

INEOS New Planet BioEnergy Indian River County BioEnergy Facility

Facility ID No. 0610096
Indian River County

Initial Title V Air Operation Permit

Permit No. 0610096-006-AV



Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road
Mail Station #5505
Tallahassee, Florida 32399-2400
Telephone: (850) 717-9000
Fax: (850) 717-9097

Compliance Authority:

Southeast District Office
3301 Gun Club Road
MSC 7210-1
West Palm Beach, FL 33406
Telephone: (561) 681-6600

Initial Title V Air Operation Permit

Permit No. 0610096-006-AV

Table of Contents

<u>Section</u>	<u>Page Number</u>
Placard Page	1
I. Facility Information.	
A. Facility Description.	2
B. Summary of Emissions Units.	2
C. Applicable Regulations.	2
II. Facility-wide Conditions.	4
III. Emissions Units and Conditions.	
A. Materials Handling Area (EU 001)	7
B. Feedstock Dryers No. 1 and No. 2 (EU 002).....	11
C. Gasification, Fermentation and Distillation Systems (EU 003)	13
D. Distillation Unit Fugitive Emissions (EU 004)	17
E. Vent Gas Boiler (EU 006)	18
F. Tank Farm (EU 007)	41
G. Loadout Flare (EU 008).....	42
H. Syngas Flare (EU 010)	44
I. Emergency Equipment (EU 011)	45
IV. Appendices.	49
Appendix A, Glossary.	
Appendix BMP – Best Management Practices	
Appendix I, List of Insignificant Emissions Units and/or Activities.	
Appendix LDAR – Preliminary Leak Detection and Repair (LDAR) Program	
Appendix NESHAP, Subpart A – General Provisions.	
Appendix NESHAP, ZZZZ –Stationary Reciprocating Internal Combustion Engines	
Appendix NSPS, Subpart A – General Provisions.	
Appendix NSPS, Subpart AAAA – Small Municipal Waste Combustion Units for Which Commenced After August 30, 1999 or for Which Modifications or Reconstruction is Commenced After June 6, 2001	
Appendix NSPS, Subpart IIII – Stationary Compression Ignition Internal Combustion Engines	
Appendix NSPS, Subpart JJJJ – Stationary Spark Ignition Internal Combustion Engines	
Appendix NSPS, Subpart Kb – Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	
Appendix NSPS, Subpart VVa – Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006	
Appendix RR, Facility-wide Reporting Requirements.	
Appendix TR, Facility-wide Testing Requirements.	
Appendix TV, Title V General Conditions.	
Referenced Attachments.	At End
Figure 1, Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance (40 CFR 60, July, 1996).	
Table H, Permit History.	



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Interim Secretary

PERMITTEE:

INEOS New Planet BioEnergy
925 74th Avenue
Vero Beach, FL 32968-9702

Permit No. 0610096-006-AV
Indian River County BioEnergy Facility
Facility ID No. 0610096
Initial Title V Air Operation Permit

The purpose of this permit is to issue the initial Title V air operation permit for the above referenced facility. The existing Indian River County BioEnergy Facility is located in Indian River County (IRC). The facility is located at 925 74th Avenue in Vero Beach, Florida. The facility is categorized under Standard Industrial Classification Code No. 2869—Industrial Organic Chemicals, Not Elsewhere Classified. The UTM coordinates are Zone 17, 550.7 kilometers (km) East and 3,051.3 km North.

The Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility in accordance with the terms and conditions of this permit.

0610096-006-AV Effective Date: August 4, 2015
Renewal Application Due Date: December 23, 2019
Expiration Date: August 4, 2020

For:

Jeffery F. Koerner, Deputy Director
Division of Air Resource Management

JFK/dlr

SECTION I. FACILITY INFORMATION.

Subsection A. Facility Description.

INEOS New Planet BioEnergy, LLC (INPB) is operating the Indian River County BioEnergy (INEOS Bio) facility to produce ethanol from a biomass feedstock consisting of mostly vegetative yard waste, clean woody biomass, construction and demolition (C&D) debris and municipal solid waste (MSW).

The INEOS Bio ethanol technology process gasifies the biomass feedstock. The organic material is not be directly combusted; instead, oxygen is supplied to the gasifier which converts the feed material into a synthetic gas (syngas) consisting of carbon monoxide (CO), carbon dioxide (CO₂), hydrogen (H₂) and other hydrocarbons. Under most circumstances, this syngas is not directly combusted. Instead, it is cleaned and cooled and then fed into a fermentation system where proprietary bacterial metabolic action converts the syngas into ethanol. The ethanol is then distilled, dehydrated, denatured, stored and loaded into dedicated ethanol tanker trucks for shipment offsite.

Subsection B. Summary of Emissions Units.

EU No.	Emission Unit Description
001	Materials Handling Area
002	Feedstock Dryers No. 1 and No. 2
003	Gasification, Fermentation and Distillation Systems
004	Distillation Unit Fugitive Emissions
006	Vent Gas Boiler
007	Tank Farm
008	Loadout Flare
010	Syngas Flare
011	Emergency Equipment

Also included in this permit are miscellaneous insignificant emissions units and/or activities (see Appendix I, List of Insignificant Emissions Units and/or Activities).

Subsection C. Applicable Regulations.

Based on the Title V air operation permit renewal application received December 31, 2013, this facility is not a major source of hazardous air pollutants (HAP). A summary of applicable regulations is shown in the following table.

Regulation	EU No(s).
<i>Federal Rule Citations</i>	
40 CFR 60, Subpart A, NSPS General Provisions	001, 003, 006, 007, 011
40 CFR 60, Subpart AAAA	006
40 CFR 60, Subpart Kb	007
40 CFR 60, Subpart IIII	001, 011
50 CFR 60, Subpart JJJJ	011
40 CFR 60, Subpart VVa	003, 006
40 CFR 63, Subpart A	001, 011
40 CFR 63, Subpart ZZZZ	001, 011
<i>State Rule Citations</i>	
62-4.070	001, 002, 003, 004, 006, 007, 008, 010, 011

SECTION I. FACILITY INFORMATION.

62-204.800	006
62-210.200	001, 002, 007, 008, 010, 011
62-210.650	006
62-296.100	001, 003, 007
62-297.100	006
62-297.310	002, 006, 011

SECTION II. FACILITY-WIDE CONDITIONS.

The following conditions apply facility-wide to all emission units and activities:

FW1. Appendices. The permittee shall comply with all documents identified in Section IV, Appendices, listed in the Table of Contents. Each document is an enforceable part of this permit unless otherwise indicated. [Rule 62-213.440, F.A.C.]

Emissions and Controls

FW2. Not federally Enforceable. No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. Prior to the use of MSW that creates objectionable odors (i.e. putrescible household waste and institutional waste), the permittee shall submit an odor control plan to the Compliance Authority that addresses how the facility will control MSW odors, such as through implementing a "first in/first out" material handling practice; storing MSW in an enclosed area; limiting on-site storage of MSW to 48 hours or less; or other procedures. After the conclusion of a 120 day period continuously using such MSW, the permittee shall revise and resubmit the odor control plan to the Compliance Authority. If objectionable odors arise while any type of MSW is processed, the permittee shall take immediate actions to eliminate the odors. In addition, the permittee shall within 10 days submit a plan to the Compliance Authority documenting the corrective actions taken to eliminate the odors and outlining how in the future objectionable odors will be prevented. [Permit No. 0610096-004-AC; Rule 62-296.320(2), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

FW3. General Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. . [Rule 62-296.320(1), F.A.C.]

{Permitting Note: Nothing is deemed necessary and ordered at this time.}

FW4. General Visible Emissions (VE). No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b), F.A.C.]

FW5. Unconfined Particulate Matter (PM). No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

- a. Roadways: The plant roadways shall be paved and during dry conditions wetted sufficiently to maintain surface moisture to minimize fugitive dust emissions. Roadways shall be swept as required with a vacuum sweeper in good working order to prevent the buildup of dirt and silt on the roadway surfaces.
- b. All normally traveled roads on the site shall be paved.
- c. Access paths used exclusively for maintenance purposes may be unpaved.
- d. Speed limit signs will be posted.
- e. The unpaved areas of the facility shall be maintained and either sodded or landscaped as necessary.
- f. The conveyor systems outside of the materials handling area shall be fully enclosed.
- g. Hoods, fans, filters or similar equipment shall be used to contain, capture or vent particulate matter.
- h. The ash shall be wetted before being stored in the ash handling roll-off bins.

[Rule 62-296.320(4)(c), F.A.C.]

SECTION II. FACILITY-WIDE CONDITIONS.

Annual Reports and Fees

See Appendix RR, Facility-wide Reporting Requirements for additional details.

FW6. Electronic Annual Operating Report and Title V Annual Emissions Fees. The information required by the Annual Operating Report for Air Pollutant Emitting Facility [Including Title V Source Emissions Fee Calculation] (DEP Form No. 62-210.900(5)) shall be submitted by April 1 of each year, for the previous calendar year, to the Department of Environmental Protection's Division of Air Resource Management. Each Title V source shall submit the annual operating report using the DEP's Electronic Annual Operating Report (EAOR) software, unless the Title V source claims a technical or financial hardship by submitting DEP Form No. 62-210.900(5) to the DEP Division of Air Resource Management instead of using the reporting software. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C. Each Title V source must pay between January 15 and April 1 of each year an annual emissions fee in an amount determined as set forth in subsection 62-213.205(1), F.A.C. The annual fee shall only apply to those regulated pollutants, except carbon monoxide and greenhouse gases, for which an allowable numeric emission-limiting standard is specified in the source's most recent construction permit or operation permit. Upon completing the required EAOR entries, the EAOR Title V Fee Invoice can be printed by the source showing which of the reported emissions are subject to the fee and the total Title V Annual Emissions Fee that is due. The submission of the annual Title V emissions fee payment is also due (postmarked) by April 1st of each year. A copy of the system-generated EAOR Title V Annual Emissions Fee Invoice and the indicated total fee shall be submitted to: **Major Air Pollution Source Annual Emissions Fee, P.O. Box 3070, Tallahassee, Florida 32315-3070.** Additional information is available by accessing the Title V Annual Emissions Fee On-line Information Center at the following Internet web site: <http://www.dep.state.fl.us/air/emission/tvfee.htm>. [Rules 62-210.370(3), 62-210.900 & 62-213.205, F.A.C.; and, §403.0872(11), Florida Statutes (2013)]

{Permitting Note: Resources to help you complete your AOR are available on the electronic AOR (EAOR) website at: <http://www.dep.state.fl.us/air/emission/eaor>. If you have questions or need assistance after reviewing the information posted on the EAOR website, please contact the Department by phone at (850) 717-9000 or email at eaor@dep.state.fl.us.}

{Permitting Note: The Title V Annual Emissions Fee form (DEP Form No. 62-213.900(1)) has been repealed. A separate Annual Emissions Fee form is no longer required to be submitted by March 1st each year.}

FW7. Annual Statement of Compliance. The permittee shall submit an annual statement of compliance to the compliance authority at the address shown on the cover of this permit and to the US. EPA at the address shown below within 60 days after the end of each calendar year during which the Title V air operation permit was effective. [Rules 62-213.440(3)(a)2. & 3. and (b), F.A.C.]

U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303
Attn: Air Enforcement Branch

FW8. Prevention of Accidental Releases (Section 112(r) of CAA). If, and when, the facility becomes subject to 112(r), the permittee shall:

- a. Submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent electronically through EPA's Central Data Exchange system at the following address: <https://cdx.epa.gov>. Information on electronically submitting risk management plans using the Central Data Exchange system is available at:

SECTION II. FACILITY-WIDE CONDITIONS.

<http://www2.epa.gov/rmp>. The RMP Reporting Center can be contacted at: RMP Reporting Center, Post Office Box 10162, Fairfax, VA 22038, Telephone: (703) 227-7650.

- b. Submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.

[40 CFR 68]

Excess Emissions

- FW9.** Excess Emissions. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
{Permitting Note: Rule 62-210.700 (Excess Emissions), F.A.C. cannot vary any requirement of an NSPS, NESHAP or Acid Rain program provision.}

Other Requirements

- FW10.** Standard Conditions. As used in this permit, standard conditions refers to a temperature of 68 °F and a pressure of 14.7 pounds per square inch absolute (psia).
[Rule 62-210.200, F.A.C. Definition of "Standard Conditions"]
- FW11.** Dried Tons. As used in this permit, "dried tons" refers to solid material with 15 percent moisture content. [Rule 62-4.070, F.A.C. Reasonable Assurance]
- FW12.** General Visible Emissions Standard. No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than 20 percent opacity. [Rule 62-296.320(4)(b)1., F.A.C.]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

Subsection A. Material Handling Area (EU 001)

The specific conditions in this section apply to the following emissions unit:

EU ID No.	Brief Description
001	Materials Handling Area with Shredder and Screen Engines: <ul style="list-style-type: none">• Two Mercedes Benz Model OM 460 LA 320.6 kilowatt (kW), 430 horsepower (hp) engines.• Two Daimler-Chrysler Model OM 904 LA 75.3 kW, 101 hp engines.

