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PERMITTEE

Southeast Renewable Fuels (SRF), LLC
6424 NW 5th Way
Fort Lauderdale, Florida 33309

Authorized Representative:
Mr. Don Markley, Executive Vice President

Air Permit No. 0510032-001-AC
PSD-FL-412
Expires: December 31, 2015
Facility ID No. 0510032
Sweet Sorghum-to-Ethanol Advanced Biorefinery
Hendry County

PROJECT

This is the final air construction permit authorizing the construction of an ethanol production facility using sweet sorghum as the feedstock and a cogeneration power plant that will generate up to 30 megawatts (MW) of electricity utilizing the leftover sweet sorghum stalk fiber (bagasse) from the ethanol production process as its primary fuel source. The new SRF facility, which is a Synthetic Organic Chemical Manufacturing Industry (SOCMI) plant categorized under Standard Industrial Classification (SIC) No. 2869, will be located just east of County Road (CR) 835 at the intersection of Hill Grade Road south of Clewiston, Hendry County, Florida. The UTM coordinates of the facility are Zone 17; 502.0 kilometers (km) East and 2,940.9 km North.

This final 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 CF of Section 4 of this permit. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality, including a determination of Best Available Control Technology (BACT).

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

Executed in Tallahassee, Florida

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_____ _____
Joseph Kahn, Director (Date)
Division of Air Resource Management

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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 _____ to the persons listed below.

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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.

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(Clerk) (Date)

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PROPOSED PROJECT

The project involves the construction of the SRF ethanol production facility that will utilize sweet sorghum as its feedstock. In addition, the project involves the construction of a cogeneration plant utilizing the leftover sweet sorghum stalk fiber (bagasse) from the ethanol production process as its primary fuel source. The cogeneration plant will generate up to 30 megawatts (MW) of electricity that will be supplied to the grid. The sweet sorghum feedstock for the SRF facility will be grown on adjacent and surrounding farmland. Juice will be extracted from the sweet sorghum and processed to increase its sucrose (sugar) concentration. The concentrated juice will then be fermented to convert the sugars to ethanol. A total of 22.11 million gallons per year (MGPY) of distilled ethanol will be produced, which will be blended with 3 percent (%) gasoline to yield a denatured ethanol product. In addition, denatured ethanol blends consisting of 10% or 85% ethanol by volume resulting in a products called E10 (10% ethanol and 90% gasoline) and E85 (85% ethanol and 15% gasoline) will be produced on-site.

The sweet sorghum bagasse will be burned in a biomass boiler with a maximum heat input rate of 536 million British thermal units per hour (mmBtu/hr) on a 4 hour average basis and 488 mmBtu/hr on a 24 hour average basis. In addition to sweet sorghum bagasse, the SRF biomass boiler will burn wood (including yard waste), biogas from on-site anaerobic bioreactors, ultralow sulfur distillate (ULSD) fuel oil with a maximum sulfur (S) concentration of 0.0015% by weight and propane. The biomass boiler will generate steam that will be utilized in the ethanol production process and in two steam turbine electrical generators (STG) to produce up to 30 MW of electrical power. Wood will be used as the primary fuel in the boiler when sweet sorghum is not available so that the boiler can continue to supply steam to the ethanol production process with sorghum syrup/molasses and/or sugar cane molasses used as the feedstocks while still generating electricity. ULSD fuel oil or propane will be used as the boiler startup, shutdown and flame stabilization fuels and in emergency equipment (two generators and one fire water pump engine).

This project will consist of the following emissions units (EU).

Facility ID No. 0510032	
EU ID No.	**Emissions Unit Description**
001	Biomass Material Handling and Preparation
002	Cogeneration Biomass Boiler
003	Three Cooling Towers
004	Ethanol Production Process
005	Bioreactors and Biogas Flare
006	Storage Tanks
007	Truck Rack Product Loadout and Flare
008	Miscellaneous Dry Material Storage Silos
009	Two Emergency Generators
010	One Emergency Fired Pump Engine
011	Facility-Wide Fugitive VOC Equipment Leaks

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- Because SRF is a cogeneration facility, it does not operate units subject to the Title IV Acid Rain Program of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.

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- The facility is subject to Chapter 62-204.800, F.A.C for New Source Performance Standards (NSPS) under Section 111 of the CAA and the National Emissions Standards for Hazardous Air Pollutants (NESHAP) under Section 112 of the CAA.
- The SRF facility is not subject to Clean Air Interstate rule (CAIR) but could become subject to CAIR based on final promulgation of a CAIR replacement rule by EPA.

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SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The Permitting Authority for this project is the Bureau of Air Regulation in the Division of Air Resource Management of the Department. The mailing address for the Bureau of Air Regulation is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. All documents related to applications for permits shall be submitted to the Bureau of Air Regulation in the Division of Air Resource Management of the Department.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Air Resource Section of the Department's South District Office at: 2295 Victoria Avenue, Suite 364, Fort Myers, Florida 33901-3881.

3. Appendices: The following Appendices are attached as a part of this permit and must be complied with by the permittee:
   a. Appendix ASME: American Society of Mechanical Engineers (ASME) Form for Abbreviated Efficiency Test;
   b. Appendix BMP: Best Management Practices;
   c. Appendix CC: Common Conditions;
   d. Appendix CEMS: Continuous Emissions Monitoring System (CEMS) Requirements;
   e. Appendix CF: Citation Formats and Glossary of Common Terms;
   f. Appendix CTR: Common Testing Requirements;
   g. Appendix Db: NSPS, Subpart Db – Standards of Performance Small Industrial-Commercial-Institutional Steam Generating Units;
   h. Appendix Eb: NSPS, 40 CFR 60, Subpart Eb – Standards of Performance for Large Municipal Waste Combustors;
   i. Appendix F: 40 CFR 75, Appendix F, Section 5 - Measurement of Boiler Heat Input Rate;
   j. Appendix GC: General Conditions;
   k. Appendix-GP: Identification of General Provisions, Subpart A from NSPS 40 CFR 60 and Subpart A from NESHAP 40 CFR 63;
   l. Appendix IIII: NSPS, Subpart IIII - Stationary Compression Ignition Internal Combustion Engines;
   m. Appendix Kb: NSPS, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels;
   n. Appendix LDAR: Preliminary Leak Detection and Repair (LDAR) Program;
   o. Appendix VVa: NSPS, Subpart VVa – Standards of Performance for Equipment Leaks of VOC in the SOCMI; and
   p. Appendix ZZZZ: NESHAP, Subpart ZZZZ - Stationary Reciprocating Internal Combustion Engines (RICE).

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.]

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6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Source Obligation:

   (a) Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit.

   (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 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.

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

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

8. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

9. Unconfined Emissions of Particulate Matter: 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. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. Reasonable precautions include the following:

   a. Paving and maintenance of roads, parking areas and yards;

   b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing;

   c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities;

   d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulate from becoming airborne;

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e. Landscaping or planting of vegetation;

f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter;

g. Confining abrasive blasting where possible; and,

h. Enclosure or covering of conveyor systems. In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

[See also Appendix BMP; Rule 62-296.320(4)(c), F.A.C.]

