



Florida Department of Environmental Protection

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PERMITTEE

INEOS New Planet BioEnergy LLC
925 74th Avenue
Vero Beach, FL 32968-9702
Authorized Representative:
Mr. Nigel Falcon, Site Director

Air Permit No. 0610096-008-AC
Permit Expires: December 31, 2019
Indian River County BioEnergy Facility
Removal of NSPS Subpart AAAA Requirements
Indian River County

PROJECT

This is the final air construction permit, which authorizes the removal of the requirements of 40 CFR 60, Subpart AAAA - Standards of Performance for Small Municipal Waste Combustion Units with regards to the vent gas boiler at the Indian River County BioEnergy (INEOS Bio) Facility. Subpart AAAA is no longer applicable because the vent gas boiler meets the requirements of a small power production facility under the Federal Power Act. This existing facility is located at 925 74th Avenue in Vero Beach, Florida in Indian River County (IRC). 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.

This permit is organized into the following sections: Section 1 (General Information), Section 2 (Administrative Requirements), Section 3 (Emissions Unit Specific Conditions) and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection (Department) in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department. Executed in Tallahassee, Florida

For:

Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/dlr

CERTIFICATE OF SERVICE

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

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Clerk Stamp

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

SECTION 1. GENERAL INFORMATION

PROPOSED PROJECT

The INEOS Bio facility's vent gas boiler in the past has been subject to Title 40 Code of Federal Regulations Part 60 (40 CFR 60), Subpart AAAA - Standards of Performance for Small Municipal Waste Combustion Units for Which Commenced After August 30, 1999 or for Which Modifications or Reconstruction is Commenced After June 6, 2001. This subpart regulates emissions of the following pollutants: dioxins and furans (D/F); cadmium (Cd); lead (Pb); mercury (Hg); opacity (VE) particulate matter (PM); hydrogen chlorides (HCl); nitrogen oxides (NO_x); sulfur dioxides (SO₂); and fugitive ash.

INPB has now indicated that pursuant to 40 CFR 60.1020 (b), the INEOS Bio facility will be exempt from Subpart AAAA if it meets four requirements of small power production facilities. INPB states that the INEOS Bio facility meets the qualifications to be classified as a small power production facility and thereby per §60.1020(b)(1) is exempt from the requirements of Subpart AAAA (see Appendix N).

The INEOS Bio ethanol technology process gasifies the biomass feedstock. The organic material is not 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. During normal operation, 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 or used as a supplemental fuel for the vent gas boiler. The ethanol is then distilled, dehydrated, denatured, stored and loaded into dedicated ethanol tanker trucks for shipment offsite. Off gases from the fermentation process are routed to a fermentation vent gas boiler for combustion with and augmented with landfill gas. Steam from the fermentation vent gas boiler as well as steam from waste heat recovery at the gasifiers is routed to a steam turbine electrical generator (STEG) to generate electricity.

This facility consists of the following emissions units (EU).

EU ID 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

FACILITY REGULATORY CLASSIFICATION

- The facility is **not** major source of HAP.
- The facility does **not** operate units subject to the acid rain provisions of the Clean Air Act.
- After this project, the facility is **not** a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.) because Section 129(e) of the Clean Air Act requires Title V permits for all sources subject to an NSPS Subpart for solid waste combustion, which includes NSPS Subpart AAAA.
- The facility is **not** a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

SECTION 1. GENERAL INFORMATION

- The facility operates units that are subject to the New Source Performance Standards (NSPS) at 40 Code of Federal Regulations, Part 60 (40 CFR 60), and the National Emissions Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR 63.

Permitting Note: This permit (0610096-008-AC) supersedes and replaces all previous construction permits issued for this facility.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The Permitting Authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department (2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400).
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Southeast District Office at: 3301 Gun Club, Road MSC 7210-1, West Palm Beach, Florida 33406.
3. Appendices: The following Appendices are attached as a part of this permit and must be complied with by the permittee:
 - a. Appendix A: Citation Formats, Acronyms and Glossary of Common Terms;
 - b. Appendix B: General Conditions;
 - c. Appendix C: Common Conditions;
 - d. Appendix D: Common Testing Requirements;
 - e. Appendix E: Best Management Practices;
 - f. Appendix F: Preliminary Leak Detection and Repair (LDAR) Program;
 - g. Appendix G: NSPS 40 CFR 60, Subpart A and NESHAP 40 CFR 63, Subpart A - General Provisions;
 - h. Appendix H: NSPS 40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units;
 - i. Appendix I: NSPS 40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels);
 - j. Appendix J: NSPS 40 CFR 60, Subpart VVa - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry
 - k. Appendix K: NSPS 40 CFR 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines;
 - l. Appendix L: NSPS 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines;
 - m. Appendix M: NESHAP 40 CFR 63, Subpart ZZZZ - National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines; and
 - n. Appendix N: Form 556, Certification of Qualifying Facility (QF) Status for a Small Power Production or Cogeneration Facility.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be