Trucks deliver vegetative waste and clean woody C&D debris to the tipping floor of the materials handling area. Vegetative waste is primarily yard waste or land clearing debris from the IRC curbside collection program, delivered to the IRC collection centers, or delivered directly to the facility by the public. The C&D debris is material diverted from a dedicated cell of the IRC landfill. The BioEnergy facility may accept vegetative waste, C&D and MSW from outside IRC. MSW will be stored in accordance with the submitted odor control plan. Vegetative waste and C&D debris will be stored outdoors on a hard-packed gravel area in windrows to provide for drying. Feedstock preparation machinery will include two slow speed shredders (or grinders, referred to as shredders throughout this permit and associated documents) and two trommel screens

Applicable Regulations

- A.1.** NSPS for Stationary Compression Ignition Internal Combustion Engines (Appendix IIII). 40 CFR Part 60, Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines—applies to the diesel engines powering the shredders and screens. The permittee shall comply with the requirements of the NSPS, included as Appendix NSPS, Subpart IIII – Stationary Compression Ignition Internal Combustion Engines. [Rule 62-296.100(3), F.A.C.; Permit No. 0610096-004-AC; NSPS 40 CFR 60, Subpart IIII]
- A.2.** NESHAP for Stationary RICE (Appendix ZZZZ). 40 CFR Part 63, Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines—applies to the diesel engines powering the shredders and screens. The permittee shall comply with the requirements of the NESHAP, included Appendix NESHAP, ZZZZ – Stationary Reciprocating Internal Combustion Engines. [Rule 62-296.100(3), F.A.C.; Permit No. 0610096-004-AC; NESHAP 40 CFR 63, Subpart ZZZZ]

{Permitting Note: This CI RICE is regulated under 40 CFR 63, Subpart ZZZZ, NESHAP for Stationary RICE and 40 CFR 60, Subpart IIII, NSPS for Stationary CI RICE, adopted in Rules 62.204.800(11)(b) & (8)(b), F.A.C., respectively. This permit section addresses stationary CI non-emergency RICE of model year 2007 or later, with a displacement less than 10 liters per cylinder and engine power less than 3,000 HP (2,237 kW). In accordance with provisions of 40 CFR 63.6590(c)(1), meeting the requirements of 40 CFR 60, Subpart IIII, satisfies compliance with the requirements of Subpart ZZZZ.}

Equipment

- A.3.** Feedstock System. The permittee is authorized to operate and maintain the following major pieces of equipment for feedstock delivery, handling and processing:
- a. Tipping floor;
 - b. Front-end loaders;
 - c. The biomass storage area shall meet applicable FDEP regulations for such materials for biomass (authorized feedstock other than MSW, see Condition 3.A.4 of this permit);
 - d. MSW storage area shall conform to Specific Condition 12 of Section 2 of this permit and be so configured such that objectionable odors cannot develop;
 - e. Conveyor systems; and

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

Subsection A. Material Handling Area (EU 001)

f. Relocatable shredding, screening and processing equipment.

[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Essential Potential to Emit (PTE) Parameters

A.4. Permitted Capacity. The maximum allowable heat input rate is as follows:

- a. *Combined Mercedes Benz Model OM 460 LA:* 11,202 million British thermal units per year (MMBtu/yr) which is equivalent to 82,368 gallons per year (gal/yr) of ultra-low sulfur distillate (ULSD) fuel oil at a heat content of 136,000 Btu/gal.
- b. *Combined Daimler-Chrysler Model OM 904 LA:* 2,291 million MMBtu/yr which is equivalent to 16,848 gal/yr of ULSD fuel oil at a heat content of 136,000 Btu/gal.

[Rules 62-4.160(2), 62-204.800, 62-210.200(PTE), F.A.C.; and, Permit No. 0610096-004-AC.]

A.5. Authorized Fuel. This Stationary RICE must use diesel fuel that meets the following requirements for non-road diesel fuel:

- a. *Sulfur Content.* The sulfur content shall not exceed 15 ppm = 0.0015% by weight (ultra-low sulfur) for non-road fuel.
- b. *Cetane and Aromatic.* The fuel must have a minimum cetane index of 40 or must have a maximum aromatic content of 35 volume percent.
- c. *Use of Existing Fuel.* Any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

[Rule 62-204.800, F.A.C.; 40 CFR 60.4207(b) and 80.510(b)]

A.6. Hours of Operation - Engines. Each engine may operate up to 3,744 hours/year (hr/yr). [Rule 62-210.200(PTE), F.A.C., Permit No. 0610096-004-AC]

A.7. Hours of Operation – Material Handling Area. The hours of operation of the material handling area, excluding the engines, is not limited (8,760 hours per year). [Permit No. 0610096-004-AC; Rules 62-4.070(3); and 62-210.200 (PTE), F.A.C.]

Authorized Feedstock

A.8. Authorized Feedstock. Biomass, vegetative matter, yard waste, land clearing debris, untreated wood and MSW is authorized to be stored in the materials handling area. For purposes of this permit, "biomass" refers to authorized feedstock other than MSW. [Application No. 0610096-004-AC; Rule 62-210.200, F.A.C. Definitions of "Biomass", "Yard Waste," "Land Clearing Debris," "Untreated Wood" and "Solid Waste"; and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Emission Limitations and Standards

The below emission limits will be demonstrated by engine manufacturer certification.

A.9. PM Emissions. Particulate matter emissions shall not exceed:

- a. *Each Mercedes Benz Model OM 460 LA:* 0.20 grams per kilowatt hour (g/kW-hr).
- b. *Each Daimler-Chrysler Model OM 904 LA:* 0.30 g/kW-hr.

[40 CFR 60, Subpart IIII and §89.112]

A.10. Nitrogen Oxides (NO_x) Emissions. Nitrogen oxide emissions shall not exceed:

- a. *Each Mercedes Benz Model OM 460 LA:* 4.0 g/kW-hr.
- b. *Each Daimler-Chrysler Model OM 904 LA:* 4.0 g/kW-hr.

[40 CFR 60, Subpart IIII and §89.112]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

Subsection A. Material Handling Area (EU 001)

A.11. CO Emissions. Carbon monoxide emissions shall not exceed:

- a. *Each Mercedes Benz Model OM 460 LA:* 3.5 g/kW-hr.
- b. *Each Daimler-Chrysler Model OM 904 LA:* 5.0 gr/kW-hr.

[40 CFR 60, Subpart IIII and §89.112]

Work Practice Standards

A.12. Feedstock Storage.

- a. Biomass shall be delivered directly to the tipping floor unless the tipping floor cannot accommodate additional material. The tipping floor shall be designed to accommodate feedstock for up to two days (48-hour period) of operation.
- b. Additional biomass shall be delivered to the hard-packed gravel storage area.
- c. Storage of MSW shall be in accordance with the submitted odor control plan.

[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

A.13. Roadways. The plant roadways shall be paved and during dry conditions wetted sufficiently to maintain surface moisture to minimize fugitive dust emissions. Roadways shall be swept as required with a vacuum sweeper in good working order to prevent the buildup of dirt and silt on the roadway surfaces.

[Permit No. 0610096-004-AC; Rule 62-296(4)(c), F.A.C. Unconfined Emissions of Particulate Matter; and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

A.14. Traffic Control. The feedstock delivery vehicles shall be accepted at the site on a 12 hour per day (7:00 AM to 7:00 PM), seven days per week basis. Speed limit signs shall be posted. The feedstock delivery vehicles shall be weighed on entry and exit from the site.

[Permit No. 0610096-004-AC; Rule 62-296(4)(c), F.A.C. Unconfined Emissions of Particulate Matter; and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

A.15. Treated Wood Management Plan. To ensure that wood treated with chromated copper arsenate is not included with the C&D debris delivered to the facility for use as feedstock, the permittee shall only accept shredded or mulched C&D debris from a source complying with a treated wood management plan meeting the requirements of Rule 62-701.730(20), F.A.C. The permittee shall implement the treated wood management plan in Appendix BMP to screen any C&D debris that is to be shredded or mulched at the facility, unless the delivered C&D debris has been screened at its source as per a treated wood management plan meeting the requirements of Rule 62-701.730(20), F.A.C.

[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

A.16. Excess Emissions Prohibited. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.; and, Permit No. 0610096-004-AC]

Recordkeeping and Reporting Requirements

A.17. Recordkeeping Requirements. The permittee shall maintain monthly records of ultra-low sulfur diesel fuel use, and the permittee shall maintain fuel delivery receipts identifying the sulfur content of the delivered diesel fuel. These records shall be kept and made available to the Compliance Authority upon request. [Rules 62-4.070(3), F.A.C. Reasonable Assurance and 62-213.440(1)(b), F.A.C.]

A.18. Maintenance Records. To demonstrate conformance with the manufacturer's written instructions for maintaining the certified engine and to document when compliance testing must be performed pursuant to Specific Conditions **A.24.** and **A.25.**, the owner or operator must keep the following records:

- a. Engine manufacturer documentation and certification indicating compliance with the standards.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

Subsection A. Material Handling Area (EU 001)

- b. A copy of the manufacturer's written instructions for operation and maintenance of the certified engine.
- c. A written maintenance log detailing the date and type of maintenance performed on the engine, as well as any deviations from the manufacturer's written instructions.

- A.19. Testing Notification.** At such time that the requirements of Specific Condition **A.24.** become applicable, the owner or operator shall notify the compliance authority of the date by which the initial compliance test must be performed. [Rule 62-213.440(1)]
- A.20. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]

Other NSPS Subpart IIII Requirements

- A.21. Operation and Maintenance.** The owner or operator must operate and maintain the stationary CI internal combustion engine according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. This RICE must be maintained and operated to meet the emissions limits in Specific Conditions **A.9.** through **A.11.** over the entire life of the engine. [Rule 62-204.800(8)(b)80, F.A.C.; and 40 CFR 60.4206, 4211(a)(1), (2) & (3)]
- A.22. Engine Certification Requirements.** The owner or operator must comply with the emissions standards specified above by having purchased an engine certified by the manufacturer to meet those limits. The engine must have been installed and configured according to the manufacturer's emission-related specifications, except as permitted in Specific Condition D.7. [Rule 62-204.800(8)(b)80, F.A.C.; and 40 CFR 60.4211(c)]
- A.23. Compliance Requirements Due to Loss of Certification.** If the owner or operator does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the owner or operator changes emission-related settings in a way that is not permitted by the manufacturer, the owner or operator must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if the owner or operator does not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or changes the emission-related settings in a way that is not permitted by the manufacturer, the owner or operator must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action. [Rule 62-204.800(8)(b)80, F.A.C.; and 40 CFR 60.4211(g)(1)]
- A.24. Testing Requirements.** In the event performance tests are required pursuant to **Specific Condition A.23.**, the following requirements shall be met:
- a. *Testing Procedures.* The performance test must be conducted according to the in-use testing procedures in 40 CFR Part 1039, Subpart F. [Link to Subpart F](#)
 - b. *NTE Standards.* Exhaust emissions from this engine must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power in 40 CFR Part 1039, Subpart B as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR Part 1039. [Link to Subpart B](#)
- [Rule 62-204.800(8)(b)80, F.A.C.; and 40 CFR 60.4212(a) & (b)]
- A.25. Facility-Wide Testing Requirements.** Unless otherwise specified and if required, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

Subsection B. Feedstock Dryers No. 1 and No. 2 (EU 002)

The specific conditions in this section apply to the following emissions unit:

EU ID No.	Brief Description
002	Feedstock Dryers No. 1 and No. 2

The two feedstock dryers (Carrier Model QAD-3660S-20'-6"-5 HP or equivalent) receive feedstock from the storage piles and use low-pressure steam, provided by the boiler and heat recovery systems, to reduce the feedstock moisture to around 15 percent. The dryers use 8,960 pounds per hour of the steam to heat the inlet to about 250 °F. Flue gas from the dryers is vented to the atmosphere through a dust control system. PM emissions from the dryer exhaust are controlled with a baghouse. The dried feedstock is then sent to the gasifiers by way of a covered conveyor system.

Equipment

- B.1. Feedstock dryers.** The permittee is authorized to operate and maintain two vibrating fluidized bed dryers that use low-pressure steam to reduce the feedstock moisture to approximately 15 percent.
[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- B.2. Air Pollution Control Equipment.** To comply with the emission standards of this permit, the permittee shall operate and maintain the following air pollution control equipment on each feedstock dryer.
- a. *Baghouse:* The permittee shall operate and maintain a baghouse to remove PM emissions from the dryer exhaust. The baghouse shall be designed to achieve a PM emissions rate of 0.005 grains per dry standard cubic meter.
[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- B.3. Enclosed Conveyor System.** The permittee shall operate and maintain an enclosed conveyor system to transport dried feedstock from the dryers to the gasification system.
[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Essential Potential to Emit (PTE) Parameters

- B.4. Permitted Capacity.** Feedstock drying for both dryers combined is limited to an annual average throughput of no more than 425 tons per day (27 percent moisture content) on a rolling 12-month basis.
[Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
{Permitting Note: 425 tons per day at 27 percent moisture is equivalent to 365 tons per day at 15 percent moisture.}
- B.5. Hours of Operation.** The hours of operation of this emission unit are not limited (8,760 hours per year).
[Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

Emission Limitations and Standards

Unless otherwise specified, the averaging time) for Specific Conditions **B.6.** and **B.7.** are based on the specified averaging time of the applicable test method.

- B.6. Visible Emission Standard.** VE from each feedstock dryer shall not exceed 5 percent opacity. [Permit No. 0610096-004-AC and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- B.7. VOC Standard.** VOC emissions from each feedstock dryer shall not exceed 3.8 pounds per hour (lbs/hr).
[Permit No. 0610096-004-AC and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

Test Methods and Procedures

- B.8. Test Methods.** Required tests shall be performed in accordance with the following reference methods.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

Subsection B. Feedstock Dryers No. 1 and No. 2 (EU 002)

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources.
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)

The above methods are described in Appendix A of 40 C.F.R. 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other method may be used unless prior written approval is received from the Department. [Rules 62-204.800 and 62-297.100, F.A.C. and Appendix A of 40 C.F.R. 60]

- B.9.** Facility-Wide Testing Requirements. Unless otherwise specified and if required, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]
- B.10.** Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), each feedstock dryer shall be tested to demonstrate compliance with the emissions standard for VE given in Specific Condition **B.6**. [Rule 62-297.310(7), F.A.C.]
- B.11.** Compliance Tests Prior To Renewal. In addition to the annual compliance test given in Specific Condition **B.6**, a compliance test shall also be performed for VOC prior to obtaining a renewed operation permit to demonstrate compliance with the emission limit in Specific Conditions **B.7**. [Rules 62-210.300(2)(a) and 62-297.310(7)(a), F.A.C.]