10. Excess Emissions: Except as required by specific conditions of this permit dealing with excess emissions with regard to individual emission units, the following conditions apply to excess emissions at SRF.

    a. Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing best operational practices to minimize emissions are adhered to and 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.

    b. Malfunction: 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.

    c. Department Discretion: Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.

    d. Department Notification: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

    [Rule 62-210.700, F.A.C.]

11. NSPS, Subpart VVa: Emission units associated with the SRF project that can leak volatile organic compounds (VOC) are subject to NSPS Subpart VVa – Standards of Performance for Equipment Leaks of VOC in the SOCMI. A requirement of Subpart VVa is the development of a leak detection and repair (LDAR) program. A preliminary LDAR program plan is included as Appendix LDAR in Section IV of this permit. The permittee is required to submit a final LDAR program plan to the Compliance Authority for approval no later than 90 days before the SRF facility becomes operational. The SRF must demonstrate compliance with NSPS, Subpart VVA no later than 180 days after the initial startup of the SRF facility. [NSPS, Subpart VVa and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

12. Equipment Subject to NSPS, Subpart VVa: Equipment such as pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves, line valves and flanges or other connectors in VOC service and any devices or systems subject to NSPS, Subpart VVa and the associated emissions unit must be identified with a listed submitted to the Compliance Authority no later than 90 days before the SRF facility becomes operational. [Rule 62-4.070, F.A.C. Reasonable Assurance]

13. Objectionable Odors Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. The permittee shall submit an odor control plan (OCP) to the Compliance Authority no later than 90 days before the SRF facility becomes operational that addresses the procedures and practices that will be used to control facility wide odors. [Rule 62-296.320(2), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

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{Permitting Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.}

14. Open Burning Prohibited: No person shall ignite, cause to be ignited, or permit to be ignited, any material which will result in any prohibited open burning as regulated by chapter 62-256, F.A.C.; nor shall any person suffer, allow, conduct or maintain any prohibited open burning.
[Rule 62-256.300, F.A.C.]

15. General Visible Emissions (VE) Standard:

    a. 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 that designated as Number 1 on the Ringelmann Chart (20 percent opacity).

    b. Notwithstanding subparagraph 62-296.320(4)(b)1., F.A.C., above, the owner or operator of an emissions unit subject to the general visible emission standard may request the Department to establish a higher visible emissions standard for that emissions unit. The owner or operator may request that a visible emissions standard be established at that level at which the emissions unit will be able, as indicated by compliance tests, to meet the opacity standard at all times during which the emissions unit is meeting the applicable particulate matter standard. The Department shall establish such a standard, through the permitting process, if it finds that:

        (i) The emissions unit was in compliance with the applicable particulate emission standard while a compliance test was being conducted but failed to comply with the general visible emissions standard during the test;

        (ii) The emissions unit and associated air pollution control equipment were operated and maintained in a manner to minimize the opacity emissions during the compliance test; and

        (iii) The emissions unit and associated air pollution control equipment were incapable of being adjusted or operated in such a manner as to meet the opacity standard.

        (iv) If the presence of uncombined water is the only reason for failure to meet visible emission standards given in this rule, such failure shall not be a violation of this rule.

    [Rule 62-296.320(4)(b) F.A.C, General Visible Emissions Standard]

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A. Biomass Material Handling and Preparation (EU-001)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
001	Biomass delivery, handling and preparation: • Ethanol Process Feedstock: Freshly harvested sweet sorghum from adjacent/surrounding area farmland is delivered by trucks to the SRF facility. The trucks will be weighed on a weighing bridge as they enter the unloading area. The sorghum in the trucks is then transferred to the feed table via a tipping trailer/railcar unloader or front end unloader. The feed table is equipped with chains that convey the sorghum towards the main conveyor that feeds the juice extraction system. Sorghum bagasse is produced during the juice extraction process. • Boiler Fuel Biomass: Sweet sorghum bagasse from the juice extraction process will be used as the primary fuel in the SRF biomass boiler. The bagasse will be sent directly to the boiler or stored in a storage pile in the biomass yard. Prepared (sized and partially dried) tree wood chips, including yard waste which constitutes municipal solid waste (MSW), will also be used as boiler fuel. The wood will be delivered to the plant site by truck utilizing the weighing and unloading system discussed above. The wood and yard waste will be stored in storage piles in the biomass yard. • Biomass Fuel Feed System: A single biomass fuel feed system for the boiler will be used. The system will consist of a drying system for the sweet sorghum bagasse, covered conveyors, boiler metering bins and biomass storage piles (bagasse and wood chips). The biomass fuel will be fed from the storage piles to the conveyor system using front-end loaders. Only one feed system is required, since sorghum bagasse and wood may be fired independently or in combination in the boiler. • Biomass Design Throughput: The maximum amount of biomass burned in the boiler is estimated at 382,080 tons per year (TPY) of sorghum bagasse and 140,069 TPY of wood/yard waste, for a total of 522,149 TPY. For the biomass handling system, an additional 10 percent (%) overhead is assumed for year-to-year variability in biomass fuel handled, resulting in 420,288 TPY of sorghum bagasse and 154,076 TPY of wood throughput.

EQUIPMENT

1. Biomass Delivery, Handling and Preparation: The permittee is authorized to install the following major pieces of equipment for the delivery, handling and processing of the sweet sorghum used in the ethanol production process and the bagasse and wood/trash used as boiler fuel:
   - Weighing bridge truck scale(s);
   - Tipping trailer/railcar unloader(s);
   - Sweet sorghum bagasse press drying system;
   - Feed table with transfer chains;
   - Enclosed transfer conveyors consisting of reclaim, return, transfer, distribution and surplus conveyors; and
   - Biomass yard waste containing biomass fuel storage piles (bagasse and wood).

   [Application No. 0510032-001-AC and Rule 62-4.070(3), F.A.C.]

2. Air Pollution Control Equipment: To minimize fugitive particulate matter (PM), PM with a mean diameter of 10 micrometers (µm) or less (PM_{10}) and PM with a mean diameter of 2.5 µm or less ($PM_{2.5}$); henceforth called PM, biomass conveyors shall be enclosed. Where required to meet the opacity requirement given in

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Specific Condition 10 of this subsection, the permittee shall install dust collectors on the conveyor transfer and drop points. The dust collectors shall be designed to obtain an outlet PM loading of 0.005 grains per dry standard cubic foot (gr/dscf).

{Permitting Note: Enclosed conveyors means that the conveyance belt for the biomass is totally enclosed from above thus preventing wind from causing fugitive dust emissions. However, the bottom of the conveyance belt shall be accessible for maintenance and repairs.}

[Rules 62-212.400 (BACT) and 62-4.070(3), F.A.C.]

3. Fugitive Dust Control: SRF shall utilize reasonable precautions for controlling fugitive PM emissions from this emission unit. These include but are not limited to:
   - Enclosing material drop points, transfer points, shredders and screens wherever practical;
   - Contouring storage piles to minimize wind erosion;
   - Utilizing water sprays on storage piles as needed;
   - Paving all main plant roads;
   - Watering of gravel surfaces as needed to control dust; and
   - Weekly sweeping and watering of paved surfaces as needed to remove dust.

   The permittee shall also comply with additional precautions listed in Appendix BMP- Best Management Practices and **Specific Condition 9** of Section 2 of this permit.