SECTION 2. ADMINISTRATIVE REQUIREMENTS

obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Construction and Expiration. The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(3) & (4), 62-4.080 & 62-210.300(1), F.A.C.]
8. Source Obligation:
 - a. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
 - b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.[Rule 62-212.400(12), F.A.C.]
9. Application for Air Operating Permit: Subsequent to any construction, reconstruction or modification of a facility or emissions unit authorized by an air construction permit, and demonstration of compliance with the conditions of such air construction permit, the owner or operator of such facility or emissions unit shall obtain an initial air operation permit or revision of an existing air operation permit, whichever is appropriate, in accordance with all applicable provisions of this chapter and Chapter 62-4, F.A.C. [Rule 62-210.300(2), F.A.C.]
10. Monthly Operations Summary: By the last calendar day of each month, the permittee shall record the following parameters in a written or electronic log for the previous month of operation. (For example, the monthly operations summary for June must be recorded by July 31.) The monthly operations summary shall be kept and made available to the Compliance Authority upon request.
 - a. Gallons of ultra low sulfur diesel fuel used in the shredder and screen engines (see **Condition 3.A.17**);
 - b. Total combined dry tons of biomass and MSW feedstock processed in both dryers (see **Condition 3.B.4**);
 - c. Gallons of ethanol produced (see **Condition 3.C.21**);
 - d. Hours of operation and million British thermal units (MMBtu) of total heat input for the vent gas boiler (see **Condition 3.E.16**);
 - e. Standard cubic feet of syngas, natural gas and landfill gas fired in the vent gas boiler (see **Condition 3.E.16**);
 - f. Gallons of final (denatured) ethanol product loadout (see **Condition 3.F.7**);
 - g. Standard cubic feet of displaced vapors to the loadout flare and the duration of each flare event during the month (see **Condition 3.G.7**);

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- h. Standard cubic feet of displaced vapors to the syngas flare, the duration of each flare event during the month and the reason for flaring (see **Condition 3.H.5**); and
- i. Updated 12-month rolling totals for each of these operating parameters.

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

11. Reasonable Precautions to Prevent Emissions of Unconfined Particulate Matter (PM): The facility shall take the following reasonable precautions to prevent emissions of unconfined PM:

- a. All normally traveled roads on the site shall be paved.
- b. Access paths used exclusively for maintenance purposes may be unpaved.
- c. Speed limit signs will be posted.
- d. The unpaved areas of the facility shall be maintained and either sodded or landscaped as necessary.
- e. The conveyor systems outside of the materials handling area shall be fully enclosed.
- f. Hoods, fans, filters or similar equipment shall be used to contain, capture or vent particulate matter.
- g. The ash shall be wetted before being stored in the ash handling roll-off bins.

[Rule 62-296(4)(c), F.A.C.]

12. Objectionable Odors Prohibited: 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.

[Application No. 0610096-004-AC; Rule 62-296.320(2), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

13. Standard Conditions: As used in this permit, standard conditions refer 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"]

14. 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]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Materials Handling Area (EU-001)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
001	<p><u>Materials Handling Area:</u></p> <p>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.</p>

APPLICABLE STANDARDS AND REGULATIONS

1. NSPS for Stationary Compression Ignition Internal Combustion Engines (Appendix L): 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 L. [Application No. 0610096-002-AC and Rule 62-296.100(3), F.A.C.]
2. NESHAP for Stationary RICE (Appendix M): 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 as Appendix M. [Rule 62-296.100(3), F.A.C.]
{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

