulfur dioxide, nitrogen oxides, and carbon monoxide continuous emissions monitoring systems. • Records of the relationship between oxygen and carbon dioxide. If the owner or operator chose to monitor carbon dioxide instead of oxygen as a diluent gas, document the relationship between oxygen and carbon dioxide, as specified in specific condition

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	No. 19. • Records of calendar dates. Include the calendar date on each record. • Record of flue gas volumetric flow rate. The record shall include the 24-hour average flow rate and 30-day average flow rate.
NOx Emissions	• Records of monthly NOx emissions and the supporting calculations/assumptions. • 12-month rolling NOx emissions.

REPORTING

57. Notice of Construction: Submit the notice of construction no later than 30 days after commencement of construction, reconstruction, or modification of the municipal waste combustion unit. The notice of construction shall include these ten items:
    (a) A statement of the intent to construct the municipal waste combustion unit.
    (b) The planned initial startup date of the municipal waste combustion unit.
    (c) The types of fuels that the owner or operator plans to combust in the municipal waste combustion unit.
    (d) The capacity of the municipal waste combustion unit including supporting capacity calculations, as specified in 40 CFR 60.1460 (e).
    (e) The siting analysis, as specified in 40 CFR 60.1125.
    (f) The final materials separation plan, as specified in 40 CFR 60.1100(b).
    (g) The notice of the second public meeting (siting analysis meeting), as specified in 40 CFR 60.1130(b).
    (h) A transcript of the second public meeting, as specified in 40 CFR 60.1140(d).
    (i) A copy of the document that summarizes the responses to the public comments that the owner or operator received during the second public comment period, as specified in 40 CFR 60.1145(a).
    (j) The final siting analysis, as specified in 40 CFR 60.1145(c).

    [40 CFR 60.1380]

58. Initial Report: The owner or operator shall submit the initial report within 60 days after the municipal waste combustion unit reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup. The initial repot shall include the following items:

    (a) The emission levels measured on the date of the initial evaluation of your continuous emission monitoring systems for all of the following five pollutants or parameters as recorded in accordance with specific condition No. 56.
        (1) The 24-hour daily geometric average concentration of sulfur dioxide emissions or the 24-hour daily geometric percent reduction of sulfur dioxide emissions.
        (2) The 24-hour daily arithmetic average concentration of nitrogen oxides emissions.

(3) The 4-hour block or 24-hour daily arithmetic average concentration of carbon monoxide emissions.
(4) The 4-hour block arithmetic average load level of the municipal waste combustion unit.
(5) The 4-hour block arithmetic average flue gas temperature at the inlet of the PM control device.

(b) The results of the initial stack tests for eight pollutants or parameters:
(1) Dioxins/furans.
(2) Cadmium.
(3) Lead.
(4) Mercury.
(5) Opacity.
(6) Particulate matter.
(7) Hydrogen chloride.
(8) Fugitive ash emissions.

(c) The test report that documents the initial stack test including supporting calculations.

(d) The initial performance evaluation of the continuous emissions monitoring systems. Use the applicable performance specifications in appendix B (attached) in conducting the evaluation.

(e) The maximum demonstrated load of the municipal waste combustion unit and the maximum demonstrated temperature of the flue gases at the inlet of the particulate matter control device. Use values established during the initial stack test for dioxin/furan emissions and include supporting calculations.

(f) If the owner or operator chooses to monitor carbon dioxide instead of oxygen as a diluent gas, documentation of the relationship between oxygen and carbon dioxide, as specified in specific condition No. 19.
[40 CFR 60.1400]

59. Annual and Semiannual Report: The annual and semiannual report shall include the following items [40 CFR 60.1410]:

(a) The results of the annual stack test, using appropriate units, for eight pollutants, as recorded under specific condition No. 56:
(1) Dioxins/furans.
(2) Cadmium.
(3) Lead.
(4) Mercury.
(5) Particulate matter.
(6) Opacity.
(7) Hydrogen chloride.

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(8) Fugitive ash.

(b) A list of the highest average levels recorded, in the appropriate units. List these values for five pollutants or parameters:
(1) Sulfur dioxide emissions.
(2) Nitrogen oxides emissions.
(3) Carbon monoxide emissions.
(4) Load level of the municipal waste combustion unit.
(5) Temperature of the flue gases at the inlet of the PM control device (4-hour block average).