   [Rules 62-212.400 (BACT) and 62-4.070(3), F.A.C.]

PERFORMANCE RESTRICTIONS

4. 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 weekly with a vacuum sweeper in good working order to prevent the buildup of dirt and silt on the roadway surfaces. A record of the sweeping shall be kept and made available to the Compliance Authority upon request.
   [Rules 62-212.400 (BACT) and 62-4.070(3), F.A.C.]

5. Gravel Areas: The gravel surfaces at the SRF facility shall be wetted sufficiently during dry conditions to maintain surface moisture to minimize fugitive dust emissions. A record of the wetting shall be kept and made available to the Compliance Authority upon request.
   [Rules 62-212.400 (BACT) and 62-4.070(3), F.A.C.]

6. Sweet Sorghum Bagasse and Wood Biomass Storage Piles: The biomass storage piles will be located in the biomass yard in the southeastern quadrant of the SRF site. To control odors and minimize the chance of spontaneous combustion, biomass in the storage piles shall be used in a first-in first-out (FIFO) basis. Piles will be wetted as necessary to minimize fugitive dust emissions. Contouring storage piles shall be done to minimize wind erosion. Overall, biomass storage pile management shall follow the procedures described in Appendix BMP of this permit.
   [Application No. 0510032-001-AC; Rules 62-212.400 (BACT) and 62-4.070(3), F.A.C.]

7. Authorized Ethanol Production Biomass: Biomass used in the ethanol production process at the SRF facility shall be sweet sorghum feedstock. In addition, sweet sorghum syrup/molasses and/or sugarcane molasses may be used as the feedstock when sweet sorghum feedstock is not available.
   [Application No. 0510032-001-AC and Rule 62-4.070(3), F.A.C.]

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8. Authorized Boiler Fuel Biomass: Biomass authorized to be used as fuel in the biomass boiler at the SRF consists of sweet sorghum bagasse, wood chips and yard waste as per 40 CFR §60.51b. Appendix BMP further defines the types of biomass that shall and shall not be used at the SRF facility in the ethanol production process and as boiler fuel and includes quality assurance (Q&A) procedures to ensure the biomass used meets the requirements specified in this permit.
[Application No. 0510032-001-AC and Rule 62-4.070(3), F.A.C.]

9. Hours of Operation: The hours of operation of this emission unit are not limited (8,760 hours per year).
[Application No. 0510032-001-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

10. Opacity Standard: As determined by EPA Method 9, there shall be no visible emissions (VE) greater than 5% opacity at drop points, transfer points and dust collector outlets (if installed).
[Rule 62-212.400(5)(c), F.A.C.]

11. Best Management Practices (BMP): A control plan to control PM emissions from biomass (sweet sorghum, sweet sorghum bagasse and wood/yard waste) delivery, handling and preparation is given in Appendix BMP and shall be followed at all times by the permittee. This plan also addresses measures to minimize the chance of the spontaneous combustion of biomass storage piles and Q&A measures for biomass delivered to the SRF facility. As the engineering details of the Biomass Delivery, Handling and Preparation emissions unit becomes finalized, the permittee shall submit an updated BMP plan to the Compliance Authority no later than 90 days before the SRF facility becomes operational.
[Rules 62-212.400 (BACT) and 62-4.070(3), F.A.C.]

{Permitting Note: PM emissions from biomass deliveries, bagasse handling and wood/trash handling during operation of the SRF facility are estimated to be 21 tons in any consecutive twelve month period.}
[Application No. 0510032-001-AC]

NSPS SUBPART Eb APPLICABILITY

12. Cofired Combustor: The SRF facility may use yard trash as a component of its fuel mix for the facility's biomass boiler. As per 40 CFR §60.51b yard waste is defined as municipal solid waste (MSW). To be exempt from the requirements of NSPS 40 CFR 60, Subpart Eb for large municipal solid waste combustors, the biomass boiler must meet the definition of a cofired combustor per 40 CFR §60.51b and meet the requirements of §60.50b(j)(1) to §60.50b(j)(3). The permittee must keep records on site showing that the biomass boiler is a cofired combustor and that the unit is combusting a fuel feed stream, 30% or less of the weight of which is comprised, in aggregate, of MSW (yard waste) as measured on a calendar quarter basis. These records must be made available to the Compliance Authority upon request. To meet the definition of a cofired combustor, the fuel slate for the boiler can consists of no more than 30% by weight of yard waste on a quarterly basis. The applicable portions of Subpart Eb are contained in Appendix Eb of this permit.
[40 CFR 60, Subpart Eb and Rule 62-4.070(3), F.A.C.]

TESTING AND MONITORING REQUIREMENTS

13. Initial Compliance Tests: The drop points, transfer points and dust collector outlets (if installed) of this emissions unit shall be tested to demonstrate initial compliance with the emissions standards for opacity given in **Specific Condition 10** of this subsection. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit.
[Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]

14. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the drop points, transfer points and dust collector (if installed) outlets of the emissions unit shall be tested to demonstrate compliance with the emissions standards for opacity given in **Specific Condition 10** of this subsection.
[Rules 62-4.070(3) and 62-297.310(7)(a)4, F.A.C.]

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15. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]

16. 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.

The above method is described in Appendix A of 40 CFR 60 included as Appendix GP of this permit and are adopted by reference in Rule 62-204.800, F.A.C. No other methods 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 CFR 60]

RECORDS AND REPORTS

17. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit. For each test run, the report shall also indicate the operating rate. [Rule 62-297.310(8), F.A.C.]

18. Notification, Recordkeeping and Reporting Requirements: The permittee shall maintain records of the amount of biomass consisting of sweet sorghum, sweet sorghum syrup/molasses, sugarcane molasses, wood and yard trash delivered, handled and processed on a daily, monthly, quarterly and 12 month rolling average basis. These records shall be submitted to the Compliance Authority on a quarterly basis or upon request. [Rule 62-4.070(3), F.A.C.]