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 (authorized feedstock other than MSW, see **Condition 3.A.4** of this permit);
 - d. MSW storage area shall conform to **Condition 11 of Section 2** of this permit and be so configured such that objectionable odors (see **Condition 12 of Section 2**) cannot develop;
 - e. Conveyor systems; and
 - f. Relocatable shredding, screening and processing equipment.[Application No. 0610096-004-AC and Rule 62-4.070(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Materials Handling Area (EU-001)

PERFORMANCE RESTRICTIONS

4. 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]
5. Hours of Operation: The hours of operation of this emissions unit are not limited (8,760 hours per year). [Application No. 0610096-001-AC; Rules 62-4.070(3), F.A.C.; and 62-210.200 (PTE), F.A.C.]
6. 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, Application No. 0610096-004-AC.]
7. 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)]

EMISSION LIMITS

8. 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]
9. 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]
10. 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]
11. Fugitive Dust Annual Test. The permittee shall conduct annual stack testing for fugitive dust. [Application No. 0610096-008-AC; and Rule 62-4.070(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Materials Handling Area (EU-001)

WORK PRACTICE STANDARDS

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.

[Application No. 0610096-002-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

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. [Application No. 0610096-001-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]

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.

[Application No. 0610096-001-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]

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 E 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. [Application No. 0610096-001-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

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, Application No. 0610096-004-AC]

RECORDS AND REPORTS

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

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 **Conditions 3.A.21 to 3.A.23**, the owner or operator must keep the following records:

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

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

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Materials Handling Area (EU-001)

19. Testing Notification: At such time that the requirements of **Condition 3.A.23** 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)]

OTHER NSPS SUBPART IIII REQUIREMENTS

20. 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 8. through 10. 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)]
21. 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)]
22. 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)]
23. Testing Requirements: In the event performance tests are required pursuant to **Condition 3.A.22**, 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)]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
002	<p><u>Feedstock Dryers No. 1 and No. 2:</u></p> <p>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.</p>

EQUIPMENT

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. [Application No. 0610096-001-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
2. 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. [Application No. 0610096-007-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
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. [Application No. 0610096-001-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

PERFORMANCE RESTRICTIONS

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. [Application No. 0610096-002-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.}
5. 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"]

EMISSIONS STANDARDS

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

TESTING REQUIREMENTS

8. 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 **Condition 3.B.6.** [Rule 62-297.310(7), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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

9. Compliance Tests Prior to Permit Renewal: In addition to the annual compliance test given in **Condition 3.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 **Condition 3**. Error! Reference source not found. [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.}

10. Test Methods: Required tests shall be performed in accordance with the following reference methods.

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]

RECORDS AND REPORTS

11. Recordkeeping Requirements: The permittee shall maintain records of the amount of total combined biomass and MSW feedstock processed in both dryers on a ton per day basis and an annual average ton 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]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
003	<u>Gasification, Fermentation and Distillation Systems:</u> Two gasifiers heat feedstock through starved-air pyrolysis to produce syngas, a mixture of CO, CO ₂ , H ₂ 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 STANDARDS AND REGULATIONS

1. NSPS for Equipment Leaks of VOC (Appendix J): 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 J. [Application No. 0610096-004-AC and Rule 62-296.100(3), F.A.C.]
2. Closed Vent Systems and Control Devices: During normal operation, off-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). [Application No. 0610096-002-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
3. Leak Detection and Repair (LDAR) Plan: After completion of the MSW trial period (see **Condition 3.C.12**), within 60 days of reaching the permitted combined feedstock capacity to the gasifiers as given in **Conditions 3.C.11** and **3.C.13** of this subsection, the permittee shall submit the final version of the preliminary LADR Plan contained in Appendix F of this permit. [Application No. 0610096-004-AC; NSPS 40 CFR 60 Subpart VVa; and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

EQUIPMENT

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 shall 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 install ancillary equipment to cool the syngas and to recover waste heat through the boiler feed water preheater. [Application No. 0610096-001-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
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 when using MSW as feed to the gasifiers 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. [Application No. 0610096-002-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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