{Permitting Note: Tests which are only required once during the term of a permit prior to obtaining a renewed permit should be performed roughly five years from the previous test.}

Recordkeeping and Reporting Requirements

- B.12.** Recordkeeping Requirements. The permittee shall maintain records of the amount of total combined biomass and MSW feedstock processed in both dryers on a tons per day basis and an annual average tons per day, rolling 12-month basis (27 percent moisture content). These records shall be kept and made available to the Compliance Authority upon request. [Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- B.13.** Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

C. Gasification, Fermentation and Distillation Systems (EU-003)

Subsection C. The specific conditions in this section apply to the following emissions unit:

EU ID No.	Brief Description
003	Gasification, Fermentation and Distillation Systems

Two gasifiers heat feedstock through starved-air pyrolysis to produce syngas, a mixture of CO, CO₂, H₂ and other hydrocarbons. The syngas is cleaned and bubbled through the fermentation system. The distillation system extracts ethanol from the filtered fermentation broth. This emissions unit also includes equipment to accomplish waste heat recovery; dry gas cleaning; syngas quench and compression; and vent gas scrubbing.

Applicable Regulations and Requirements

- C.1.** NSPS for Equipment Leaks of VOC (Appendix VVa). 40 CFR Part 60, Subpart VVa - Standards of Performance for Equipment Leaks of VOC in the SOCM for Which Construction, Reconstruction or Modification Commenced After November 7, 2006—applies to each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, flange or other connector that contains or contacts a process fluid that is at least 10 percent VOC by weight. It also applies to any devices or systems that it requires to be installed. The permittee shall comply with the requirements of the NSPS, included as Appendix NSPS, Subpart VVa – Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006. [Permit No. 0610096-004-AC and Rule 62-296.100(3), F.A.C.]
- C.2.** Closed Vent Systems and Control Devices. During normal operation, vent gas from the fermentation and distillation systems shall be collected and routed via closed vent systems to scrubbers (the process vent gas scrubber or distillation overhead scrubber, respectively) prior to being routed to a control device. The control device for these streams shall be the vent gas boiler (EU-006). [Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.3.** Leak Detection and Repair (LDAR) Plan. After completion of the MSW trial period (see **Specific Condition C.12**), within 60 days of reaching the permitted combined feedstock capacity to the gasifiers as given in **Specific Conditions C.11 and C.12 of this subsection**, the permittee shall submit the final version of the preliminary LADR Plan contained in Appendix LDAR of this permit. [Permit No. 0610096-004-AC; NSPS 40 CFR 60 Subpart VVa; and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Equipment

- C.4.** Gasifiers. The permittee is authorized to operate and maintain two gasifiers, each consisting of a two-stage, upper and lower gasification zone with a dedicated ram feeder to feed the dried feedstock. The gasifiers are be equipped with emergency vent valves that can route syngas to the syngas flare (EU-010) in the event of emergencies such as a failure of the electrical supply to the plant or high pressure in the system caused by the blockage of downstream equipment. The permittee is authorized to operate and maintained equipment to cool the syngas and to recover waste heat through the boiler feed water preheater. [Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.5.** Dry Gas Cleanup Packages. The permittee is authorized to operate and maintain two dry gas cleanup packages, each of which consists of activated carbon and sodium bicarbonate injection followed immediately by a fabric filter. Exhaust from the fabric filter is not emitted to the atmosphere, but is routed to syngas quench and compression. [Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.6.** Syngas Quench and Compression. The permittee is authorized to operate and maintain a quench tower to further cool the cleaned and filtered syngas, an electrical driven gas compression system and ancillary

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

C. Gasification, Fermentation and Distillation Systems (EU-003)

equipment including a cooled water heat exchanger and a knock-out drum.

[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

- C.7. Fermentation and Distillation System.** The permittee is authorized to operate and maintain a fermentation and distillation system consisting of fermentation vessels, distillation feed tank, distillation tower, reflux drum and dehydration system. [Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.8. Vent Gas Scrubbing.** The permittee is required to operate and maintain a process vent gas scrubber for the fermentation vent gases. Emergency release from the process vent gas scrubber shall be routed to the syngas flare (EU-010). [Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.9. Distillation Overhead Scrubbing.** The permittee is required to operate and maintain a distillation overhead scrubber for the distillation and dehydration system vent gases. Emergency release from the process distillation area overhead scrubber shall be routed to the syngas flare (EU-010). Emergency release from the distillation system emergency relief valves may be vented to the atmosphere. [Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.10. Hydrogen Cyanide (HCN) Wet Scrubber.** The permittee is authorized to operate and maintain a HCN wet scrubber consisting of the following equipment:
- Tower 1 (Syngas HCN Scrubber):* Tower 1 is a fixed-bed, counter-current flow, packed tower. Syngas enters under the bed and mixes with the scrubbing water that is sprayed and evenly distributed over the top surface of the packed bed. Scrubbing water is pumped from Tower 2 (HCN Stripper) after HCN has been removed from the water stream using forced air. The HCN free syngas is then sent to syngas header and fed to the fermentation train for ethanol production.
 - Tower 2 (HCN Stripper):* Tower 2 is be the same basic design. A fixed-bed, counter-current, packed tower. The HCN is stripped from the water stream by a blown air stream and the HCN containing air is sent to Tower 3.
 - Tower 3 (Air HCN Scrubber):* Tower 3 absorbs the HCN from the air stream into the water stream, also using the same fixed-bed, counter-current flow design used in Towers 1 and 2. The HCN free air (95% or greater HCN removal, as guaranteed by the vendor) is discharged to atmosphere from the top of Tower 3. The HCN containing water is treated in-situ with a bleach and caustic solution to neutralize the dissolved HCN in the water. The treated water is then be disposed of normally as with other plant waste water in the site direct injection well (DIW).
- [Permit No. 0610096-007-AC]

Essential Potential to Emit (PTE) Parameters

- C.11. Primary Authorized Feedstock.** Biomass, vegetative matter, yard waste, land clearing debris and untreated wood is authorized to be used as feedstock to the gasification system. Feedstock processing for both gasifiers combined is limited to an annual average throughput of no more than 365 dried tons (15% moisture) per day on a rolling 12-month basis.
[Permit No. 0610096-004-AC; Rule 62-210.200, F.A.C. Definitions of "Biomass," "Yard Waste," "Untreated Wood" and "Solid Waste"; and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.12. MSW Trial Period.** During an MSW trial period not to exceed 120 continuous days, MSW is authorized to be used as a feedstock, alone or in combination with biomass, subject to the following requirements.
- Feedstock:* The permittee may fire MSW alone or in combination with the biomass feedstock. MSW processing is limited to no more than 365 dry tons per day for both gasifiers combined. A maximum of 10,950 dry tons of MSW is authorized to be processed during the MSW trial period.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

C. Gasification, Fermentation and Distillation Systems (EU-003)

- b. *Notification:* The permittee shall notify the Compliance Authority at least 30 days prior to commencement of the MSW trial period.
- c. *Testing:* The permittee shall conduct stack tests at the vent gas boiler stack (EU-006), using the methods and procedures specified in Appendix AAAA, for the following pollutants: PM, lead (Pb), mercury (Hg), hydrogen chloride (HCl); Dioxins/Furans (D/F) and cadmium (Cd). The permittee may repeat this testing during or after the MSW trial period so as to demonstrate compliance at different MSW feed rates. This testing shall be done when syngas that bypasses the fermentation process is fired in the vent gas boiler (EU 005) and when firing vent gas from the fermentation process.
- d. *Report:* Prior to initiating routine processing of MSW in the gasifiers as authorized by Condition 3.C.12, the permittee shall submit a report to the Compliance Authority that uses available monitor and stack test data to evaluate the impact of processing MSW on emissions of the following pollutants: NO_x, CO, sulfur dioxide (SO₂), PM, Pb, Hg, HCl, D/F and Cd.

[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

- C.13. MSW Feedstock. After submitting the report specified in Specific Condition C.12.d., MSW is authorized to be used as feedstock to the gasification system. MSW processing for both gasifiers combined is limited to a 12-month rolling annual average throughput of no more than 110 percent of the dried tons per day achieved for both gasifiers combined during the most recent testing conducted pursuant to Specific Condition C.12.c. [Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.14. Authorized Fuels. Natural gas and landfill gas are authorized to be fed to the gasifier bottom chamber start-up burners in order to bring the system up to temperature until the solid feed is started. During normal operation, butanol from the distillation system is authorized to be fed to the gasifier burners. [Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.15. Hours of Operation. The hours of operation of this emission unit are not limited (8,760 hours per year). [Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- C.16. Ethanol Production Rate. Ethanol production is limited to 8.00 million gallons per year on a rolling 12-month basis. [Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
{Permitting Note: The final product with the addition of a denaturant is limited to 8.42 million gallons per year.}
- C.17. Ethanol Capture, Fermentation System. The process vent gas scrubber shall remove be designed to remove 95 percent of the residual ethanol from the fermentation system vent gases. [Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- C.18. Ethanol Capture, Distillation and Dehydration System. The distillation overhead scrubber shall remove 95 percent of the residual ethanol from the distillation and dehydration system vent gases. [Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- C.19. Hydrogen Sulfide (H₂S) Concentration Limit. The concentration of H₂S in the fermenter vent gas and syngas streams shall not exceed 500 part per million by volume (ppmv). [Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

C. Gasification, Fermentation and Distillation Systems (EU-003)

Monitoring of Operations

- C.20. H₂S Concentration.** The concentration of H₂S in the fermenter vent gas (vent gas) shall be monitored in ppmv at least once per hour with a continuous on-line gas chromatograph to show that it is 500 ppmv or less. The concentration in ppmv of H₂S in the syngas steam from the gasifiers shall be monitored monthly by collecting bag or canister samples from the inlet port to the fermenter and injecting the samples into a chromatograph for analysis. As an alternative the samples may be sent off-site to a certified laboratory for analysis. If the average H₂S concentration of the first 12 monthly samples of the syngas is 400 ppmv or less, with no sample exceeding 500 ppmv, sampling may hence forth be done on a quarterly basis. Any exceedance of the H₂S concentration limit of 500 ppmv shall be reported to the Compliance Authority within 48 hours.
[Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

Recordkeeping and Reporting Requirements

- C.21. Recordkeeping Requirements.** The permittee shall maintain records of the amount of ethanol produced (gallons per year) on a rolling 12-month basis. The permittee shall maintain records of all H₂S concentration tests. These records shall be kept and made available to the Compliance Authority upon request. [Rule 62-4.070(3), F.A.C. Reasonable Assurance]
- C.22. Other Reporting Requirements.** See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. The concentration of H₂S in the fermenter vent gas (vent gas) monitored with a continuous on-line gas chromatograph shall also be reported. [Rule 62-213.440(1)(b), F.A.C.]

Compliance Plan

- C.23. Requirements.** The Gasification, Fermentation and Distillation Systems emission unit must meet the requirements given in **Specific Conditions C.12** and **C.13** which represents the compliance plan for emissions of Hg, Pb, HCl and CD when gasifying MSW. These condition also represent the compliance plan for the vent gas boiler (EU 006). [Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Additional Testing Requirements

- C.24. Initial HCN Stack Test.** The stack of Tower 3 of the HCN wet scrubber shall be tested to demonstrate the HCN emission rate in pounds per hour (lb/hr) within 60 days after achieving permitted ethanol production capacity, but not later than 180 days after initial operation of the HCN wet scrubber. Results of this initial HCN test shall be reported to the Compliance Authority within 30 days of the completion of the test.
[Permit No. 0610096-007-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

D. Distillation Unit Fugitive Emissions (EU-004)

Subsection D. The specific conditions in this section apply to the following emissions unit:

EU ID No.	Brief Description
004	Distillation Unit Fugitive Emissions

Process vents from the fermentation, distillation and dehydration system are collected, and emissions are routed through closed vent systems to a control device (the vent gas boiler, EU-006). There will be some fugitive VOC emissions from the distillation unit, however, that are not captured and routed to control.

Equipment

D.1. Fermentation and Distillation System. The permittee is authorized to operate and maintain a fermentation and distillation system (EU-003) as specified in **subsection III.C** of this permit.
[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Essential Potential to Emit (PTE) Parameters

D.2. Hours of Operation. The hours of operation of this emission unit are not limited (8,760 hours per year).
[Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

D.3. Ethanol Production Rate. Ethanol production is limited to 8.00 million gallons per year on a rolling 12-month basis [Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

{Permitting Note: The final product with the addition of a denaturant is limited to 8.42 million gallons per year. Controlled VOC emissions from distillation are assumed to be 0.1161 lb VOC per 1000 gallons of ethanol produced. At 95 percent control and 8 million gallons per year of ethanol, this equates to 0.46 tons of fugitive VOC—primarily ethanol and butanol.}

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

Subsection D. The specific conditions in this section apply to the following emissions unit:

EU ID No.	Brief Description
006	Vent Gas Boiler

During startup, the vent gas boiler fires landfill gas supplemented with natural gas. During normal operation, the boiler fires the vent gases collected from fermentation, distillation and dehydration. Vent gases are scrubbed prior to combustion in the vent gas boiler. The vent gases may be supplemented with landfill gases during normal operation. The vent gas boiler is equipped with low-NO_x burners. Following combustion, sodium bicarbonate and activated carbon (ACI) are injected into the flue gas immediately prior to a fabric filter. The vent gas boiler exhaust stack is 80 feet tall and 2.5 feet in diameter. Flow rate at the vent gas boiler stack exit is approximately 19,000 dry standard cubic feet per minute at 7 percent O₂. Exit velocity corresponding to this flow rate at the vent gas boiler stack is estimated to be 61 feet per second (fps).