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B. Cogeneration Biomass Boiler (EU-002)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
002	*Description*: The boiler will be a biomass-fueled bubbling fluidized bed (BFB) or stoker (grate) type boiler wherein biomass (sweet sorghum bagasse, wood chips and yard waste as per 40 CFR §60.51b), biogas, ULSD fuel oil and propane are combusted to generate high temperature and high pressure steam. The steam will then be used in the ethanol production process and also sent to two STG to generate up to 30 MW of electrical power. *Fuels*: Sweet sorghum bagasse, a residual from the ethanol production process, will be used as the primary fuel in the biomass boiler with wood chips including yard waste (MSW) and biogas produced in onsite anaerobic reactors used as supplemental and backup fuels. In addition, the boiler will be capable of combusting ULSD fuel oil and propane for startup, shutdown and flame stabilization. *Capacity*: The maximum heat input capacity to the boiler is 536 mmBtu/hr on a 4 hour basis and 488 mmBtu/hr on a 24-hour basis. Steam production capability will be approximately 283,800 pounds per hour (lb/hr). The maximum heat input capacity using fossil fuels in the biomass boiler shall be physically constrained by burner design to be less than 250 mmBtu/hr so the boiler is not subject to 40 CFR 60 NSPS, Subpart Da. *Controls*: Good combustion practices (GCP) leading to the efficient combustion of biomass in the boiler, including an over-fired air (OFA) system, to minimize formation of PM, nitrogen oxides (NO_X), carbon monoxide (CO), volatile organic compounds (VOC) and HAP; Selective Non-Catalytic Reduction (SNCR), Selective Catalytic Reduction (SCR) or a combination of the two with urea or anhydrous ammonia (NH_3) injection to destroy NO_X; an oxidation catalyst (ox-cat) system (if needed) to control VOC, CO and HAP ; use of inherently clean fossil fuels fired in low-NO_X burners (LNB) for boiler startup, shutdown and flame (bed) stabilization to minimize formation of PM, NO_X, sulfur dioxide (SO_2) and HAP; an dry sorbent injection system (DSIS) utilizing lime, trona, or sodium bicarbonate to control SO_2, sulfuric acid mist (SAM) and acid gas HAP; a wet scrubber to remove hydrogen sulfide (H_2S) from the biogas prior to combustion in the boiler to minimize SO_2 emissions; a wet sand separator (cyclone) and a electrostatic precipitator (ESP) or fabric filter baghouse to further control PM and VE, i.e., opacity; and, if necessary, a hydrogen chloride (HCl) and hydrogen fluoride (HF) control strategy to ensure SRF is minor source for HAP emissions. *Stack Parameters*: Flue gas from the biomass boiler will discharge to the atmosphere via a stack with a design height of 150 feet and a design diameter of 10 feet. The flue gas exit temperature will be approximately 361 degrees Fahrenheit (°F) with a design volumetric flow rate of 180,505 actual cubic feet per minute (acfm). *Continuous Emissions and Opacity Monitoring Systems (CEMS, COMS)*: Emissions of CO, NO_X, SO_2 and HCl will be monitored and recorded by CEMS. VE (opacity) will be monitored and recorded by COMS. *Applicability of 40 CFR Subpart Db (NSPS Subpart Db)*: This unit is subject to NSPS Subpart Db - Industrial-Commercial-Institutional Steam Generating Units because it has a maximum heat input capacity greater than 100 mmBtu/hr from combusted fuels and is not subject to NSPS Subpart Da because it has a maximum heat input capacity less than 250 mmBtu/hr from combusted fossil fuels. [Application No. 0510032-001-AC]

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B. Cogeneration Biomass Boiler (EU-002)

{Permitting Note: In accordance with Rule 62-212.400, F.A.C., the Department established permit standards for the biomass-fueled boiler that represent the Best Available Control Technology (BACT) for emissions of NO_X, PM/PM_{10}, VOC, SO_2 and CO. The biomass-fueled boiler is subject to the federal New Source Performance Standards (NSPS) in Subpart Db (industrial boilers) of 40 CFR 60, which is adopted by reference in Rule 62-204.800, F.A.C. NSPS Subpart Db for Industrial Boilers is provided in Appendix Db of this permit.}

EQUIPMENT

1. Construction of Biomass-Fueled Boiler: The permittee is authorized to construct one biomass-fueled BFB or stoker boiler with a maximum heat input rate of 536 mmBtu/hr on a 4 hour average basis and 488 mmBtu/hr on a 24 hour basis for steam generation at the SRF facility. The boiler shall have a multi-stage superheater, air heater, and economizer. LNBs shall be utilized for the ULSD fuel oil and propane firing. The boiler shall include:
   - Biomass fuel feeders;
   - High-performance OFA system consisting of air headers, air nozzles, dampers and an OFA fan;
   - Soot blowers;
   - Forced draft fan;
   - Induced draft (ID) fan; and
   - Pneumatic distribution air fans.

   [Application No. 0510032-001-AC]

2. Air Pollution Control Equipment: To comply with the emission standards of this permit, the permittee shall install the following air pollution control equipment on the biomass boiler.

   a. *Wet Sand Separator (Cyclone)*: The permittee shall design, install, operate and maintain a wet sand separator to remove fine sand particles from the flue gas exhaust prior to the ESP and help in the control of acid gas HAP emission. The wet sand separator shall be on line and functioning properly whenever the boiler is in operation. If necessary, the wet sand separator shall be modified to aid in the removal of acid gases to meet the emission limits S**pecified Condition 10** of this subsection.

   b. *ESP or Baghouse*: The permittee shall design, install, operate and maintain an ESP or fabric filter baghouse to remove PM from the flue gas exhaust and achieve the PM standards specified in this subsection. During startup conditions, the ESP shall be on line and functioning properly prior to combusting any biomass. During normal operation, the ESP shall be on-line and functioning properly at all times.

   c. *SNCR, SCR or a Combined SNCR/SCR System*: The permittee shall design, install, operate, and maintain a urea or anhydrous ammonia (NH_3) based SNCR, SCR or a combined SNCR/SCR system to reduce NO_X emissions in the flue gas exhaust and achieve the NO_X emissions standards specified in this subsection. The SNCR, SCR or a combined SNCR/SCR system shall be on line and functioning properly whenever the boiler is in operation, other than during startup conditions. During startup conditions, the SNCR, SCR or combined SNCR/SCR manufacturer's instructions shall be followed regarding operation of the systems.

   d. *DSIS*: The permittee shall design, install, operate, and maintain a DSIS to inject lime, trona, or sodium bicarbonate into the flue gas to control SO_2 emissions to the limits specified in this subsection. The DSIS will also help control acid gas HAP emissions. The HCl and SO_2 CEMS output data expressed in lbs/hr averaged over a 24 hour period shall be reviewed by trained plant personnel on a daily and monthly basis to determine required operation of, or adjustment to the sorbent injection augmentation to ensure the HCl, HF and SO_2 emission standards will be maintained. CEMS based HCl and SO_2 emissions data shall be reported to the Department on a quarterly basis.

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{Permitting note: Sorbent injection augmentation is not continuously required if compliance with the HCl, HF and SO_2 emission standards is established by the CEMS output data.}

e. *Ox-Cat or SCR System*: If necessary, the permittee shall design and build the project to facilitate future installation of a SCR or an ox-cat system to control in conjunction with GCP emissions of NO_X, CO, VOC and organic HAP emissions to the standards specified in this subsection. The permittee may install an SCR or an Ox-Cat system during project construction or after notifying the department at a future data. After notification, the permittee shall have twelve consecutive months to complete the SCR or Ox-Cat system installation. The permittee may install the SCR or Ox-Cat system at without an additional permit application any time prior to expiration of this construction permit.

f. *Biogas Scrubber*: The permittee shall design, install, operate and maintain a wet scrubber to remove H_2S from the biogas from the bioreactors prior to combustion in the biomass boiler. The scrubber shall have a design control efficiency of at least 98% and shall be on line and operating as necessary to meet the SO_2 emissions limits specified in this subsection.

g. *Circumvention*: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]

{Permitting Note: In addition to the Ox-Cat system, GCP will be used to control emissions of CO and VOC to the limits specified in this permit.}

[Applicant's Request; Application No. 0510032-001-AC; Rules 62-212.400(10) (PSD), Control Technology Review; 62-4.070(3) and 62-210.200(PTE), F.A.C.]