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 equipment including a cooled water heat exchanger and a knock-out drum.
[Application No. 0610096-001-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
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.
[Application No. 0610096-001-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
8. Vent Gas Scrubbing: The permittee is required to operate and maintain a process vent gas scrubber for the fermentation off-gases. Emergency release from the process vent gas scrubber shall be routed to the syngas flare (EU-010). [Application No. 0610096-001-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
9. Distillation Overhead Scrubbing: The permittee is required to operate and maintain a distillation overhead scrubber for the distillation and dehydration system off-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.
[Application No. 0610096-002-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
10. Hydrogen Cyanide (HCN) Wet Scrubber: The permittee is authorized to operate and maintain a HCN wet scrubber consisting of the following equipment:
 - a. *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.
 - b. *Tower 2 (HCN Stripper)*: Tower 2 is 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.
 - c. *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 disposed of normally as with other plant waste water in the site direct injection well (DIW).
[Application No. 0610096-007-AC]

PERFORMANCE RESTRICTIONS

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.
[Application 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]
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.
 - a. 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 3. EMISSIONS UNIT 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 **Condition 3.E.15**, for the following pollutants: PM, lead, mercury, hydrogen chloride (HCl) and cadmium. The permittee may repeat this testing during or after the MSW trial period so as to demonstrate compliance at different MSW feed rates.
 - 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: nitrogen oxides (NO_x), CO, sulfur dioxide (SO₂), PM, lead, mercury, HCl and cadmium.
[Application No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
13. MSW Feedstock: After submitting the report specified in **Condition 3.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 **Condition 3.C.12.c**. [Rule 62-4.070(3), F.A.C. Reasonable Assurance]
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. [Application No. 0610096-001-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]
15. 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"]
16. Ethanol Production Rate: Ethanol production is limited to 8.00 million gallons per year on a rolling 12-month basis. [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"]
{Permitting Note: The final product with the addition of a denaturant is limited to 8.42 million gallons per year.}
17. Ethanol Capture, Fermentation System: The process vent gas scrubber shall be designed to remove 95 percent of the residual ethanol from the fermentation system off-gases. [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"]
18. Ethanol Capture, Distillation and Dehydration System: The distillation overhead scrubber shall be designed to remove 95 percent of the residual ethanol from the distillation and dehydration system off-gases. [Application No. 0610096-002-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
19. H₂S Concentration Limit: The concentration of H₂S in the fermenter off gas and syngas streams shall not exceed 500 part per million by volume (ppmv). [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"]

MONITORING REQUIREMENTS

20. H₂S Concentration: The concentration of H₂S in the fermenter off 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

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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

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.

[Application 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"]

RECORDS AND REPORTS

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]
22. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D of this permit. In addition, the concentration of H₂S in the fermenter off gas (vent gas) monitored with a continuous on-line gas chromatograph shall be reported. [Rule 62-297.310(8), F.A.C.]

ADDITIONAL TESTING REQUIREMENTS

23. 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 3. EMISSIONS UNIT SPECIFIC CONDITIONS

D. Distillation Unit Fugitive Emissions (EU-004)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
004	<u>Distillation Unit Fugitive Emissions:</u> 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

1. Fermentation and Distillation System: The permittee is authorized to operate and maintain a fermentation and distillation system (EU-003) as specified in Section 3.C of this permit.
[Application No. 0610096-001-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

PERFORMANCE RESTRICTIONS

2. 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"]
3. Ethanol Production Rate: Ethanol production is limited to 8.00 million gallons per year on a rolling 12-month basis.
[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"]

{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 3. EMISSIONS UNIT SPECIFIC CONDITIONS

E. Vent Gas Boiler (EU-006)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
006	<p>Vent Gas Boiler:</p> <p><i>Fuels:</i> 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.</p> <p><i>Control Devices:</i> The vent gas boiler is equipped with low-NO_x burners. Following combustion, sodium bicarbonate is injected into the flue gas immediately prior to a fabric filter.</p> <p><i>Stack Parameters:</i> 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.</p>

APPLICABLE STANDARDS AND REGULATIONS

1. NSPS for Equipment Leaks of VOC (Appendix J): 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 I for Which Construction, Reconstruction or Modification Commenced After November 7, 2006. The permittee shall comply with the requirements of the NSPS, included as Appendix J. [Application No. 0610096-001-AC and Rule 62-296.100(3), F.A.C.]
2. NSPS for Small Industrial-Commercial-Institutional Steam Generating Units (Appendix H): The vent gas boiler with a heat rate of 97.2 million British thermal units per hour (MMBtu/hr) is subject to 40 CFR Part 60, Subpart Dc— Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. The permittee shall comply with the requirements of the NSPS, included as Appendix H. [Application No. 0610096-008-AC and Rule 62-296.100(3), F.A.C.]