Applicable Regulations

E.1. NSPS for Small MWC Units (Appendix AAAA). Each equipment train (from gasifier to vent gas boiler) is an "affected facility" (i.e., new MWC unit) for purposes of 40 C.F.R. part 60, subpart AAAA—Standards of Performance for Small MWC Units for Which Construction is Commenced After August 31, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001 when MSW is first combusted in the gasifiers. Upon first gasification of MSW, the permittee shall comply with the requirements of the NSPS, included as Appendix AAAA. The following requirements and specifications are relevant to NSPS applicability.

- a. The word "combust" in reference to the NSPS refers to the pyrolysis reaction in the gasifiers utilizing MSW as the feedstock.
- b. Each MWC unit (gasifier-to-vent gas boiler equipment train) has a capacity of greater than 35 but less than 250 tons per day of MSW.
- c. The MWC units are "Class I Units" because the aggregate plant combustion capacity is 365 tons per day of MSW, which is greater than 250 tons per day.
- d. The MWC units use activated carbon (in the dry gas cleanup packages) to control emissions of dioxin/furan and mercury.
- e. The NSPS emissions limits will apply at the vent gas boiler exhaust stack upon initial gasification of MSW.
- f. Continuous monitors required by the NSPS will be located at the vent gas boiler exhaust stack.
- g. The MWC units generate steam.
- h. With respect to NSPS-required monitoring of flue gas temperature, the inlets to the dry gas cleaning fabric filters are deemed to be the inlets to the PM air pollution control device.
- i. The MWC units are deemed to be modular starved-air and excess air units.

[Permit No. 0610096-004-AC; Rule 62-296.100(3), F.A.C.; and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

{Permitting Note: The requirements of Subpart AAAA are provided for clarity and convenience in this subsection. However, if all the applicable requirements from the subpart are not contained in this subsection, the permittee is still subject to the omitted requirements. Subpart AAAA is provided in Appendix NSPS, Subpart AAAA – Small MWC Units for Which Commenced After August 30, 1999 or for Which Modifications or Reconstruction is Commenced After June 6, 2001 of the permit.}

{Permitting Note: The requirements related to Subpart AAAA given in this subsection become applicable upon the gasification of MSW as defined in §60.1465 in the gasifiers included in emission unit 003. The

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

vent gas boiler in combination with each gasifier becomes a MWC Unit upon gasification of MSW in each gasifier.}

- E.2. Initial Standards and Requirements for Biomass-Firing.** Each emission train (gasifiers to vent gas boiler) shall demonstrate compliance with the emission limits, initial compliance, continuous compliance, monitoring, recordkeeping and reporting requirements in 40 CFR Part 60 Subpart AAAA for the following pollutants: particulate matter (PM), VE (opacity), nitrogen oxides (NO_x) for Class I units, sulfur dioxide (SO₂), fugitive ash, CO (modular starved units) and VOC during the initial operation of the emission train using biomass other than MSW. When MSW is first combusted in the emission train, all the requirements of 40 CFR Part 60 Subpart AAAA shall apply (see Appendix AAAA) and each train shall be considered a MWC unit.

*{Permitting Note: The initial operation of the INPB syngas to ethanol production process is being demonstrated using clean biomass that does not constitute yard trash as defined in (§60.1465). During this demonstration period, MSW is not planned to be used. The vent gas boiler will not be “an affected facility” under Subpart AAAA when biomass is used during this initial demonstration period. However, this condition requires a demonstration of initial compliance of the vent gas boiler using biomass as feedstock for the air pollutants referenced in the **Specific Condition E.2** of this subsection. Upon the gasification of MSW for the generation syngas for the ethanol production process, the vent gas boiler will be considered to be “an affected facility” for the purposes of Subpart AAAA. Subpart AAAA requirements including the initial compliance determination for emissions of mercury (Hg), cadmium (Cd), dioxin/furan (D/F), lead (Pb) and hydrogen chloride (HCl) from the vent gas boiler will take effect at that time. INPB may perform initial compliance determination on different MSW types and feed rates during or after the MSW trial period.}*

[Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

- E.3. NSPS for Equipment Leaks of VOC (Appendix VVa).** The vent gas boiler is an enclosed combustion device for purposes of 40 CFR Part 60, Subpart VVa—Standards of Performance for Equipment Leaks of VOC in the SOCM for Which Construction, Reconstruction or Modification Commenced After November 7, 2006. The permittee shall comply with the requirements of the NSPS, included as Appendix VVa (see **Specific Condition III.C.1**). [Permit No. 0610096-004-AC and Rule 62-296.100(3), F.A.C.]

Equipment

- E.4. Vent Gas Boiler.** The permittee is authorized to operate and maintain a nominal 97.2 MMBtu per hour watertube boiler for steam generation. The boiler utilizes low NO_x burners as well as a feed water heat exchanger, steam drum, turbine, stack and other ancillary equipment. The vent gas boiler shall operate to one of the following specifications:
- Reduce VOC emissions vented to the boiler with an efficiency of 95 percent or greater. The uncontrolled inlets are specified to be upstream of the process vent gas scrubber for the fermentation vent gases and upstream of the distillation overhead scrubber for the distillation and dehydration system vent gases.
 - Reduce VOC emissions vented to the boiler to an exit concentration of 20 parts per million by volume (ppmv) on a dry basis corrected to 3 percent O₂.
 - Provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

[Permit No. 0610096-004-AC; Appendix VVa; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

Essential Potential to Emit (PTE) Parameters

- E.5. Hours of Operation.** The hours of operation of this emission unit are not limited (8,760 hours per year). [Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- E.6. Authorized Fuel.** The vent gas boiler is authorized to fire the following fuels: syngas, natural gas and landfill gas. For purposes of this subsection of the permit, the term "syngas" includes the mixture of CO, CO₂, H₂ and other hydrocarbons resulting from the starved-air pyrolysis in the gasifiers as well as the vent gases from the fermentation and distillation systems. [Permit No. 0610096-004-AC]
- E.7. Operation and Maintenance.** The permittee shall monitor the vent gas boiler to ensure that it is operated and maintained in conformance with its design. [Paragraph 60.482-10a(e), Appendix VVa]

Control Technology

- E.8. Sodium Bicarbonate Injection and Fabric Filter.** The permittee is required to operate and maintain a system to inject sodium bicarbonate into the flue gas to control acid gases such as SO₂ and HCl. The permittee is required to operate and maintain a fabric filter to collect PM and spent bicarbonate. [Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- E.9. Activated Carbon Injection (ACI) and Fabric Filter.** The permittee is required to operate and maintain a system to inject activated carbon into the flue gas to control metal and organic HAPs. The permittee is required to operate and maintain a fabric filter to collect PM and spent activated carbon. [Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- {Permitting Note: ACI in the syngas for metal and organic HAPs control is only required when the syngas is generated by gasifying MSW.}*
- E.10. Circumvention of Air Pollution Control Equipment.** The permittee shall not circumvent any air pollution control equipment or allow the emission of air pollutants without the applicable air pollution equipment operating properly. Syngas shall not be routed to the vent gas boiler for combustion except through the gasifier-to-vent gas boiler equipment train, including dry gas cleaning (sodium bicarbonate for SO₂ control, ACI for Hg control, followed fabric filtration), HCN scrubbing and vent gas scrubbing. If all or part of the gasifier-to-vent gas boiler equipment train is inoperative, then syngas shall be routed to the syngas flare (EU-010) instead of the vent gas boiler. [Permit No. 0610096-004-AC; Rule 62-210.650, F.A.C.]

Good Combustion Practices (GCP): Operator Training

- E.11. Types of Training.** There are two types of required training:
- a. Training of operators of MWC units using the U.S. Environmental Protection Agency (EPA) or a State-approved training course.
 - b. Training of plant personnel using a plant-specific training course.
- [40 CFR 60 Subpart AAAAA, §60.1155]
- E.12. Operator Training Courses.**
- a. Three types of employees must complete the EPA or State-approved operator training course:
 1. Chief facility operators.
 2. Shift supervisors.
 3. Control room operators.
 - b. Those employees must complete the operator training course by the later of these dates:

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

1. Six months after your MWC unit initial startup.
2. The date before an employee assumes responsibilities that affect operation of the MWC unit.

[40 CFR 60 Subpart AAAA, §60.1160]

E.13. Plant-Specific Training Course. All employees with responsibilities that affect how a MWC unit operates must 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.

[40 CFR 60 Subpart AAAA, §60.1165]

E.14. Plant-Specific Training. For plant-specific training, you must do four things:

- a. For training at a particular plant, develop a specific operating manual for that plant by six months after your MWC unit initial startup.
- b. Establish a program to review the plant-specific operating manual with people whose responsibilities affect the operation of your MWC unit. Complete the initial review by the later of:
 1. Six months after your MWC unit initial startup.
 2. The date before an employee assumes responsibilities that affect operation of the MWC unit.
- c. Update your manual annually.
- d. Review your manual with staff annually.

[40 CFR 60 Subpart AAAA, §60.1170]

E.15. Plant-Specific Operating Manual. You must include 11 items in the operating manual for your plant:

- a. A summary of all applicable requirements in this subpart.
- b. A description of the basic combustion principles that apply to MWC 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 MWC unit.
- e. Procedures for maintaining a proper level of combustion air supply.
- f. Procedures for operating the MWC unit in compliance with the requirements 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 MWC unit.
- k. Procedures for recordkeeping and reporting.

[40 CFR 60 Subpart AAAA, §60.1175]

E.16. Location of Plant-Specific Operating Manual. You must keep your operating manual in an easily accessible location at your plant. It must be available for review or inspection by all employees who must review it and by the Administrator. [40 CFR 60 Subpart AAAA, §60.1180]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

GCP: Operator Certification

E.17. Operator Certification.

- a. Each chief facility operator and shift supervisor must obtain and keep a current provisional operator certification from the American Society of Mechanical Engineers (QRO-1-1994) (incorporated by reference in §60.17(h)(1)) or a current provisional operator certification from your State certification program.
- b. Each chief facility operator and shift supervisor must obtain a provisional certification by the later of:
 1. Six months after the MWC unit initial startup.
 2. Six months after they transfer to the MWC unit or 6 months after they are hired to work at the MWC unit.
- c. Each chief facility operator and shift supervisor must take one of three actions:
 1. Obtain a full certification from the American Society of Mechanical Engineers or a State certification program in your State.
 2. Schedule a full certification exam with the American Society of Mechanical Engineers (QRO-1-1994) (incorporated by reference in §60.17(h)(1)).
 3. Schedule a full certification exam with your State certification program.
- d. The chief facility operator and shift supervisor must obtain the full certification or be scheduled to take the certification exam by the later of:
 1. Six months after the MWC unit initial startup.
 2. Six months after they transfer to the MWC unit or 6 months after they are hired to work at the MWC unit.

[40 CFR 60 Subpart AAAA, §60.1185]

E.18. Operation of the MWC Unit. After the required date for full or provisional certifications, you must not operate your MWC 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 Subpart AAAA, §60.1190]

- ##### **E.19. Certified Operators Temporarily Offsite.** If the certified chief facility operator and certified shift supervisor both are unavailable, a provisionally certified control room operator at the MWC 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, you must meet one of three criteria:
- a. When the certified chief facility operator and certified shift supervisor are both offsite for 12 hours or less, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, the Administrator.
 - b. When the certified chief facility operator and certified shift supervisor are offsite for more than 12 hours, but for 2 weeks or less, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, the Administrator. However, you must record the period when the certified chief facility operator and certified shift supervisor are offsite and include that information in the annual report as specified under §60.1410(l).
 - 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

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

perform those duties without notice to, or approval by, the Administrator. However, you must take two actions:

1. Notify the Administrator in writing. In the notice, state what caused the absence and what you are doing to ensure that a certified chief facility operator or certified shift supervisor is on-site.
2. Submit a status report and corrective action summary to the Administrator every 4 weeks following the initial notification. If the Administrator notifies you that your status report or corrective action summary is disapproved, the MWC 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 Administrator withdraws the disapproval, MWC unit operation may continue.

[40 CFR 60 Subpart AAAA, §60.1195]

GCP: Operating Requirements

E.20. Operating Practice Requirements – MWC Unit.

- a. You must not operate your MWC unit at loads greater than 110 percent of the maximum demonstrated load of the MWC unit (4-hour block average), as specified under “Definitions” (§60.1465).
- b. You must not operate your MWC unit so that the temperature at the inlet of the particulate matter control device exceeds 17 °C above the maximum demonstrated temperature of the particulate matter control device (4-hour block average), as specified under “Definitions” (§60.1465).
- c. If your MWC unit uses activated carbon to control dioxins/furans or mercury emissions, you must maintain an 8-hour block average carbon feed rate at or above the highest average level established during the most recent dioxins/furans or mercury test.
- d. If your MWC unit uses activated carbon to control dioxins/furans or mercury emissions, you must evaluate total carbon usage for each calendar quarter. The total amount of carbon purchased and delivered to your MWC plant must be at or above the required quarterly usage of carbon. At your option, you may choose to evaluate required quarterly carbon usage on a MWC unit basis for each individual MWC unit at your plant. Calculate the required quarterly usage of carbon using equation 4 or 5 in §60.1460(f).
- e. Your MWC unit is exempt from limits on load level, temperature at the inlet of the particulate matter control device, and carbon feed rate during any of five situations:
 1. During your annual tests for dioxins/furans.
 2. During your annual mercury tests (for carbon feed rate requirements only).
 3. During the 2 weeks preceding your annual tests for dioxins/furans.
 4. During the 2 weeks preceding your annual mercury tests (for carbon feed rate requirements only).
 5. Whenever the Administrator or delegated State authority permits you to do any of five activities:
 - (i) Evaluate system performance.
 - (ii) Test new technology or control technologies.
 - (iii) Perform diagnostic testing.
 - (iv) Perform other activities to improve the performance of your MWC unit.
 - (v) Perform other activities to advance the state of the art for emission controls for your MWC unit.