PERFORMANCE REQUIREMENTS

3. Authorized Fuels: The biomass boiler is authorized to combust as its primary fuels: sweet sorghum bagasse that is a byproduct from the ethanol production process; the biogas produced in onsite anaerobic reactors; wood chips; and yard waste as defined in 40 CFR §60.51b. In addition, the boilers are authorized to combust ULSD fuel oil or propane for startup, shutdown and flame stabilization. SRF has estimated the fuel mix to be used in the biomass boiler on an annual basis. This estimate fuel mix in mmBtu/yr is provided below. [Application No. 0510032-001-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

Operational Scenario	Annual Average[1] Heat Input from Fuels in mmBtu/yr					Total mmBtu/yr[2]
	Bagasse	Wood	ULSD Fuel Oil	Biogas	Propane	
Normal	2,903,808	1,190,583	0	0	0	4,094,391
Max. Biogas	2,903,808	907,352	0	231,420	0	4,042,580
Max. ULSD	2,903,808	639,543	450,240	0	0	3,993,591
Max. Propane	2,903,808	639,543	0	0	450,240	3,993,591

1. Annual average based on an average of 258,000 lb/hr of steam production, 488 mmBtu/hr of heat input or 8,400 hours per year of boiler operation.
2. Based on heating values as follows: bagasse – 3,800 Btu/hr (wet); wood – 4,250 Btu/hr (wet); ULSD fuel oil – 138,000 Btu per gallon; biogas – 725 Btu per standard cubic feet; and propane – 90,500 Btu per gallon.

4. Boiler Heat Input Rate: The maximum heat input rate from all fuel combinations in the biomass boiler is 536 mmBtu/hr on a 4 hour average basis and 488 mmBtu/hr on a 24 hour average basis. Emission rates are based on the heat input of 488 mmBtu/hr. The permittee shall use the thermal efficiency method to calculate the boiler heat input rate, using the steam rate, steam pressure, and steam temperature measurements required per **Specific Condition 18** of this subsection, and feedwater temperature and pressure, to determine net enthalpy. The design boiler efficiency shall be used provided the boiler efficiency test required in **Specific Condition 17** of this subsection is at least 90% of the design boiler efficiency. The procedure given in Appendix ASME of this permit shall be used to measure the boiler efficiency. As an

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alternative, the procedures given in Appendix F of this permit may be used to calculate boiler heat input. [Application No. 0510032-001-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

5. Heat Input from Fossil Fuels: The maximum heat input capacity from combusting ULSD fuel and/or propane in the biomass boiler, as determined by the physical design of the boiler and design characteristics of the boiler burners must be limited to less than 250 mmBtu/hr.
[Application No. 0510032-001-AC; NSPS Subpart Db; Rules 62-4.070(3); and 62-210.200(PTE), F.A.C.]

6. Hours of Operation: The hours of operation for the biomass boiler are restricted to 8,400 hours in any consecutive 12 month period.
[Application No. 0510032-001-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

7. GCP: The emission standards established by this permit rely on "good combustion practices" to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the steam generating unit and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good combustion practices as well as methods of minimizing excess emissions. [Rule 62-4.070(3), F.A.C. and 62-212.400(5), F.A.C.]

NSPS APPLICABILITY

8. Subpart Eb - Cofired Combustor: The SRF facility will use yard waste as a component of its fuel mix for the facility's biomass boiler. As per 40 CFR §60.51b yard waste is defined as MSW. To be exempt from the requirements of NSPS 40 CFR 60, Subpart Eb for large municipal solid waste combustors, the boiler must meet the definition of a cofired combustor per 40 CFR §60.51b and meet the requirements of §60.50b(j)(1) to §60.50b(j)(3). The permittee must keep records on site showing that the biomass boiler is a cofired combustor and that the unit is combusting a fuel feed stream, less than 30% of the weight of which is comprised, in aggregate, of MSW as measured on a calendar quarter basis. These records must be made available to the Compliance Authority upon request. The applicable portions of Subpart Eb are contained in Appendix Eb of this permit. [40 CFR 60, Subpart Eb and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

9. Subpart Db - Steam Generating Units: The SRF biomass boiler must meet all applicable requirements of NSPS 40 CFR 60, Subpart Db - Industrial-Commercial-Institutional Steam Generating Units. Subpart Db is contained in Appendix Db of this permit. [Application No. 0510032-001-AC and 40 CFR 60, Subpart Db]

EMISSIONS STANDARDS

10. Emission Limits: Emissions from the biomass boiler at SRF facility shall not exceed the following standards.

Parameter	Limit	Basis	Compliance
NO_X [a]	0.10/0.08 lb/mmBtu	BACT	30-day rolling by CEMS
SO_2 [b]	0.060 lb/mmBtu	BACT	30-day rolling by CEMS
CO	0.10 lb/mmBtu	BACT	30-day rolling by CEMS [l]
	240 TPY	Rule 62-4.070(3), F.A.C.	12-month rolling by CEMS [l]
SAM [c]	0.003 lb/mmBtu	Rule 62-4.070(3), F.A.C.	Initial and Annual Stack Test
HCl [d]	2.0 TPY	Emission Cap Rule 62-4.070(3),F.A.C.	12-month, rolled monthly by CEMS
HF [d]	0.475 lb/hr	Rule 62-4.070(3), F.A.C.	Initial and Annual Stack Tests
Σ HCl, HF, Cl_2, Organic HAP, Metal HAP [e]	20.0 TPY	Rule 62-4.070(3), F.A.C.	12-month Blocks CEMS + Initial and Annual Stack Tests [f]
PM/PM_{10} (filterable) [g]	0.015 lb/mmBtu	BACT	Initial and Annual Stack Tests

B. Cogeneration Biomass Boiler (EU-002)

Parameter	Limit	Basis	Compliance
VE [h]	10% Opacity (20% once/hr)	BACT	6-minute blocks by COMS Initial Stack Test
VOC	0.010 lb/mmBtu	BACT	Initial and Annual Stack Tests
NH_3 Slip [i]	35/25 ppmvd @ 7% O_2	Rule 62-4.070(3), F.A.C.	Initial and Annual Stack Tests
Heat Input Rate [j]	488 mmBtu/hr	Rule 62-210.200(PTE), F.A.C.	24-hour, by 40 CFR 75, App. F [k]
	536 mmBtu/hr	Rule 62-4.070(3), F.A.C.	4-hour, by 40 CFR 75, App. F [k]