BIOMASS FIRING REQUIREMENTS

3. 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 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 (see **Condition 3.E.10**).

*{Permitting Note: The initial operation of the INPB syngas to ethanol production process is planned to be 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. 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 **Condition 3.E.3** of this subsection. Upon the gasification of MSW for the generation syngas for the ethanol production process, initial compliance determination for emissions of Hg, Cd, D/F, Pb and HCl from the vent gas boiler will take effect at that time (see **Condition 3.E.10**). INPB may perform initial compliance determination on different MSW types and feed rates during or after the MSW trial period.}*

[Application 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 3. EMISSIONS UNIT SPECIFIC CONDITIONS

E. Vent Gas Boiler (EU-006)

EQUIPMENT

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:
 - a. 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 off-gases and upstream of the distillation overhead scrubber for the distillation and dehydration system off-gases.
 - b. 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.
 - c. Provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.[Application No. 0610096-003-AC; Appendix J; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
4. Sorbent 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"].
[Application No. 0610096-002-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
5. Activated Carbon Injection (ACI) and Fabric Filter: The permittee is required to operate and maintain a system to inject activated carbon into the dry gas cleanup to control metal and organic HAPs when using MSW. The permittee is required to operate and maintain a fabric filter in dry gas cleanup 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.}
6. 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 and ACI for Hg control when using MSW followed by fabric filtration) 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. [Application No. 0610096-004-AC; Rule 62-210.650, F.A.C.]

PERFORMANCE RESTRICTIONS

7. 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"]
8. Authorized Fuels: 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 off-gases from the fermentation and distillation systems.
[Application No. 0610096-001-AC]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

E. Vent Gas Boiler (EU-006)

9. 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 J]

EMISSIONS STANDARDS

10. Emissions Standards: The vent gas boiler must meet the following emission limits:

Pollutant	Limit ¹	Averaging Period ³	Compliance Method ⁴	Basis ⁵
NO _x	150 ppmvd @ 7% O ₂	24-hour daily block arithmetic average	CEMS	Applicant Request, PTE
	150 ppmvd @ 7% O ₂ ²			
SO ₂	30 ppmvd @ 7% O ₂ or 80% reduction in potential emissions	24-hour daily block geometric average	CEMS	Applicant Request, PTE
PM	24 mg/dscm @ 7% O ₂	Test Method	Stack Test (A)	Applicant Request, PTE
CO	50 ppmvd @ 7% O ₂	4-hour block average, arithmetic mean	CEMS	Applicant Request, PTE
VOC	20 ppmvd @ 3% O ₂ and 95 percent control efficiency or greater ⁷	Test Method	Stack Test (A)	Applicant Request, PTE
Opacity (VE)	<= 10%	Test Method	Stack Test (A)	Applicant Request, PTE
Fugitive Ash	<= 5%	Test Method	Stack Test (A)	Applicant Request, PTE
D/F ⁶	13 ng/dscm @ 7% O ₂	Test Method	Stack Test (I)	Applicant Request, PTE
Cd ⁶	0.020 mg/dscm @ 7% O ₂	Test Method	Stack Test (I)	Applicant Request, PTE
Pb ⁶	0.20 mg/dscm @ 7% O ₂	Test Method	Stack Test (I)	Applicant Request, PTE
Hg ⁶	0.080 mg/dscm @ 7% O ₂	Test Method	Stack Test (I)	Applicant Request, PTE
HCl ⁶	25 ppmvd @ 7% O ₂ or 95% reduction in potential emissions	Test Method	Stack Test (I)	Applicant Request, PTE
1. Parts per million volume dry at 15 percent oxygen = ppmvd @ 15% O ₂ ; milligrams per dry standard cubic meter = mg/dscm; and nanograms per dscm – ng/dscm. 2. 180 ppmvd @ 15% O ₂ for 1st year of operation after the firing of MSW. 3. For “Test Method” the averaging period is the duration of the test, e.g., for EPA Method 5 = 3 hours. 4. CEMS = Continuous Emissions Monitoring System; A = annual stack test; and I = initial stack test only. 5. PTE = limit potential to emit to avoid PSD and Title V operating permit requirements. 6. The initial stack testing after combusting syngas generated from MSW shall be conducted within 60 days after the vent gas boiler reaches maximum load level on syngas generated from MSW but no later than 180 days of initial continuous operation on syngas generated from MSW. 7. See Specific Condition 3.E.4 .				