[40 CFR 60 Subpart AAAA, §60.1200]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

E.21. Operating Requirements - Periods of Startup, Shutdown and Malfunction.

- a. The operating requirements of this subpart apply at all times except during periods of MWC unit startup, shutdown, or malfunction.
- b. Each startup, shutdown, or malfunction must not last for longer than 3 hours.

[§60.1205]

Emission Limitations and Standards

E.22. Applicability of the Emission Limits from NSPS Subpart AAAA. The emission limits in 40 CFR Part 60 Subpart AAAA for PM, VE, NO_x (Class I units), SO₂, fugitive ash and CO (modular starved units), which are given in **Specific Conditions E.23 to E.28** below, are applicable during the initial operation of vent gas boiler combusting syngas generated using clean biomass that is not considered yard trash as defined in §60.1465. These limits are also applicable when the vent gas boiler fires syngas or vent gas generated from the gasification of MSW as defined in §60.1465. The emission limits in 40 CFR Part 60 Subpart AAAA for the following pollutants D/F, Cd, Pb, Hg and HCl, which are given in **Specific Conditions E.29 to E.33** below, are applicable when syngas generate from the gasification of MSW is combusted in the vent gas boiler. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.23. NO_x Emissions Limit. NO_x emissions shall not exceed 150 (180 for 1st year of operation) parts per million by dry volume at 15 percent oxygen (ppmvd @ 7% O₂) on a 24-hour daily block arithmetic average concentration with compliance by a continuous emissions monitoring systems (CEMS). [Permit No. 0610096-004-AC and NSPS 40 CFR 60, Subpart AAAA, Table 1]

E.24. SO₂ Emissions Limit. SO₂ emissions shall not exceed 30 ppmvd @ 7% O₂ on a 24-hour daily block geometric average concentration or 80% reduction of potential SO₂ emissions with compliance by a CEMS. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.25. PM Emissions Limit. PM emissions shall not exceed 24 milligrams per dry standard cubic meter (mg/dscm) @ 7% O₂ with compliance by an annual stack test. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.26. CO Emissions Limit. CO emissions shall not exceed 50 ppmvd @ 7% O₂ on a 4-hour block average, arithmetic mean basis with compliance by CEMS. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.27. VE (Opacity) Limit. Opacity shall not exceed 10% based on thirty 6-minute averages with compliance by an annual stack tests. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.28. Fugitive Ash Emissions Limit. VE (Opacity) for no more than 5% of hourly observation period based on three 1-hour observation periods using EPA Method 22. Compliance is shown by an annual test. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.29. D/F Emissions Limit. On a total mass basis, D/F emission shall not exceed 13 nanograms per dry standard cubic meter (ng/dscm) @ 7% O₂ with compliance by an initial an annual stack tests. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.30. Cd Emissions Limit. CD emissions shall not exceed 0.020 mg/dscm @ 7% O₂ with compliance by an initial an annual stack tests. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.31. Pb Emissions Limit. Pb emissions shall not exceed 0.20 mg/dscm @ 7% O₂ with compliance by an initial an annual stack tests. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.32. Hg Emissions Limit. Hg emissions shall not exceed 0.080 mg/dscm @ 7% O₂ or 85 percent reduction of potential mercury emissions with compliance by an initial an annual stack tests. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

- E.33. HCl Emissions Limit.** HCl emissions shall not exceed 25 ppmvd @ 7% O₂ or 95 percent reduction of potential HCl emissions with compliance by an initial annual stack tests. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAAA]

Monitoring of Operations

- E.34. Operating Parameters.** You must also monitor three operating parameters:

- a. Load level of each MWC unit.
- b. Temperature of flue gases at the inlet of your particulate matter air pollution control device.
- c. Carbon feed rate if activated carbon is used to control dioxins/furans or mercury emissions. [§60.1315]

- E.35. Monitoring the Load of a MWC unit.**

- a. If your MWC unit generates steam, you must install, calibrate, maintain, and operate a steam flowmeter or a feed water flowmeter and meet five requirements:
 - i. Continuously measure and record the measurements of steam (or feed water) in kilograms (or pounds) per hour.
 - ii. Calculate your steam (or feed water) flow in 4-hour block averages.
 - iii. Calculate the steam (or feed water) flow rate using the method in “American Society of Mechanical Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1—1964 (R1991),” section 4 (incorporated by reference in §60.17(h)(2)).
 - iv. Design, construct, install, calibrate, and use nozzles or orifices for flow rate measurements, using the recommendations in “American Society of Mechanical Engineers Interim Supplement 19.5 on Instruments and Apparatus: Application, part II of Fluid Meters,” 6th Edition (1971), chapter 4 (incorporated by reference in §60.17(h)(3)).
 - v. Before each dioxins/furans stack test, or at least once a year, calibrate all signal conversion elements associated with steam (or feed water) flow measurements according to the manufacturer instructions.
- b. If your MWC unit does not generate steam, or, if your MWC units have shared steam systems and steam load cannot be estimated per unit, you must determine, to the satisfaction of the Administrator, 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). You must continuously monitor the selected parameters

[§60.1320]

- E.36. Monitoring the Temperature of Flue Gases at the inlet of the PM Control Device.** You must 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. [§60.1325]

- E.37. Monitoring the Injection Rate of Activated Carbon.** If your MWC unit uses activated carbon to control dioxins/furans or mercury emissions, you must meet three requirements:

- a. Select a carbon injection system operating parameter that can be used to calculate carbon feed rate (for example, screw feeder speed).
- b. During each dioxins/furans and mercury stack test, determine the average carbon feed rate in kilograms (or pounds) per hour. Also, determine the average operating parameter level that correlates to the carbon feed rate. Establish a relationship between the operating parameter and the carbon feed rate in order to calculate the carbon feed rate based on the operating parameter level.
- c. Continuously monitor the selected operating parameter during all periods when the MWC unit is operating and combusting waste, and calculate the 8-hour block average carbon feed rate in kilograms

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

(or pounds) per hour, based on the selected operating parameter. When calculating the 8-hour block average, do two things:

- i. Exclude hours when the MWC unit is not operating.
- ii. Include hours when the MWC unit is operating but the carbon feed system is not working correctly.

[§60.1330]

E.38. Continuous Parameter Monitoring Systems.

- a. Where continuous parameter monitoring systems are used, obtain 1-hour arithmetic averages for three parameters:
 1. Load level of the MWC unit.
 2. Temperature of the flue gases at the inlet of your particulate matter control device.
 3. Carbon feed rate if activated carbon is used to control dioxins/furans or mercury emissions.
- b. Obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average.
- c. Obtain valid 1-hour averages for at least 75 percent of the operating hours per day 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 you do not obtain the minimum data required in paragraphs (a) through (c) of this section, you are in violation of the data collection requirement and you must notify the Administrator according to §60.1410(e).

[§60.1335]

Continuous Emissions Monitoring Systems (CEMS) Requirements

E.39. CEMS - Gaseous Pollutants.

- a. You must install, calibrate, maintain, and operate CEMS for O₂ or CO₂, SO₂ and CO. If you operate a Class I MWC unit, you must also install, calibrate, maintain, and operate a CEMS for NO_x. Install the CEMS for SO₂, NO_x and O₂ or CO₂ at the outlet of the air pollution control device.
- b. You must install, evaluate, and operate each CEMS according to the "Monitoring Requirements" in §60.13.
- c. You must monitor the oxygen (or carbon dioxide) concentration at each location where you monitor sulfur dioxide and carbon monoxide. Additionally, if you operate a Class I MWC unit, you must also monitor the oxygen (or carbon dioxide) concentration at the location where you monitor nitrogen oxides.
- d. You may choose to monitor carbon dioxide instead of oxygen as a diluent gas. If you choose to monitor carbon dioxide, then an oxygen monitor is not required, and you must follow the requirements in §60.1255.
- e. If you choose to demonstrate compliance by monitoring the percent reduction of sulfur dioxide, you must also install continuous emission monitoring systems for sulfur dioxide and oxygen (or carbon dioxide) at the inlet of the air pollution control device.
- f. (If you prefer to use an alternative sulfur dioxide monitoring method, such as parametric monitoring, or cannot monitor emissions at the inlet of the air pollution control device to determine percent reduction, you can apply to the Administrator for approval to use an alternative monitoring method under §60.13(i).

[40 CFR 60 Subpart AAAA, §60.1230]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

E.40. Correct Operation of CEMS.

- Conduct initial, daily, quarterly, and annual evaluations of your CEMS that measure O₂ or CO₂, SO₂, NO_x, and CO.
- Complete your initial evaluation of the continuous emission monitoring systems within 60 days after your MWC unit reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup.
- For initial and annual evaluations, collect data concurrently (or within 30 to 60 minutes) using your O₂ or CO₂ CEMS, your SO₂, NO_x, or CO CEMS, as appropriate, and the appropriate test methods specified in **Specific Condition E.41**. Collect the data during each initial and annual evaluation of your continuous emission monitoring systems following the applicable performance specifications in appendix B of this part. **Specific Condition E.42** shows the performance specifications that apply to each continuous emission monitoring system.
- Follow the quality assurance procedures in Procedure 1 of appendix F of 40 CFR 60 for each CEMS. The procedures include daily calibration drift and quarterly accuracy determinations.

[40 CFR 60 Subpart AAAA, §60.1240]

E.41. Subpart AAAA Table 3. Requirements for Validating CEMS.

For the following CEMS	Use the following methods in appendix A of this part to validate pollutant concentration levels	Use the following methods in appendix A of this part to measure oxygen (or carbon dioxide)
1. Nitrogen Oxides (Class I units only) ^a	Method 7, 7A, 7B, 7C, 7D, or 7E	Method 3 or 3A.
2. Sulfur Dioxide	Method 6 or 6C	Method 3 or 3A.
3. Carbon Monoxide	Method 10, 10A, or 10B	Method 3 or 3A.
^a Class I units mean small MWC units subject to this subpart that are located at MWC plants with an aggregate plant combustion capacity more than 250 tons per day of municipal solid waste. See §60.1465 for definitions.		

[Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA, Table 3]

E.42. Subpart AAAA Table 4. Requirements for CEMS.

For the following pollutants	Use the following span values for your CEMS	Use the following performance specifications in appendix B of this part for your CEMS	If needed to meet minimum data requirements, use the following alternate methods in appendix A of this part to collect data
1. Opacity	100 percent opacity	P.S. 1	Method 9.
2. NO _x (Class I units only) ^a	Control device outlet: 125 percent of the maximum expected hourly potential nitrogen oxides emissions of the MWC unit	P.S. 2	Method 7E.
3. SO ₂	Inlet to control device: 125 percent of the maximum expected sulfur dioxide emissions of the MWC unit. Control device outlet: 50 percent of the maximum expected hourly	P.S. 2	Method 6C.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

	potential sulfur dioxide emissions of the MWC unit		
4. CO	125 percent of the maximum expected hourly potential carbon with monoxide emissions of the MWC unit	P.S. 4A	Method 10 alternative interference trap.
5. O ₂ or CO ₂	25 percent oxygen or 25 percent carbon dioxide	P.S. 3	Method 3A or 3B
^a Class I units mean small MWC units subject to this subpart that are located at MWC plants with an aggregate plant combustion capacity more than 250 tons per day of municipal solid waste. See §60.1465 for definitions.			

[Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA, Table 4]

E.43. CEMS Evaluation Schedule.

- a. Conduct annual evaluations of your continuous emission monitoring systems no more than 13 months after the previous evaluation was conducted.
- b. Evaluate your continuous emission monitoring systems daily and quarterly as specified in appendix F of this part.

[40 CFR 60 Subpart AAAA, §60.1250]

E.44. Monitor CO₂ instead of O₂ as a Diluent Gas. You must establish the relationship between oxygen and carbon dioxide during the initial evaluation of your continuous emission monitoring systems. You may reestablish the relationship during annual evaluations. To establish the relationship use three procedures:

- a. Use EPA Reference Method 3A or 3B in appendix A of this part 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 in appendix A of this part to determine the relationship between oxygen and carbon dioxide.

[40 CFR 60 Subpart AAAA, §60.1255]

E.45. CEMS Monitoring Data.

- a. Where CEMS are required, obtain 1-hour arithmetic averages. Make sure the averages for SO₂, NO_x, and CO are in ppmvd @7% O₂ (or the equivalent CO₂ level). Use the 1-hour averages of O₂ (or CO₂) data from your CEMS to determine the actual O₂ (CO₂) level and to calculate emissions at 7% O₂ (or the equivalent CO₂).
- b. Obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average. Section 60.13(e)(2) requires your CEMS 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 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 you do not obtain the minimum data required in paragraphs a through c of this specific condition, you are in violation of the data collection requirement regardless of the emission level monitored, and you must notify the Administrator according to §60.1410(e).

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

- e. If you do not obtain the minimum data required in paragraphs a through c of this specific condition, you must still use all valid data from the continuous emission monitoring systems in calculating emission concentrations and percent reductions in accordance with §60.1265.

[40 CFR 60 Subpart AAAA, §60.1260]

E.46. Appropriate Averaging Times and Units.

- a. Use the equation in §60.1460(a) to calculate emissions at 7%t O₂.
- b. Use EPA Reference Method 19 in appendix A of this part, section 4.3, to calculate the daily geometric average concentrations of SO₂ emissions. If you are monitoring the percent reduction of SO₂, use EPA Reference Method 19 in appendix A of this part, section 5.4, to determine the daily geometric average percent reduction of potential SO₂ emissions.
- c. Use EPA Reference Method 19 in appendix A of 40 CFR 60, section 4.1, to calculate the daily arithmetic average for concentrations of NO_x.
- d. Use EPA Reference Method 19 in appendix A of 40 CFR 60, section 4.1, to calculate the 4-hour or 24-hour daily block averages (as applicable) for concentrations of CO.

[40 CFR 60 Subpart AAAA, §60.1265]

E.47. COMS Requirements.