a. CEMS based NO_X limit in pounds per million Btu heat input (lb/mmBtu) will ensure compliance with NSPS Subpart Db NO_X limit of 0.20 lb NO_X/mmBtu. Limit of 0.10 lb/mmBtu is for the stoker boiler option while the 0.08 lb/mmBtu limit is for the BFB boiler option.
b. CEMS based SO_2 limit in lb/mmBtu will ensure compliance with NSPS Subpart Db SO_2 limit of 0.20 lb SO_2/mmBtu.
c. SAM emission limit exceeds 7 TPY triggering PSD for this pollutant requiring a BACT.
d. Individual HCl and HF mass emission limits to provide reasonable assurance that annual emissions of all HAP from the SRF facility will be less than 25 TPY. RATA testing for CEMS may be used in lieu of initial stack testing.
e. Sum (Σ) of the following hazardous air pollutants (HAP): HCl, HF, organic HAP [C_2H_4O (acetaldenhyde), C_3H_4O (acrolein), C_6H_6 (benzene), $C_{24}H_{38}O_4$ (Bis(2-ethylhexyl)phthalate), Cl_2 (chlorine), $C_6H_4Cl_2$ (1,4-Dichlorobenzene), CH_2O (formaldehyde), C_6H_{14} (Hexane), C_8H_8 (styrene), C_7H_8 (toluene), PAH/POM (polycyclic aromatic hydrocarbon/polycyclic organic matter)] and metal HAP [Cr (chromium), Pb (lead), Mn (manganese), Ni (nickel)].
f. During each fiscal year (October 1 to September 30), the emission limit is 12 month block of HCl CEMS emissions data in TPY combined with HF, organic and metal HAP emission rates in TPY from a stack test during the same fiscal year.
g. Filterable fraction as measured by EPA Method 5. By meeting this emission limit, the 0.2 lb/mmBtu limit of Rule 62-296.410, F.A.C., Carbonaceous Fuel Burning Equipment will also be met.
h. During startups, shutdowns and malfunction the following limits apply: 20% opacity (6-minute blocks) except for one 6-minute block per hour of 27%. By meeting the VE standard the 30% opacity except that 40% opacity for no more than 2 minutes in any hour of Rule 62-296.410, F.A.C., Carbonaceous Fuel Burning Equipment will also be met.
i. Anhydrous ammonia (NH_3) slip in parts per million by dry volume at 7% oxygen (ppmvd @ 7% O_2). The 35 ppmvd applies to the stoker boiler option while the 25 ppmvd applies to the BFB boiler option.
j. Except for initial and annual HF stack test emission rates, 24 hour average heat input rate of 488 mmBtu/hr in conjunction with lb/mmBtu limits obviates the need for lb/hr emission limits. The 4 hour average of 536 mmBtu/hr input is included as a limit to ensure the validity of air modeling results.
k. With the approval of the Compliance Authority, the Permittee may use the method given in Appendix ASME to calculate the boiler heat input rate.
l. The 30-day limit is subject to CEMS data exclusion. The 12-month limit is not subject to CEMS data exclusion.

[Application No. 0510032-001-AC; Rule 62-212.400(10) (PSD), Control Technology Review; and 40 CFR 60, Subpart Db]

11. Continuous Monitoring Requirements: The permittee shall install, calibrate, maintain and operate CEMS, a COMS and a diluent monitor to measure and record the emissions of SO_2, NO_X, CO and HCl, and opacity from the biomass boiler stack in a manner sufficient to demonstrate continuous compliance with the CEMS-based and COMS-based emission standards in **Conditions 10** above. Each CEMS and COMS shall be installed, calibrated and properly functioning within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup and prior to the initial performance tests. Within one working day of discovering emissions in excess of a SO_2, NO_X, HCl or CO emission limit (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.

    a. *SO_2 CEMS*: The SO_2 CEMS shall be certified, operated, and maintained in accordance with the requirements of 40 CFR 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR 75.

    b. *NO_X CEMS*: The NO_X CEMS shall be certified, operated, and maintained in accordance with the requirements of 40 CFR Part 75. Recordkeeping and reporting shall be conducted pursuant to Subpart Db in 40 CFR 60 and Subparts F and G in 40 CFR 75.

    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,

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Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually 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 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately, considering the allowable methods of operation and corresponding emission standards.

d. *HCl CEMS*: The HCl CEMS shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 15, EPA Method Other Test Method (OTM 22) or alternative specifications approved by the Department. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, EPA Method OTM 23 or alternative procedures approved by the Department. A Data Assessment Report shall be made each calendar quarter and reported semiannually to the Compliance Authority. The RATA tests required for the HCl monitor shall be performed using EPA Method 26 or 26A as detailed in Appendix A of 40 CFR 60 or by Method 320 as detailed in Appendix A of 40 CFR 63. The HCl monitor span values shall be set, considering the allowable methods of operation and corresponding emission standards. Approval of specific initial performance specifications and quality assurance and control (Q&A) procedures must be provided to the Department prior to installation and operation of the CEM system.

e. *COMS*: In accordance with 40 CFR 60.48b(a) the permittee shall install, calibrate, operate and maintain a continuous opacity monitor (COM) to continuously monitor and record opacity from the steam generating unit. The COMS shall be certified pursuant to 40 CFR 60 Appendix B, Performance Specification 1.

f. *Diluent Monitor*: The oxygen (O_2) or carbon dioxide (CO_2) content of the flue gas shall be monitored at the location where CO and NO_X are monitored. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75.

[Rule 62-212.400(10), F.A.C.; Rule 62-210.200(PTE), F.A.C.; Rule 62-4.070(3), F.A.C.; and 40 CFR 60, Subpart Db and Appendices]

STARTUP, SHUTDOWN, AND MALFUNCTION REQUIREMENTS

12. Malfunction Notifications: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Compliance Authority in accordance with the following. If the permittee is temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the permittee shall immediately (within one working day) notify the Compliance Authority. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules. If requested by the Compliance Authority, the owner or operator shall submit a quarterly written report describing the malfunction. [Rules 62-210.700(6) and 62-4.130, F.A.C.]

13. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), F.A.C.]

14. Emission Limit Compliance and Excess Emissions: Because of the long-term nature of the NO_X, SO_2 and HCl mass emission rate limits and as part of PSD and the associated BACT determination, all emissions data for these pollutants, including periods of startup, shutdown and malfunction, shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), 62-210.200(PTE); Rule 62-212.400(10) (PSD), Control Technology Review; and Rule 62-4.070(3), F.A.C.]

15. Excess Emissions Allowed for CO: As specified in this condition, excess emissions resulting from startup, shutdown and documented malfunctions are allowed provided that operators employ the best operational

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practices to minimize the amount and duration of emissions during such incidents. CO emission data exclusions resulting from startup, shutdown, or documented malfunctions shall not exceed two hours in any 24-hour period except for the specific cases listed below. A "documented malfunction" means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail.

a. *Cold Startup*: For a cold startup of the boiler, CO emission data exclusions shall not exceed six (6) hours in any 24-hour period. A cold "startup of the steam turbine system" is defined as startup of the boiler following a shutdown lasting at least 24 hours.

b. *Warm Startup*: For a warm startup of the boiler, CO emission data exclusions shall not exceed three (3) hours in any 24-hour period. A warm "startup of the steam turbine system" is defined as startup of the boiler following a shutdown lasting less than least 24 hours.

c. *Shutdown*: For shutdown of the boiler CO emission data exclusions shall not exceed two (2) hours in any 24-hour period. Shutdown is defined as the cessation of the operation of the boiler for any purpose after steam generation drops below 100,000 lb/hr.

16. Excess Emissions Allowed – Opacity Requirements: As provided by the authority in Rule 62-210.700(5), F.A.C., the following conditions supersede the provisions in Rule 62-210.700(1), F.A.C.

    a. Opacity: During startup, shutdown and malfunctions, the stack opacity shall not exceed 20% based on a 6-minute block average, except for one 6-minute block per hour that shall not exceed 27% opacity. [Rule 62-210.700(5), 62-210.200(PTE); Rule 62-212.400(10) (PSD), Control Technology Review; and Rule 62-4.070(3), F.A.C.]