[Application No. 0610096-008-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

CONTINUOUS EMISSIONS MONITORS

11. Continuous Monitoring Requirements: The permittee shall calibrate, maintain and operate CEMS and a diluent monitor to measure and record the emissions of SO₂, NO_x, CO and carbon dioxide

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

E. Vent Gas Boiler (EU-006)

(CO₂) or O₂, respectively, from the vent gas boiler stack in a manner sufficient to demonstrate continuous compliance with the CEMS-based emission standards in Specific **Condition 3.E.10** above. Within one working day of discovering emissions in excess of a SO₂, NO_x or CO standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.

- a. **SO₂ CEMS:** The SO₂ CEMS shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 2. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported annually to the Compliance Authority. The RATA tests required for the SO₂ monitor shall be performed using EPA Method 6C or other method approved by the Compliance Authority in Appendix A of 40 CFR 60. The SO₂ monitor span values shall be set appropriately, considering the allowable methods of operation and corresponding emission standards.
- b. **NO_x CEMS:** The NO_x CEMS shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 2. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported annually to the Compliance Authority. The RATA tests required for the NO_x monitor shall be performed using EPA Method 7E or other method approved by the Compliance Authority in Appendix A of 40 CFR 60. The NO_x monitor span values shall be set appropriately, considering the allowable methods of operation and corresponding emission standards.
- c. **CO CEMS:** The CO CEMS shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported annually to the Compliance Authority. The RATA tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60. The CO monitor span values shall be set appropriately, considering the allowable methods of operation and corresponding emission standards.
- d. **Diluent Monitor:** The O₂ or CO₂ content of the flue gas shall be monitored at the locations where CO, SO₂ and NO_x are monitored. Each monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 3. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported annually to the Compliance Authority. The RATA tests required for the O₂ or CO₂ monitor shall be performed using EPA Method 3A or other method approved by the Compliance Authority in Appendix A of 40 CFR 60. The O₂ or CO₂ monitor span values shall be set appropriately, considering the allowable methods of operation and corresponding emission standards.

[Application No. 0610096-008-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]

TESTING REQUIREMENTS

12. **Initial Stack Tests:** The permittee shall conduct initial testing for D/F, Cd, HCl, Pb and Hg when syngas generated from MSW is combusted in the vent gas boiler. The initial stack testing combusting syngas generated from MSW shall be conducted within 60 days after the vent gas boiler reaches maximum load level on syngas generated from MSW but no later than 180 days of initial continuous operation on syngas generated from MSW. [Application No. 0610096-008-AC and Rule 62-4.070(3), F.A.C.]
13. **Annual Stack Tests:** The permittee shall conduct annual stack testing for VOC, PM and VE when syngas generated from biomass and/or MSW is combusted in the vent gas boiler. [Application No. 0610096-008-AC; NSPS Subpart AAAA and Rule 62-4.070(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

E. Vent Gas Boiler (EU-006)

14. 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 **Condition 3.E.4.a, 3.E.4.b or 3.E.4.c**. Any VOC stack testing performed pursuant to this condition shall be performed in accordance with the following reference test method.
15. Test Methods: Any required stack tests shall be performed in accordance with the following methods.

EPA Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content <i>{Notes: Methods shall be performed as necessary to support other methods.}</i>
5	Measurement of PM
6C	Measurement of SO ₂ Emissions (Instrumental)
7E	Measurement of NO _x Emissions (Instrumental)
9	Visual Determination of the Opacity
10	Measurement of CO Emissions (Instrumental) <i>{Note: The method shall be based on a continuous sampling train.}</i>
18	Measurement of Gaseous Organic Compound Emissions (Gas Chromatography) <i>{For concurrent use with EPA Method 25A to deduct emissions of methane and ethane from the total hydrocarbon (THC) emissions measured by Method 25A.}</i>
19	Calculation Method for NO _x , PM, and SO ₂ Emission Rates
22	Fugitive Opacity
23	Dioxin and Furan
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)
26, 26A	Determination of HCl and HF Emissions from Stationary Sources
29	Metals Emissions from Stationary Sources