- a. Install, calibrate, maintain, and operate a COMS.
- b. Install, evaluate, and operate each COMS according to §60.13.
- c. Complete an initial evaluation of your continuous opacity monitoring system according to Performance Specification 1 in appendix B of 40 CFR 60. Complete the evaluation within 60 days after your MWC unit reaches the maximum load level at which it will operate, but no more than 180 days after its initial startup.
- d. Complete each annual evaluation of your COMS no more than 13 months after the previous evaluation.
- e. Use tests conducted according to EPA Reference Method 9 in appendix A of 40 CFR 60, as specified in §60.1300, to determine compliance with the opacity limit given in **Specific Condition E.27**. The data obtained from your COMS are not used to determine compliance with the opacity limit.

[40 CFR 60 Subpart AAAA, §60.1270]

E.48. Additional COMS Requirements. Use the required span values and applicable performance specifications in **Specific Condition E.42**. [40 CFR 60 Subpart AAAA, §60.1275]

E.49. CEMS Data Availability. Refer to **Specific Condition E.42**. The condition shows alternate methods for collecting data when systems malfunction or when repairs, calibration checks, or zero and span checks keep you from collecting the minimum amount of data. [40 CFR 60 Subpart AAAA, §60.1280]

Required Stack Testing

E.50. General NSPS Subpart AAAA stack Testing Requirements. The permittee shall all applicable stack testing requirements in NSPS 40 CRR 60, Subpart AAAA §60.1285 to §60.1310 for combustion units (see Appendix NSPS, Subpart AAAA). [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.51. Non-MSW Annual Stack Test Requirements. During the initial operation of vent gas boiler combusting syngas generated using clean biomass that is not considered MSW and subsequently when combusting syngas generated from MSW, the permittee shall conduct annual stack tests for the emissions of PM, VE and fugitive dust from this emissions unit. Except as required for quality assurance requirements in

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

appendix F of 40 CFR 60, annual stacks are not required for NO_x, SO₂ and CO because CEMS are used to shown continuous compliance. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.52. Subpart AAAA Initial Stack Test Requirements. The permittee shall conduct initial stack tests to measure the emission levels of D/F, Cd, Pb, Hg and HCl. After completion of the MSW trial period (see **Specific Condition III.C.12**), the initial stack tests D/F, Cd, Pb, Hg and HCl shall take place within 60 days after this emission unit reaches the maximum MSW load level at which it will operate, but no later than 180 days after its initial startup. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA]

E.53. Subpart AAAA Annual Stack Test Requirements. Subsequent to the initial stack tests required by **Specific Condition E.52**, the permittee shall conduct annual stack tests to measure the emission levels of D/F, Cd, Pb, Hg and HCl. Conduct each annual stack test no later than 13 months after the previous stack test. [Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA, §60.1295]

E.54. Stack Test Methods. Refer to Specific Condition E.56.

- a. Make sure that stack tests for all the pollutants consist of at least three test runs, as specified in §60.8. Use the average of the pollutant emission concentrations from the three test runs to determine compliance with the applicable emission limits given in **Specific Conditions E.23 to E.33**.
- b. Obtain an O₂ (or CO₂) measurement at the same time as your pollutant measurements to determine diluent gas levels, as specified in **Specific Condition E.39**.
- c. Use the equations in §60.1460(a) to calculate emission levels at 7% O₂ (or an equivalent CO₂ basis), the percent reduction in potential hydrogen chloride emissions, and the reduction efficiency for mercury emissions. See the individual test methods in **Specific Condition E.56** [for other required equations.
- d. You can apply to the Administrator for approval under §60.8(b) to use a reference method with minor changes in methodology, use an equivalent method, use an alternative method the results of which the Administrator has determined are adequate for demonstrating compliance, waive the requirement for a performance test because you have demonstrated by other means that you are in compliance, or use a shorter sampling time or smaller sampling volume.

[40 CFR 60 Subpart AAAA, §60.1300]

E.55. Less Frequent Stack Testing.

- a. You may test less often if you own or operate a Class II MWC unit and if all stack tests for a given pollutant over 3 consecutive years show you comply with the emission limit. In that case, you are not required to conduct a stack test for that pollutant for the next 2 years. However, you must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows you comply with the emission limit. Thereafter, you must perform stack tests every 3rd year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, you must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant. The provision applies to all pollutants subject to stack testing requirements: dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash.
- b. You can test less often for dioxins/furans emissions if you own or operate a MWC plant that meets two conditions. First, you have multiple MWC units onsite that are subject to this subpart. Second, all those MWC units have demonstrated levels of dioxins/furans emissions less than or equal to 7 nanograms per dry standard cubic meter (total mass) for 2 consecutive years. In that case, you may choose to conduct annual stack tests on only one MWC unit per year at your plant. The provision only applies to stack testing for dioxins/furans emissions.
 1. Conduct the stack test no more than 13 months following a stack test on any MWC unit subject to this subpart at your plant. Each year, test a different MWC unit subject to this subpart and test all

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

MWC units subject to this subpart in a sequence that you determine. Once you determine a testing sequence, it must not be changed without approval by the Administrator.

2. If each annual stack test shows levels of dioxins/furans emissions less than or equal to 7 nanograms per dry standard cubic meter (total mass), you may continue stack tests on only one MWC unit subject to this subpart per year.
3. If any annual stack test indicates levels of dioxins/furans emissions greater than 7 nanograms per dry standard cubic meter (total mass), conduct subsequent annual stack tests on all MWC units subject to this subpart at your plant. You may return to testing one MWC unit subject to this subpart per year if you can demonstrate dioxins/furans emission levels less than or equal to 7 nanograms per dry standard cubic meter (total mass) for all MWC units at your plant subject to this subpart for 2 consecutive years.

[40 CFR 60 Subpart AAAA, §60.1305]

E.56. Subpart AAAA Table 5. Requirements for Stack Tests.

To measure the following pollutants	Use the following methods in appendix A of this part to determine the sampling location	Use the methods in appendix A of this part to measure pollutant concentration	Also note the following additional information
1. Organics:			
Dioxins/Furans	Method 1	Method 23 ^a	The minimum sampling time must be 4 hours per test run while MSW unit is operating at full load.
2. Metals			
Cadmium	Method 1	Method 29 ^a	Compliance testing must be performed while the MWC unit is operating at full load.
Lead	Method 1	Method 29 ^a	Compliance testing must be performed while the MWC unit is operating at full load.
Mercury	Method 1	Method 29 ^a	Compliance testing must be performed while the MWC unit is operating at full load.
Opacity	Method 9	Method 9	Use Method 9 to determine compliance with opacity limit. 3-hour observation period (thirty 6-minute averages).
Particulate Matter	Method 1	Method 5 ^a	The minimum sample Matter volume must be 1.0 cubic meters. The probe and filter holder heating systems in the sample train must be set to provide a gas

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

			temperature no greater than 160 ±14 °C. The minimum sampling time is 1 hour.
3. Acid Gases: ^b			
Hydrogen Chloride	Method 1	Method 26 or 26A ^a	Test runs must be at least 1 hour long while the MWC unit is operating at full load.
4. Other			
Fugitive Ash	Not applicable	Method 22 (visible emissions)	The three 1-hour observation period must include periods when the facility transfers fugitive ash from the MWC unit to the area where the fugitive ash is stored or loaded into containers or trucks.
^a Must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in appendix A of this part. ^b Use CEMS to test sulfur dioxide, nitrogen oxide, and carbon monoxide. Stack tests are not required except for quality assurance requirements in appendix F of this part.			

[Permit No. 0610096-004-AC and NSPS 40 CFR 60 Subpart AAAA, Table 5]

VOC Performance Testing

E.57. Initial and Annual VOC Performance Check: No later than 180 days after initial operation of the vent gas boiler and annually during each federal fiscal year (October 1 to September 30) thereafter, the permittee shall determine compliance with **Specific Condition 4.a, 4.b or 4.c**. Any VOC stack testing performed pursuant to this condition shall be performed in accordance with the following reference test method.

Method	Description of Method and Comments
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)

The above method is described in Appendix A of 40 CFR 60 and is adopted by reference in Rule 62-204.800, F.A.C. No other method may be used unless prior written approval is received from the Department.

[Rules 62-4.070(3), 62-204.800, 62-297.100 and 62-297.310(7)(a)3., F.A.C. and Appendix A of 40 C.F.R. 60]

Recordkeeping

E.58. Heat Input and Fuel Recordkeeping Requirements: The permittee shall record the hours of operation and MMBtu of total heat input for the vent gas boiler. The permittee shall record the standard cubic feet of syngas, natural gas and landfill gas fired in the vent gas boiler. These records shall be kept and made available to the Compliance Authority upon request. [Rule 62-4.070(3), F.A.C. Reasonable Assurance]

E.59. Required Records. You must keep five types of records:

- a. Materials separation plan and siting analysis.
- b. Operator training and certification.
- c. Stack tests.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

- d. Continuously monitored pollutants and parameters.
- e. Carbon feed rate.

[40 CFR 60 Subpart AAAA, §60.1340]

E.60. Other Record Requirements.

- a. Keep all records onsite in paper copy or electronic format unless the Administrator approves another format.
- b. Keep all records on each MWC unit for at least 5 years.
- c. Make all records available for submittal to the Administrator, or for onsite review by an inspector.

[40 CFR 60 Subpart AAAA, §60.1345]

E.61. Records - Materials Separation Plan and Siting Analysis. You must keep records of five items:

- a. The date of each record.
- b. The final materials separation plan.
- c. The siting analysis.
- d. A record of the location and date of the public meetings.
- e. Your responses to the public comments received during the public comment periods

[40 CFR 60 Subpart AAAA, §60.1350]

E.62. Records - Operator Training and Certification. You must keep records of six items:

- a. *Records of provisional certifications.* Include three items:
 - 1. For your MWC plant, 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.
 - 2. Dates of the initial provisional certifications.
 - 3. Documentation showing current provisional certifications.
- b. *Records of full certifications.* Include three items:
 - 1. For your MWC plant, 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.
 - 2. Dates of initial and renewal full certifications.
 - 3. Documentation showing current full certifications.
- c. *Records showing completion of the operator training course.* Include three items:
 - 1. For your MWC plant, names of the chief facility operator, shift supervisors, and control room operators who have completed the EPA or State MWC operator training course.
 - 2. Dates of completion of the operator training course.
 - 3. Documentation showing completion of the operator training course.
- d. *Records of reviews for plant-specific operating manuals.* Include three items:
 - 1. Names of persons who have reviewed the operating manual.
 - 2. Date of the initial review.
 - 3. Dates of subsequent annual reviews.
- e. *Records of when a certified operator is temporarily offsite.* Include two main items:

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

1. If the certified chief facility operator and certified shift supervisor are offsite for more than 12 hours, but for 2 weeks or less, and no other certified operator is onsite, record the dates that the certified chief facility operator and certified shift supervisor were offsite.
2. 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 those 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.

f. *Records of calendar dates.* Include the calendar date on each record.

[40 CFR 60 Subpart AAAA, §60.1355]

E.63. Records -Stack Tests. For stack tests required by **Specific Conditions E.51 to E.53**, you must keep records of four items:

- a. 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.
- b. Test reports including supporting calculations that document the results of all stack tests.
- c. The maximum demonstrated load of your MWC units and maximum temperature at the inlet of your particulate matter control device during all stack tests for dioxins/furans emissions.
- d. The calendar date of each record.

[40 CFR 60 Subpart AAAA, §60.1360]

E.64. Records - Continuously Monitored Pollutants or Parameters. You must keep records of eight items:

- a. *Records of monitoring data.* Document six parameters measured using continuous monitoring systems:
 1. All 6-minute average levels of opacity.
 2. All 1-hour average concentrations of sulfur dioxide emissions.
 3. For Class I MWC units only, all 1-hour average concentrations of nitrogen oxides emissions.
 4. All 1-hour average concentrations of carbon monoxide emissions.
 5. All 1-hour average load levels of your MWC unit.
 6. All 1-hour average flue gas temperatures at the inlet of the particulate matter control device.
- b. *Records of average concentrations and percent reductions.* Document five parameters:
 1. All 24-hour daily block geometric average concentrations of sulfur dioxide emissions or average percent reductions of sulfur dioxide emissions.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

2. For Class I MWC units only, all 24-hour daily arithmetic average concentrations of nitrogen oxides emissions.
 3. All 4-hour block or 24-hour daily block arithmetic average concentrations of carbon monoxide emissions.
 4. All 4-hour block arithmetic average load levels of your MWC unit.
 5. All 4-hour block arithmetic average flue gas temperatures at the inlet of the particulate matter control device.
- c. *Records of exceedances.* Document three items:
1. Calendar dates whenever any of the five pollutant or parameter levels recorded in paragraph (b) of this section or the opacity level recorded in paragraph (a)(1) of this section did not meet the emission limits or operating levels specified in this subpart.
 2. Reasons you exceeded the applicable emission limits or operating levels.
 3. Corrective actions you took, or are taking, to meet the emission limits or operating levels.
- d. *Records of minimum data.* Document three items:
1. Calendar dates for which you did not collect the minimum amount of data required under §§60.1260 and 60.1335. Record the dates for five types of pollutants and parameters:
 - i. Sulfur dioxide emissions.
 - ii. For Class I MWC units only, nitrogen oxides emissions.
 - iii. Carbon monoxide emissions.
 - iv. Load levels of your MWC unit.
 - v. Temperatures of the flue gases at the inlet of the particulate matter control device.
 2. Reasons you did not collect the minimum data.
 3. Corrective actions you took, or are taking, to obtain the required amount of data.
- e. *Records of exclusions.* Document each time you have excluded data from your calculation of averages for any of the following five pollutants or parameters and the reasons the data were excluded:
1. Sulfur dioxide emissions.
 2. For Class I MWC units only, nitrogen oxides emissions.
 3. Carbon monoxide emissions.
 4. Load levels of your MWC unit.
 5. Temperatures of the flue gases at the inlet of the particulate matter control device.
- f. *Records of drift and accuracy.* Document the results of your daily drift tests and quarterly accuracy determinations according to Procedure 1 of appendix F of this part. Keep the records for the sulfur dioxide, nitrogen oxides (Class I MWC units only), and carbon monoxide continuous emissions monitoring systems.
- g. *Records of the relationship between oxygen and carbon dioxide.* If you choose to monitor carbon dioxide instead of oxygen as a diluent gas, document the relationship between oxygen and carbon dioxide, as specified in §60.1255.
- h. *Records of calendar dates.* Include the calendar date on each record.
[40 CFR 60 Subpart AAAA, §60.1365]