TESTING REQUIREMENTS

17. Boiler Performance Test: Within 180 days of first fire on the primary fuel (sweet sorghum bagasse) and biogas as a supplemental fuel, with ULSD fuel oil or propane used for flame stabilization; the SRF shall conduct a test to determine the boiler thermal efficiency. Within 180 days of first fire with wood/sorghum trash as the primary fuels and biogas as a supplemental fuel, with ULSD fuel oil or propane for flame stabilization; the SRF shall conduct a test to determine the boiler thermal efficiency. Each test shall be conducted in general abbreviated accord with ASME PTC 4, 1998 (See Appendix ASME of this permit). The abbreviated test procedure shall be agreed upon by all parties. The test shall be conducted when firing only the specified fuels with as close of fuel mix and heating values to the boiler design fuel mix and heating values as practical and shall be at least three hours long. The boiler steam conditions and production rate shall be monitored and recorded during the test. The primary fuel firing rate (in tons per hour and cubic feet per minute as appropriate) shall be calculated and recorded based on the steam parameters. Samples of the as-fired sweet sorghum bagasse and wood/sorghum trash shall be analyzed for the heating value (Btu/lb) and moisture content (%). A sample of the as-fired biogas shall be analyzed for the heating value (Btu/ft^3). The actual heat input rate (mmBtu/hour) shall be determined using the method given in **Specific Condition 16** below. Results of the test shall be submitted to the Compliance Authority within 45 days of completion. The boiler thermal efficiency test shall be repeated during the 12-month period prior to renewal of any operation permit. If the tested boiler thermal efficiency is less than 90% of the design boiler thermal efficiency, then the tested thermal efficiency shall be used in any future calculations of the heat input rate until a new test is conducted. [Applicant's Request and Rule 62-4.070(3), F.A.C.]

18. Boiler Heat Input Rate Calculation: The permittee shall use the thermal efficiency method in Specific Condition 4 of this subsection to calculate the boiler heat input rate. The procedure given in Appendix ASME of this permit shall be used to measure the boiler efficiency. As an alternative, the procedures given in Appendix F of this permit may be used to calculate boiler heat input. If used, Section 5 of Appendix F of 40 CFR 75 provides a methodology for calculation of the heat input rate to a boiler using F-Factors. The applicable portions of 40 CFR 75 for the calculation of the heat input rate to the biomass boiler at the SRF facility is contained in Appendix F of this permit. This procedure may be used to calculate the heat input

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rate in mmBtu/hr to the biomass boiler. [Rule 62-4.070(3), F.A.C. Reasonable Assurance]

19. Initial and Annual Stack Tests: In accordance with test methods specified in this permit, the biomass boiler shall be tested to demonstrate initial compliance with the emission standards for CO, NO_X, PM, SO_2, VOC, SAM, HF, HCl, opacity, anhydrous ammonia slip (NH_3), metal HAP and organic HAP. Relative Accuracy Test Audit (RATA) test for CEM can constitute initial stack tests for these pollutants. The tests shall be conducted within the maximum heat input rate to each boiler, but not later than 180 days after the initial startup of the boiler. Subsequent compliance stack tests for ammonia slip, SAM, PM, VOC, HF, metal HAP and organic HAP shall also be conducted during each federal fiscal year (October 1st to September 30th). Tests shall be conducted between 90% and 100% of the maximum heat input rate when firing only the primary fuels. CEMS data for CO, NO_X, SO_2 and HCl along with COMS data for opacity shall be reported for each run of the required stack tests for ammonia slip, SAM, PM, VOC, HF, metal HAP and organic HAP. The Department may require the permittee to repeat some or all of these initial stack tests after major replacement or major repair of any air pollution control or process equipment. [Rules 62-212.400(5)(c) and 62-297.310(7)(a) and (b), F.A.C.; and 40 CFR 60.8]

    {Permitting Note: All initial tests must be conducted between 90% and 100% of permitted capacity; otherwise, this permit will be modified to reflect the true maximum capacity as constructed. The initial HCl test is for informational purposes only to provide an early indication of likely compliance with the annual limit of 2.0 TPY.}

20. Test Methods: Any required stack tests shall be performed in accordance with the following methods.

EPA Method	Description of Method and Comments
CTM-027 320	Measurement of Ammonia Slip *or* Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content *{Notes: Methods shall be performed as necessary to support other methods.}*
5	Determination of Particulate Matter Emissions from Stationary Sources
6C	Measurement of SO_2 Emissions (Instrumental)
7E	Measurement of NO_X Emissions (Instrumental)
8	Determination of Sulfuric Acid and Sulfur Dioxide Emissions from Stationary Sources
9	Visual Determination of the Opacity
10B	Measurement of CO Emissions (Instrumental) *{Note: The method shall be based on a continuous sampling train.}*
18	Measurement of Gaseous Organic Compound Emissions (Gas Chromatography) *{Note: EPA Method 18 may be used (optional) concurrently with EPA Method 25A to deduct emissions of methane and ethane from the total hydrocarbons (THC) emissions measured by Method 25A.}*
19	Calculation Method for NO_X, PM, and SO_2 Emission Rates
25	Determination of Total Gaseous Nonmethane Organic Emissions as Carbon
25A	Measurement of Gaseous Organic Concentrations (Flame Ionization)
29	Metals Emissions from Stationary Sources

Method CTM-027 is published on EPA's Technology Transfer Network Web Site at http://www.epa.gov/ttn/emc/ctm.html . The other methods are specified in Appendix A of 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Compliance Authority. [Rules 62-204.800, F.A.C. and 40 CFR 60, Appendix A]

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OTHER MONITORING REQUIREMENTS

21. Steam Parameters: In accordance with the manufacturer's recommendations, the permittee shall install, calibrate, operate and maintain continuous monitoring and recording devices on the biomass boiler for the following parameters: steam temperature (°F), steam pressure (psig) and steam production rate (lb/hour). Records shall be maintained on site and made available upon request.
[Applicant's Request; Rules 62-4.070(3) and 62-212.400(5), F.A.C.]

22. Fuel Flow Meter: A fuel flow meter shall be installed on the biomass boiler to record the amount of fossil fuel (ULSD fuel oil or propane) used in the boiler on a hourly, monthly and 12 month rolling average basis.
[Rule 62-4.070(3), Reasonable Assurance]

23. SNCR, SCR or SNCR/SCR Combination Urea or NH_3 Injection Rate: In accordance with the manufacturer's specifications, the permittee shall install, calibrate, operate and maintain a flow meter to measure and record the urea or NH_3 injection rate for the SNCR, SCR or SNCR/SCR combination system for the biomass boiler. The permittee shall document the general range of urea or NH_3 flow rates required to meet the NO_X standard over the range of load conditions by comparing NO_X emissions with urea or NH_3 flow rates. During NO_X CEMS downtimes or malfunctions, the permittee shall operate at a urea or NH_3 flow rate that is consistent with the documented flow rate for the given load condition. Urea or NH_3 injection records shall be maintained on site and made available upon request.
[Rules 62-4.070(3) and 62-212.400(5), F.A.C.]