(c) The highest 6-minute opacity level measured. Base this value on all 6-minute average opacity levels recorded by the continuous opacity monitoring system.

(d) For municipal waste combustion units that use activated carbon for controlling dioxins/furans or mercury emissions, include four records:

(1) The average carbon feed rates recorded during the most recent dioxins/furans and mercury stack tests.

(2) The lowest 8-hour block average carbon feed rate recorded during the year.

(3) The total carbon purchased and delivered to the municipal waste combustion plant for each calendar quarter. If you choose to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at your plant.

(4) The required quarterly carbon usage of your municipal waste combustion plant calculated using equation 4 or 5 in 40 CFR 60.1460(f). If you choose to evaluate required quarterly usage for carbon on a municipal waste combustion unit basis, record the required quarterly usage for each municipal waste combustion unit at your plant.

(e) The total number of days that the owner or operator did not obtain the minimum number of hours of data for six pollutants or parameters. Include the reasons that the owner or operator did not obtain the data and corrective actions that he/she has taken to obtain the data in the future. Include data on:
(1) Sulfur dioxide emissions.
(2) Nitrogen oxides emissions.
(3) Carbon monoxide emissions.
(4) Load level of the municipal waste combustion unit.
(5) Temperature of the flue gases at the inlet to the PM control device..
(6) Carbon feed rate

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(f) The number of hours that the owner or operator has excluded data from the calculation of average levels (include the reasons for excluding it). Include data for six pollutants or parameters:
(1) Sulfur dioxide emissions.
(2) Nitrogen oxides emissions.
(3) Carbon monoxide emissions.
(4) Load level of the municipal waste combustion unit.
(5) Temperature of the flue gases at the inlet to the PM control device.
(6) Carbon feed rate

(g) A notice of the intent to begin a reduced stack testing schedule for dioxins/furans emissions during the following calendar year, if the unit is eligible for alternative scheduling as specified in specific condition No. 42.

(h) A notice of the intent to begin a reduced stack testing schedule for other pollutants during the following calendar year, if the unit is eligible for alternative scheduling as specified in specific condition No. 42.

(i) A summary of any emission or parameter level that did not meet the limits specified in this permit.

(j) A summary of the data in paragraphs (a) through (d) of this condition from the year preceding the reporting year. This summary gives the Department a summary of the performance of the municipal waste combustion unit over a 2-year period.

(k) If the owner or operator chooses to monitor carbon dioxide instead of oxygen as a diluent gas, documentation of the relationship between oxygen and carbon dioxide, as specified in specific condition No. 19.

(l) Documentation of periods when all certified chief facility operators and certified shift supervisors are offsite for more than 8 hours.

(m) A notice of the intent to begin a reduced stack testing schedule for dioxin/furan emissions during the following calendar year, if the unit is eligible for alternative scheduling as specified in specific condition Nos. 42/43.

(n) Oxides of nitrogen 12 month rolling total emissions.

60. Semiannual Report: For the data collected during the first half of the calendar year, the owner or operator shall submit the semiannual report by August 1 of that year. For the data collected during the second half of the calendar year, the owner and operator shall submit the semiannual report by February 1 of that year.
[40 CFR 60.1420]

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61. Out of Compliance: The owner or operator shall submit a semiannual report on any recorded emission or parameter level that does not meet the requirements specified in this permit. For data collected during the first half of a calendar year, the owner or operator shall submit the semiannual report by August 1 of that year. For data collected during the second half of the calendar year, the owner or operator shall submit the semiannual report by February 1 of the following year. The owner or operator may change the semiannual or annual reporting date after receiving approval from the Department. The owner or operator shall follow the procedures in 40 CFR 60.19(c) in subpart A (attached) to seek approval to change the reporting date.
[40 CFR 60.1415, 40 CFR 60.1420 and 40 CFR 60.1430]

62. Semi-annual Out of Compliance Report: The owner or operator shall include three items in the semiannual report:
    (a) For any of the following six pollutants or parameters that exceeded the limits specified in this permit, include the calendar date they exceeded the limits, the averaged and recorded data for that date, the reasons for exceeding the limits, and the corrective actions:
        (1) Concentration or percent reduction of sulfur dioxide emissions.
        (2) Concentration of nitrogen oxides emissions.
        (3) Concentration of carbon monoxide emissions.
        (4) Load level of your municipal waste combustion unit.
        (5) Temperature of the flue gases at the exit of the secondary combustion chamber.
        (6) Average 6-minute opacity level.