E.65. Records – MWC Units that use Activated Carbon. For MWC units that use activated carbon to control D/F or Hg emissions, you must keep records of five items:

- a. *Records of average carbon feed rate.* Document five items:

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

1. Average carbon feed rate in kilograms (or pounds) per hour during all stack tests for dioxins/furans and mercury emissions. Include supporting calculations in the records.
 2. For the operating parameter chosen to monitor carbon feed rate, average operating level during all stack tests for dioxins/furans and mercury emissions. Include supporting data that document the relationship between the operating parameter and the carbon feed rate.
 3. All 8-hour block average carbon feed rates in kilograms (or pounds) per hour calculated from the monitored operating parameter.
 4. Total carbon purchased and delivered to the MWC plant for each calendar quarter. If you choose to evaluate total carbon purchased and delivered on a MWC unit basis, record the total carbon purchased and delivered for each individual MWC unit at your plant. Include supporting documentation.
 5. Required quarterly usage of carbon for the MWC plant, calculated using equation 4 or 5 in §60.1460(f). If you choose to evaluate required quarterly usage for carbon on a MWC unit basis, record the required quarterly usage for each MWC unit at your plant. Include supporting calculations.
- b. *Records of low carbon feed rates.* Document three items:
1. The calendar dates when the average carbon feed rate over an 8-hour block was less than the average carbon feed rates determined during the most recent stack test for dioxins/furans or mercury emissions (whichever has a higher feed rate).
 2. Reasons for the low carbon feed rates.
 3. Corrective actions you took or are taking to meet the 8-hour average carbon feed rate requirement.
- c. *Records of minimum carbon feed rate data.* Document three items:
1. Calendar dates for which you did not collect the minimum amount of carbon feed rate data required under §60.1335.
 2. Reasons you did not collect the minimum data.
 3. Corrective actions you took or are taking to get the required amount of data.
- d. *Records of exclusions.* Document each time you have excluded data from your calculation of average carbon feed rates and the reasons the data were excluded.
- e. *Records of calendar dates.* Include the calendar date on each record.
- [40 CFR 60 Subpart AAAA, §60.1370]

Reporting

E.66. Stack Test Reports. In addition to the information required in Appendix TR, each stack test report shall also include the following information: heat input rate (MMBtu/hour), calculated authorized fuels firing rate by fuel type (cubic feet per minute), emissions rate (in the units of the applicable standard) and approximate gasifier feed rates by feedstock type, in dry tons per hour. In addition, based on stack test results or CEMS data as appropriate, the TPY of NO_x, SO₂, CO, VOC, PM₁₀/PM_{2.5} and HCl shall be included in the stack test report. When the TPY is based on CEMS data, the CEMS results from the previous 12 months prior to the stack test shall be used. When stack test results are used, the TPY calculation shall be based on back casting for the preceding 12 months the current stack test results.

[

E.67. Form of Operational Reports.

- a. Submit an initial report and annual reports, plus semiannual reports for any emission or parameter level that does not meet the limits specified in this subpart.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

- b. Submit all reports on paper, postmarked on or before the submittal date in **Specific Condition E.70** and 60.1420. If the Administrator agrees, you may submit electronic reports.
- c. Keep a copy of all reports required by **Specific Conditions E.69, E.71 and E.74** onsite for 5 years. [40 CFR 60 Subpart AAAA, §60.1395]

E.68. Initial Report Due Date. As specified in §60.7(c), submit your initial report within 60 days after your MWC unit reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup. [40 CFR 60 Subpart AAAA, §60.1385]

E.69. Initial Report Data Requirements. You must include seven 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 E.64.b.**
 - 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. For Class I MWC units only, the 24-hour daily arithmetic average concentration of nitrogen oxides emissions.
 - 3. The 4-hour block or 24-hour daily arithmetic average concentration of CO emissions.
 - 4. The 4-hour block arithmetic average load level of your MWC 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 (use appropriate units as specified in table 2 of this subpart):
 - 1. D/F.
 - 2. Cd.
 - 3. Pb.
 - 4. Hg.
 - 5. Opacity.
 - 6. PM.
 - 7. HCl.
 - 8. Fugitive ash.
- c. The test report that documents the initial stack tests including supporting calculations.
- d. The initial performance evaluation of your continuous emissions monitoring systems. Use the applicable performance specifications in appendix B of 40 CFR 60 in conducting the evaluation.
- e. The maximum demonstrated load of your MWC unit and the maximum demonstrated temperature of the flue gases at the inlet of the particulate matter control device. Use values established during your initial stack test for dioxins/furans emissions and include supporting calculations.
- f. If your MWC unit uses activated carbon to control D/F or Hg emissions, the average carbon feed rates that you recorded during the initial stack tests for dioxins/furans and mercury emissions. Include supporting calculations as specified in **Specific Conditions E.65.a.1 and E.65.a.2.**
- g. (If you choose to monitor CO₂ instead of O₂ as a diluent gas, documentation of the relationship between oxygen and carbon dioxide, as specified in **Specific Condition E.44.**

[40 CFR 60 Subpart AAAA, §60.1400]

E.70. Annual Report. Submit the annual report no later than February 1 of each year that follows the calendar year in which you collected the data. If you have an operating permit for any unit under title V of the

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

Clean Air Act (CAA), the permit may require you to submit semiannual reports. Parts 70 and 71 of this chapter contain program requirements for permits. [40 CFR 60 Subpart AAAA, §60.1405]

E.71. Annual Report Data Requirements. Summarize data collected for all pollutants and parameters regulated under this subpart. Your summary must include twelve items:

- a. The results of the annual stack test, using appropriate units, for eight pollutants, as recorded under **Specific Condition E.63.a:**
 1. D/F.
 2. Cd.
 3. Pb.
 4. Hg.
 5. PM.
 6. Opacity.
 7. HCl.
 8. Fugitive ash.
- b. A list of the highest average levels recorded, in the appropriate units. List the values for five pollutants or parameters:
 1. SO₂ emissions.
 2. For Class I MWC units only, NO_x emissions.
 3. CO emissions.
 4. Load level of the MWC unit.
 5. Temperature of the flue gases at the inlet of the PM air pollution control device (4-hour block average).
- c. The highest 6-minute opacity level measured. Base the value on all 6-minute average opacity levels recorded by your COMS (**Specific Condition E.64.a.1**).
- d. For MWC units that use activated carbon for controlling D/F or mercury emissions, include four records:
 1. The average carbon feed rates recorded during the most recent D/F and Hg 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 MWC plant for each calendar quarter. If you choose to evaluate total carbon purchased and delivered on a MWC unit basis, record the total carbon purchased and delivered for each individual MWC unit at your plant.
 4. The required quarterly carbon usage of your MWC plant calculated using equation 4 or 5 in §60.1460(f) of Appendix NSPS, Subpart AAAA – Small MWC Units for Which Commenced After August 30, 1999 or for Which Modifications or Reconstruction is Commenced After June 6, 2001. If you choose to evaluate required quarterly usage for carbon on a MWC unit basis, record the required quarterly usage for each MWC unit at your plant.
- e. The total number of days that you did not obtain the minimum number of hours of data for six pollutants or parameters. Include the reasons you did not obtain the data and corrective actions that you have taken to obtain the data in the future. Include data on:
 1. SO₂ emissions.
 2. For Class I MWC units only, NO_x emissions.
 3. CO emissions.
 4. Load level of the MWC unit.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

5. Temperature of the flue gases at the inlet of the PM air pollution control device.
6. Carbon feed rate.
- f. The number of hours you have excluded data from the calculation of average levels (include the reasons for excluding it). Include data for six pollutants or parameters:
 1. SO₂ emissions.
 2. For Class I MWC units only, NO_x emissions.
 3. CO emissions.
 4. Load level of the MWC unit.
 5. Temperature of the flue gases at the inlet of the PM air pollution control device.
 6. Carbon feed rate.
- g. A notice of your intent to begin a reduced stack testing schedule for D/F emissions during the following calendar year, if you are eligible for alternative scheduling (**Specific Conditions E.55.a** and **E.55.b**).
- h. A notice of your intent to begin a reduced stack testing schedule for other pollutants during the following calendar year if you are eligible for alternative scheduling (**Specific Conditions E.55.a**).
- i. A summary of any emission or parameter level that did not meet the limits specified in this subpart.
- j. A summary of the data in paragraphs (a) through (d) of this **specific condition** from the year preceding the reporting year which gives the Administrator a summary of the performance of the MWC unit over a 2-year period.
- k. If you choose to monitor carbon dioxide instead of oxygen as a diluent gas, documentation of the relationship between oxygen and carbon dioxide, as specified in §60.1255.
- l. Documentation of periods when all certified chief facility operators and certified shift supervisors are offsite for more than 12 hours.

[40 CFR 60 Subpart AAAA, §60.1410]

E.72. Out of Compliance Reporting. You must submit a semiannual report on any recorded emission or parameter level that does not meet the requirements specified in this subpart.

[40 CFR 60 Subpart AAAA, §60.1415]

E.73. Submittal of Semiannual Report.

- a. For data collected during the first half of a calendar year, submit your semiannual report by August 1 of that year.
- b. For data you collected during the second half of the calendar year, submit your semiannual report by February 1 of the following year.

[40 CFR 60 Subpart AAAA, §60.1420]

E.74. Semiannual Out-of-Compliance Reports Data Requirements. You must include three items in the semiannual report:

- a. For any of the following six pollutants or parameters that exceeded the limits specified in this subpart, include the calendar date they exceeded the limits, the averaged and recorded data for that date, the reasons for exceeding the limits, and your corrective actions:
 1. Concentration or percent reduction of sulfur dioxide emissions.
 2. For Class I MWC units only, concentration of nitrogen oxides emissions.
 3. Concentration of carbon monoxide emissions.
 4. Load level of your MWC unit.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

E. Vent Gas Boiler (EU-006)

5. Temperature of the flue gases at the inlet of your particulate matter air pollution control device.
6. Average 6-minute opacity level. The data obtained from your continuous opacity monitoring system are not used to determine compliance with the limit on opacity emissions.
- b. If the results of your annual stack tests (as recorded in §60.1360(a)) show emissions above the limits specified in table 1 of this subpart 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 your corrective actions.
- c. For MWC units that apply activated carbon to control dioxins/furans or mercury emissions, include two items:
 1. Documentation of all dates when the 8-hour block average carbon feed rate (calculated from the carbon injection system operating parameter) is less than the highest carbon feed rate established during the most recent mercury and dioxins/furans stack test (as specified in §60.1370(a)(1)). Include four items:
 - i. Eight-hour average carbon feed rate.
 - ii. Reasons for occurrences of low carbon feed rates.
 - iii. The corrective actions you have taken to meet the carbon feed rate requirement.
 - iv. The calendar date.
 2. Documentation of each quarter when total carbon purchased and delivered to the MWC plant is less than the total required quarterly usage of carbon. If you choose to evaluate total carbon purchased and delivered on a MWC unit basis, record the total carbon purchased and delivered for each individual MWC unit at your plant. Include five items:
 - i. Amount of carbon purchased and delivered to the plant.
 - ii. Required quarterly usage of carbon.
 - iii. Reasons for not meeting the required quarterly usage of carbon.
 - iv. The corrective actions you have taken to meet the required quarterly usage of carbon.
 - v. The calendar date.

[40 CFR 60 Subpart AAAA, §60.1425]

E.75. Changing Reporting Dates.

- a. If the Administrator agrees, you may change the semiannual or annual reporting dates.
- b. See §60.19(c) for procedures to seek approval to change your reporting date.

[40 CFR 60 Subpart AAAA, §60.1430]

Other Requirements

- E.76. Compliance Plan.** Meeting **Specific Conditions C.12** and **C.13** of this permit represents the Compliance Plan for emissions of Hg, HCl, Cd and D/F for the vent gas boiler when firing syngas generated from the gasification of MSW. [Permit No. 0610096-004-AC]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

F. Tank Farm (EU-007)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
007	<p>The as-built Tank Farm configuration is:</p> <ul style="list-style-type: none">• 100,000-gallon product storage tank• 23,800-gallon denaturant storage tank• 23,800-gallon re-run tank• 23,800-gallon day tank No. 1• 23,800-gallon day tank No. 2

Applicable Regulations

- F.1.** NSPS for Volatile Organic Liquid Storage Vessels (Appendix Kb). The product storage tank and the denaturant storage tank are subject to 40 C.F.R. part 60, subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced After July 23, 1984. The permittee shall comply with the requirements of the NSPS, included as Appendix Kb.
[Permit No. 0610096-004-AC and Rule 62-296.100(3), F.A.C.]