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 CFR 60]

RECORDS AND REPORTS

16. 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]
17. Stack Test Reports: In addition to the information required in Appendix D, 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 and PM 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. [Rule 62-4.070(3), F.A.C. Reasonable Assurance]

SECTION 3. EMISSIONS UNIT 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 STANDARDS AND REGULATIONS

1. NSPS for Volatile Organic Liquid Storage Vessels (Appendix I): 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 I.
[Application No. 0610096-001-AC and Rule 62-296.100(3), F.A.C.]

EQUIPMENT

2. Storage Tanks: The permittee is authorized to operate and maintain the Tank Farm. [Application No. 0610096-004-AC]
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 I.
[Application No. 0610096-001-AC]

PERFORMANCE RESTRICTIONS

4. Ethanol Throughput: Throughput of final ethanol product is limited to 8.42 million gallons per year on a rolling 12-month basis.
[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"]
5. Denaturant Throughput: Throughput of denaturant is limited to 0.42 million gallons per year on a rolling 12-month basis.
[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"]
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

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 3. EMISSIONS UNIT 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

1. Loading Rack: The permittee is authorized to operate and maintain a product loading and metering system equipped with a loading rack designed to transfer a nominal 200 gallons per minute of denatured ethanol product too nominal 8,000 gallon, ethanol-dedicated tank trucks.
[Application No. 0610096-002-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; and Rule 62-210.200, F.A.C. Definition of "Potential to Emit"]
2. Loadout Flare: The permittee is required to operate and maintain 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 CFR 60.18, included in Appendix G.
[Application No. 0610096-002-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

PERFORMANCE RESTRICTIONS

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.
[Application No. 0610096-002-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.}
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

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]
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. [Application No. 0610096-002-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

G. Loadout Flare (EU-008)

RECORDS AND REPORTS

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 3. EMISSIONS UNIT 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

1. Syngas Flare: The permittee is authorized to operate and maintain 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 G.
[Application No. 0610096-004-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

PERFORMANCE RESTRICTIONS

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

TESTING AND MONITORING REQUIREMENTS

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]
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.
[Application No. 0610096-002-AC and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

RECORDS AND REPORTS

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 3. EMISSIONS UNIT 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 kW and one emergency fire pump engine with a maximum design rating of 190 Hp.

EQUIPMENT

1. 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). [Application No. 0610096-003-AC and Rule 62-210.200 (PTE), F.A.C.]
2. Emergency Fire Pump Engine: The permittee is authorized to continue 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). [Application No. 0610096-003-AC and Rule 62-210.200 (PTE), F.A.C.]
3. 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. [Application No. 0610096-003-AC and Rule 62-210.200 (PTE), F.A.C.]

NSPS AND NESHAP APPLICABILITY

4. 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]
5. 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]
6. 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:
 - a. 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]

PERFORMANCE RESTRICTIONS

7. Hours of Operation. The *emergency generator* may operate up to 100 hours per year for maintenance and testing purposes.
 - a. *Emergency Situations*: There is no time limit on the use of emergency stationary ICE in emergency situations. [40 CFR 60.4243(d)(1)].
 - b. *Maintenance and Readiness*: Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

I. Emergency Equipment (EU-011)

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.

- 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.
 - v. 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.

[Application No. 0610096-004-AC; Rule 62-210.200 (PTE), F.A.C.; NSPS Subpart JJJJ (§60.4243(d))]

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.

[Application No. 0610096-003-AC and Rule 62-210.200 (PTE), F.A.C.]

EMISSION LIMITS AND TESTING REQUIREMENTS

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	

1. g/Hp-hr means grams per horsepower-hour.

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

I. Emergency Equipment (EU-011)

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| 2. When calculating emissions of VOC, emissions of formaldehyde should not be included. |
| 3. Part per million volume dry at 7 percent oxygen. |
| 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. |

[Application No. 0610096-003-AC; NSPS Subpart JJJJ]

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]
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

NOTIFICATION, REPORTING AND RECORDS

12. **Compliance Recordkeeping and Reporting Requirement:** 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]
13. **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.
14. **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.]
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]
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.]