    (b) If the results of the annual stack tests show emissions above the limits specified in specific condition No. 8 for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash, include a copy of the test report that documents the emission levels and the corrective actions.

    [40 CFR 60.1425 (a)&(b)]

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
002	Heat Recovery Steam Boiler (HRSB) This EU shares a common stack with EU No. 001.

The unit is subject to the following regulations.

- Rule 62-296.406, F.A.C. – Fossil Fuel Steam Generators with Less Than 250 MMBtu/hour of Heat Input

PERFORMANCE RESTRICTIONS

1. Hours of Operation: The hours of operation are not restricted (i.e., 8760 hours per year).

   [Rules 62-4.160(2)&(14)(b), 62-210.200(PTE), F.A.C.]

2. Maximum Heat Input Rate: The maximum heat input rate of the HRSB is 60 MMBtu per hour. Natural gas or propane may account for up to 17.06 MMBtu per hour heat input (HHV) of the maximum heat input rate.

   [Rules 62-4.160(2)&(14)(b), 62-210.200(PTE), F.A.C.]

3. Method of Operation: The HRSB recovers heat generated by the Municipal Waste Gasification primary chamber(s) and the thermal oxidizer. Estimated maximum heat input from the gasification plant is 60 MMBtu per hour. During periods of low heat input from the gasification plant up to 17.06 MMBtu per hour heat input may be obtained from the combustion of natural gas or propane.

   [Rules 62-4.160(2) & (14)(b), 62-210.200(PTE), F.A.C., BACT]

EMISSION STANDARDS

Unless otherwise specified, the averaging times for Specific Condition ***4.*** *is based on the specified averaging time of the applicable test method.*

4. Visible Emissions Limit: The owner or operator shall comply with the following visible emissions limits:

   Natural Gas or Propane : When burning natural gas or propane, visible emissions shall not exceed 20 percent opacity except for one six-minute period per hour during which opacity shall not exceed 27 percent. Please note that this opacity limit is subsumed by the opacity limit of 10% required by 40 CFR 60, Subpart AAAA, Small Municipal Waste Combustion Units.

   [Rule 62-296.406(1), F.A.C.]

5. Particulate Matter (PM) Emissions Limit: The owner or operator shall comply with the following particulate matter emissions limits:

   Natural Gas or Propane– State BACT: Particulate matter emissions shall be limited by the firing of natural gas or propane as the primary fuel.

   [Rule 62-296.406(2),F.A.C.; BACT Determination dated December 8, 2011]

6. Sulfur Dioxide Limit: The owner or operator shall comply with the following sulfur dioxide emission limits:

   Natural Gas or Propane– State BACT: Sulfur dioxide emissions shall be limited by the firing of natural gas or propane as the primary fuel.

   [Rule 62-296.406(2), F.A.C.; BACT Determination dated December 8, 2011]

PERFORMANCE TESTING AND COMPLIANCE DEMONSTRATION FOR SULFUR DIOXIDE

7. The permittee shall comply with the BACT Determination for sulfur dioxide by combusting natural gas or propane only.

   [Rule 62-296.406(3), F.A.C.]

PERFORMANCE TESTING AND COMPLIANCE DEMONSTRATION FOR PARTICULATE MATTER/OPACITY

8. The permittee shall comply with the BACT Determination for particulate matter by combusting natural gas or propane only.

   [Rule 62-296.406(2), F.A.C.]

9. Visible Emissions Performance Test - The test shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.

   The test shall be conducted by an observer certified in accordance with the requirements of Rule 62-297.320, F.A.C. – Standards for Persons Engaged in Visible Emissions Observations.

   [Rule 62-297.320, F.A.C.]

   Natural Gas: By permit, the owner or operator shall conduct a visible emissions test for the HRSB to demonstrate compliance with the emission limit in Specific Condition No. 4. The initial compliance test shall be conducted while the HRSB is firing natural gas or propane. Additional heat may be supplied by EU No. 001. The test method for visible emissions shall be EPA Reference Method (RM) 9. Testing shall be conducted for a minimum period of one hour.

   [Rules 62-297.310(4)(a)2. and 62-297.310 (7)(a)3. and 4., F.A.C.]