Equipment

- F.2.** Storage Tanks. The permittee is authorized to install and operate the Tank Farm.
[Permit No. 0610096-004-AC]
- F.3.** Internal Floating Roofs. The storage tanks shall be equipped with fixed roofs in combination with internal floating roofs meeting the requirements of the NSPS, included as Appendix Kb.
[Permit No. 0610096-004-AC]

Essential Potential to Emit (PTE) Parameters

- F.4.** Ethanol Throughput. Throughput of final ethanol product is limited to 8.42 million gallons per year on a rolling 12-month basis.
[Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- F.5.** Denaturant Throughput. Throughput of denaturant is limited to 0.42 million gallons per year on a rolling 12-month basis.
[Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- F.6.** Hours of Operation. The hours of operation of this emission unit are not limited (8,760 hours per year).
[Application No. 0610096-001-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

Records and Reports

- F.7.** Recordkeeping Requirements. The permittee shall maintain records of the amount of final (denatured) ethanol product throughput (gallons per year) on a rolling 12-month basis. These records shall be kept and made available to the Compliance Authority upon request.
[Rule 62-4.070(3), F.A.C. Reasonable Assurance]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

G. Loadout Flare (EU-008)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
008	<u>Loadout Flare:</u> Up to 200 gallons of denatured ethanol per minute will be transferred to ethanol tanker trucks. Displaced vapor from the 8,000 gallon, dedicated ethanol tank trucks will be routed to the loadout flare.

Equipment

- G.1. Loading Rack.** The permittee is authorized to construct a product loading and metering system equipped with a loading rack designed to transfer a nominal 200 gallons per minute of denatured ethanol product to nominal 8,000 gallon, ethanol-dedicated tank trucks.
[Permit No. 0610096-004-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
- G.2. Loadout Flare.** The permittee is required to construct an enclosed flare system with a continuous natural gas pilot flame. The loadout flare shall be used to capture and destroy vapors displaced during truck loadout. The loadout flare shall comply with the requirements of 40 C.F.R. 60.18, included in Appendix GP.
[Permit No. 0610096-0042-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Essential Potential to Emit (PTE) Parameters

- G.3. Hours of Operation.** The hours of operation of the pilot flame for the flare system are not limited (8,760 hours per year). Air flow routed to the flare is limited to 1.123 million standard cubic feet per year on a rolling 12-month basis. The flare shall be operated at all times when truck loading operations are taking place.
[Permit No. 0610096-004-AC and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
{Permitting Note: 1.123 million standard cubic feet of displaced vapors per year result from the loading of 8.42 million gallons per year of ethanol product into the tank trucks. With the loadout flare design provided by the permittee, the flare will operate at maximum loading less than 700 hours per year at the maximum design flow rate. The truck loading and gas flow rates to the flare may vary.}
- G.4. Approximate Capacities.** The flare system shall be designed to combust vapors displaced from the trucks during the loading of the denatured ethanol product. The trucks are assumed to be in dedicated denatured ethanol product service (i.e., only denatured ethanol product vapors will be displaced). The product loadout flare shall have a nominal rated capacity of 3.4 MMBtu per hour. Natural gas will be used as the fuel for the pilot, which shall have a nominal rated capacity of 0.17 MMBtu per hour.
[Application No. 0610096-002-AC and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

Testing and Monitoring Requirements

- G.5. Visible Emission Compliance Tests.** The flare system exhaust shall be tested to demonstrate initial compliance with the visible emission standard specified in 40 C.F.R. 60.18 no later than 180 days after initial operation and during each federal fiscal year (October 1 to September 30) thereafter. Testing shall be conducted as specified in 40 C.F.R. 60.18(f). Testing shall be conducted while tank trucks are being loaded.
[Rule 62-4.070(3), F.A.C. Reasonable Assurance]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

G. Loadout Flare (EU-008)

- G.6.** Operation and Maintenance. The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design. The permittee shall monitor the flow rate of displaced vapors to the flare.

[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Records and Reports

- G.7.** Records. The permittee shall record in a written or electronic log the monthly flow rate of displaced vapors to the flare, the duration of each flare event and the reason for flaring. These records shall be kept and made available to the Compliance Authority upon request.

[Rule 62-4.070(3), F.A.C. Reasonable Assurance]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

H. Syngas Flare (EU-010)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
010	<u>Syngas Flare:</u> The syngas flare is used to control vent gas emissions during system malfunctions when the vent gas boiler is unavailable. It has a natural gas fueled pilot light that operates continuously. The syngas flare also accepts vent gases from the gasifiers, syngas compression, dry gas cleaning, waste heat recovery and vent gas scrubbing.

Equipment

- H.1. Syngas Flare.** The permittee is authorized to construct an enclosed ground flare system with the continuous use of natural gas as either a pilot flame or in sufficient quantity to support good combustion of the syngas. The syngas flare shall comply with the requirements of 40 CFR 60.18, included in Appendix GP.

[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Essential Potential to Emit (PTE) Parameters

- H.2. Hours of Operation.** Vent gas routed to the syngas flare shall not exceed 496.2 million standard cubic feet per year on a rolling 12-month basis. The flare will be used during facility shake-down, startup of the gasifier, when the syngas quality is not adequate for use in either the fermenter (EU 003) or vent gas boiler (EU 006) or until the fermenter pressure reaches the boiler head pressure or for emergencies.

[Permit No. 0610096-004-AC and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

Testing and Monitoring Requirements

- H.3. Visible Emission Compliance Tests.** The flare system exhaust shall be tested to demonstrate initial compliance with the visible emission standard specified in 40 C.F.R. 60.18 no later than 180 days after initial operation, and once during each federal fiscal year (October 1 to September 30) thereafter. The flare shall be designed for and operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Testing shall be conducted as specified in 40 C.F.R. 60.18(f). Testing shall be a visible emissions observation in accordance with EPA Method 22 conducted while venting syngas or vent gas to the flare.

[Rule 62-4.070(3), F.A.C. Reasonable Assurance; NSPS Subpart A]

- H.4. Operation and Maintenance.** The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design. The permittee shall monitor the flow rate of displaced vapors to the flare.

[Permit No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

Records

- H.5. Records.** The permittee shall record in a written or electronic log the monthly flow rate of displaced vapors to the flare, the duration of each flare event and the reason for flaring. The permittee shall record in a written or electronic log the monthly volume of natural gas used in the flare for both the pilot flame and to supplement the combustion of syngas. These records shall be kept and made available to the Compliance Authority upon request.

[Rule 62-4.070(3), F.A.C. Reasonable Assurance]

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

I. Emergency Equipment (EU-011)

This section of the permit addresses the following EU.

ID No.	EU Description
011	Emergency Equipment: One emergency natural gas-fired generator with a maximum design rating of 400 kilowatt (kW) and one emergency fire pump engine with a maximum design rating of 190 horsepower (Hp).

Applicable Regulations

- I.1.** NSPS Subpart JJJJ Applicability. The natural gas fired emergency generator was manufactured in 2009. Consequently, it is a stationary spark ignition internal combustion engine subject to the provisions of 40 CFR 60, Subpart JJJJ, including emission testing or certification, applicable general provisions and performance tests.
[40 CFR 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines]
- I.2.** NSPS Subpart IIII Applicability. The emergency fire pump engine was manufactured in 1978. Consequently, due to its date of manufacture, the emergency fire pump engine is exempt from the emission testing and certification requirements of NSPS Subpart IIII.
[40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines]
- I.3.** NESHAP Subpart ZZZZ Applicability. The emergency generator is subject to the applicable provisions of 40 CFR 63, Subpart ZZZZ. The requirements of NESHAP ZZZZ are met by meeting the requirements of NSPS Subpart JJJJ. These include:
Per § 63.6625(f), if you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake Hp located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed. This requirement also applies to the emergency fire pump engine.
[40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines]

Equipment

- I.4.** Emergency Generator. The permittee is authorized to operate and maintain one natural gas fired emergency generator with a maximum design rating of 400 kW (536 Hp).
[Permit No. 0610096-004-AC and Rule 62-210.200 (PTE), F.A.C.]
- I.5.** Emergency Fire Pump Engine. The permittee is authorized to operate and maintain one Cummins Model N-855-F diesel fired emergency fire pump engine with a maximum design rating of 190 Hp (142 kW).
[Permit No. 0610096-004-AC and Rule 62-210.200 (PTE), F.A.C.]
- I.6.** Fuel Storage Tank. The permittee is authorized to operate and maintain one 400 gallon tank to store fuel oil for use in emergency fire pump engine.
[Permit No. 0610096-004-AC and Rule 62-210.200 (PTE), F.A.C.]

Essential Potential to Emit (PTE) Parameters

- I.7.** Hours of Operation. The emergency generator and the emergency fire pump engine may each operate up to 100 hours per year for maintenance and testing purposes.
- a. There is no time limit on the use of emergency stationary ICE in emergency situations.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

I. Emergency Equipment (EU-011)

- b. You may operate your emergency stationary ICE for any combination of the purposes specified in “i” to “iii” below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed “c.” below counts as part of the 100 hours per calendar year.
 - i. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator 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 ICE beyond 100 hours per calendar year.
 - ii. Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
 - iii. Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- c. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph “b.” above. Except as provided in paragraph “d.” below, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- d. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - i. The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
 - ii. The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
 - iii. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
 - iv. The power is provided only to the facility itself or to support the local transmission and distribution system.

The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[Permit No. 0610096-004-AC; Rule 62-210.200 (PTE), F.A.C.; NSPS Subpart JJJJ and Subpart IIII]

- I.8. Authorized Fuel:** The emergency generator is authorized to fire pipeline quality natural gas only. The emergency fire pump engine is authorized to fire ultra-low sulfur distillate fuel only. The natural gas shall have a vendor certification indicating its maximum sulfur content is 20 grains per standard cubic feet (gr/scf) or less. The ultra-low sulfur distillate fuel oil fired shall have a vendor certification indicating its sulfur content is 0.0015% or less.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

I. Emergency Equipment (EU-011)

[Permit No. 0610096-003-AC; Rule 62-210.200 (PTE), F.A.C.; NSPS Subpart JJJJ and Subpart IIII]

Emission Limitations and Standards

I.9. Emergency Generator Emission Limits.

Emergency Generator Hp ≥ 150 Hp	CO (g/Hp-hr) ¹	VOC ² (g/Hp-hr)	NO _x (g/Hp-hr)	Natural Gas ⁴ gr/scf
	4.0	1.0	2.0	
	ppmvd @ 7% O ₂ ³	ppmvd @ 7% O ₂	ppmvd @ 7% O ₂	
	540	160	86	
<div>1. g/Hp-hr means grams per horsepower-hour.</div> <div>2. When calculating emissions of VOC, emissions of formaldehyde should not be included.</div> <div>3. Part per million volume dry at 7 percent oxygen.</div> <div>4. The fuel used for certifying stationary spark ignition natural gas engines must meet the definition of pipeline-quality natural gas as described in §60.4248 with a sulfur content of no more than 20 gr/scf.</div>				

[Permit No. 0610096-004-AC; NSPS Subpart JJJJ]

- I.10. Emergency Generator Testing Requirements.** The emergency generator shall be stack tested to demonstrate initial compliance with the emission standards for CO, VOC and NO_x. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup of this unit. As an alternative, an EPA certification of emissions characteristics of the purchased model that are at least as stringent as the NSPS Subpart IIII values and the use of ultralow sulfur distillate fuel oil or nonroad diesel fuel with a sulfur content of 15 ppm or less can be used to fulfill this requirement.

[Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8; 40 CFR 60.4211]

- I.11. Test Methods:** Any required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
7E	Determination of Nitrogen Oxides Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources
18	Measurement of Gaseous Organic Compounds Emissions by Gas Chromatography
25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer

For additional information of testing requirements see §60.4244 and Table 2 in Appendix NSPS, Subpart JJJJ – Stationary Spark Ignition Internal Combustion Engines.

Recordkeeping and Reporting Requirements

- I.12. Compliance Recordkeeping and Reporting Requirements.** The permittee shall adhere to the compliance testing and certification requirements listed in 40 CFR 60.4243 and maintain records demonstrating fuel usage and quality. [40 CFR 60.4243]
- I.13. Notification, Recordkeeping and Reporting Requirements.** Notifications reporting and recordkeeping are required pursuant to 40 CFR 60.7, 40 CFR 63.9, and NSPS Subpart JJJJ, §60.4245). [[40 CFR 60.4245]
- I.14. Notifications:** Initial notifications are required pursuant to 40 CFR 60.7, 40 CFR 63.9, and 40 CFR 63.6590(b)(i) for the emergency generator.

SECTION III. EMISSIONS UNITS AND SPECIFIC CONDITIONS.

I. Emergency Equipment (EU-011)

- I.15.** 40 CFR 60 General Provisions. Table 3 from Subpart JJJJ shows which parts of the General Provisions in §§60.1 through 60.19 the emergency generator. [§60.4246]
- I.16.** Reporting: The permittee shall maintain records of the amount of liquid fuel used. These records shall be submitted to the Compliance Authority on an annual basis or upon request.
[Rule 62-4.070(3), F.A.C.]

SECTION IV. APPENDICES.

The Following Appendices Are Enforceable Parts of This Permit:

Appendix A, Glossary.

Appendix BMP – Best Management Practices

Appendix I, List of Insignificant Emissions Units and/or Activities.

Appendix LDAR – Preliminary Leak Detection and Repair (LDAR) Program

Appendix NESHAP, Subpart A – General Provisions.

Appendix NESHAP, ZZZZ –Stationary Reciprocating Internal Combustion Engines

Appendix NSPS, Subpart A – General Provisions.

Appendix NSPS, Subpart AAAA – Small Municipal Waste Combustion Units for Which Commenced After August 30, 1999 or for Which Modifications or Reconstruction is Commenced After June 6, 2001

Appendix NSPS, Subpart IIII – Stationary Compression Ignition Internal Combustion Engines

Appendix NSPS, Subpart JJJJ – Stationary Spark Ignition Internal Combustion Engines

Appendix NSPS, Subpart Kb – Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 19

Appendix NSPS, Subpart VVa – Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

Appendix I, List of Insignificant Emissions Units and/or Activities.

Appendix RR, Facility-wide Reporting Requirements.

Appendix TR, Facility-wide Testing Requirements.

Appendix TV, Title V General Conditions.