RECORDS AND REPORTS

24. Stack Test Reports: In addition to the information required in Rule 62-297.310(8), F.A.C., each stack test report shall also include the following information: steam production rate (lb/hour), heat input rate (mmBtu/hour), calculated authorized fuels firing rate (tons/hour, gallons per hour and cubic feet per minute as appropriate), and emission rates (lb/mmBtu, ppmvd @ 7% oxygen and lb/hr as appropriate). Results from any HCl emission rate stack tests conducted during the period addressed by the stack test report shall be included. [Rule 62-4.070(3), F.A.C.]

25. Monthly Operations Summary: By the tenth calendar day of each month, the permittee shall record the following parameters for the biomass boiler in a written or electronic log for the previous month of operation: hours of operation, tons of sweet sorghum bagasse, tons of wood chips and cubic feet of biogas, pounds of steam, total heat input rate and the updated 12-month rolling totals for each of these operating parameters. Cubic feet of propane or gallons of ULSD fuel oil used shall be recorded in a written or electronic log for the previous month of operation along with the updated 12-month rolling totals for each of these fossil fuels. In addition, the hourly heat input rate to the biomass boiler shall be recorded and reported. The Monthly Operations Summary shall be maintained on site and made available for inspection when requested by the Department.
[Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

26. Quarterly CO, NO_X, SO_2 and HCl and Opacity Emissions Report: Within 30 days following the end of each quarter, the permittee shall submit a report to the Compliance Authority summarizing CO, NO_X, SO_2, HCl and opacity emissions including periods of startups, shutdowns, malfunctions, and CEMS and COMS systems monitor availability for the previous quarter. If opacity COMS data is excluded from a compliance determination during the quarter due to a startup, shutdown or malfunction, the permittee shall include a description of the malfunction, the actual emissions recorded, and the actions taken to correct the malfunction. See Appendix CTR of this permit for the reporting format.
[Rules 62-4.070(3), 62-4.130, and 62-210.400(5)(c), F.A.C.]

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C. Cooling Towers (EU-003)

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
003	*Cooling Towers*: The SRF facility will have three mechanical draft cooling towers. One cooling tower, the machine cooling tower, will consist of a single cell used to cool miscellaneous machinery. A condensing set cooling tower, containing three cells, will be used to cool water coming from the power house condensing set. A third cooling tower also consisting of three cells will be used for cooling of process equipment used in ethanol production. [Application No. 0510032-001-AC]

EQUIPMENT

1. Machine Cooling Tower (Cooling Tower No. 1): The permittee is authorized to install one new 1-cell mechanical draft cooling tower with a design height of 35 ft, a circulating water flow rate of 3,434 gallons per minute (gpm) at a temperature of 77 °F and shall have a design drift rate of 0.001% to provide cooling to miscellaneous machinery at the SRF facility.

2. Condensing Set Cooling Tower (Cooling Tower No. 2): The permittee is authorized to install one new 3-cell mechanical draft cooling tower with a design height of 35 feet, a circulating water flow rate of 17,962 gpm at a temperature of 77 °F and shall have a design drift rate of 0.001% to provide cooling to the power house condensing set at the SRF facility.

3. Ethanol Process Equipment Cooling Tower (Cooling Tower No. 3): The permittee is authorized to install one new 3-cell mechanical draft cooling tower with a design height of 35 feet, a circulating water flow rate of 17,962 gpm at a temperature of 77 °F and shall have a design drift rate of 0.001% to provide cooling to ethanol production process equipment at the SRF facility.

[Application No. 0510032-001-AC and Rule 62-210.200 (PTE), F.A.C.]

PERFORMANCE RESTRICTIONS

4. Hours of Operation: The hours of operation of this emission unit are not limited (8,760 hours per year). [Application No. 0510032-001-AC and Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

5. Total Dissolved Solids (TDS): The makeup water used in the cooling towers may contain no more than 1,000 parts per million by weight (ppmw) of TDS. The makeup water in each cooling tower must be tested weekly for TDS. Records of each test must be kept on site and made available to the Compliance Authority upon request. [62-4.070, F.A.C. Reasonable Assurance]

EMISSIONS STANDARDS

6. Drift Rate: Within 60 days of commencing operation, the permittee shall certify that the cooling towers were constructed to achieve the specified drift rate of no more than 0.001% of the circulating water flow rate. [Rule 62-212.400(BACT), F.A.C.]

7. VOC Emissions: The permittee shall control VOC emissions by promptly repairing any leaking components in accordance with the approved LDAR plan. The permittee shall collect a sample of cooling water on a weekly basis from cooling towers No. 1 and No. 3 and analyze it for VOCs to enable the early detection of leaking heat exchangers and thereby minimizing VOC emissions from the cooling towers. [Application No. 0510032-001-AC; Rules 62-210.200 (PTE), 62-212.400(BACT) and 62-4.070, F.A.C. Reasonable Assurance; 40 CFR 60 NSPS, Subpart VVa]

   {Permitting Note: These work practice standards are established as BACT for $PM_{10}/PM_{2.5}$ and VOC emissions from the cooling towers.}

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C. Cooling Towers (EU-003)

TESTING AND MONITORING REQUIREMENTS

8. VOC Cooling Water Monitoring Plan: A monitoring plan detailing how the cooling tower water shall be monitored for VOC contamination from leaking heat exchangers as required by **Specific Condition 7** above shall be submitted to the compliance authority for approval no later than 180 days before the SRF facility becomes operational.
   [Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C.; Rule 62-212.400(BACT), F.A.C.; and Rule 62-4.070, F.A.C. Reasonable Assurance]

9. VOC Water Testing Frequency: Testing of the cooling water shall be conducted weekly unless VOC contamination is found during one of the weekly tests. Then daily testing will be required until the mechanical leak is corrected and no VOC contamination is detected in the cooling tower water.
   [Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C.; Rule 62-212.400(BACT), F.A.C.; and Rule 62-4.070, F.A.C. Reasonable Assurance]

10. Notification: The permittee shall notify the Compliance Authority in writing within 24 hours when any VOC contamination of the cooling tower water is discovered. Additionally, the permittee shall submit a plan to correct the problem within 7 days for the approval of the Compliance Authority.
    [Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C.; Rule 62-212.400(BACT), F.A.C.; and Rule 62-4.070, F.A.C. Reasonable Assurance]

RECORDS AND REPORTS

11. Monitoring Test Reports: The permittee shall prepare and submit reports for all required monitoring tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit, including descriptions of any VOC contamination discovered and the corrective action taken.
    [Rule 62-297.310(8), F.A.C.]

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D. Ethanol Production Process (EU-004)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
004	Ethanol Production Process: The maximum design ethanol production rate is 67,000 gallons per day (gpd) and 22.11 mgpy. This emission unit consists of the following major processes: *Juice Extraction, Treatment and Evaporation*: The evaporation process concentrates sweet sorghum sucrose juices extracted in the diffuser. The extracted juice is pumped from the storage tank to several juice heaters and two evaporators where it is heated until it evaporates the water. The juice is gradually concentrated to form syrup during the evaporation process. *Fermentation*: Yeast is used to produce ethanol from hexoses (6-carbon sugars). This process is commonly known as fermentation. Fermentation consists of several steps: mash preparation, yeast treatment and fermentation. Concentrated juice from the evaporation process is pumped into the fermenter vessels. As an alternative, sweet sorghum molasses can also be utilized in the process. During fermentation, sugars contained in the mash are transformed to ethyl alcohol, carbon dioxide (CO_2) and various secondary products. Secondary products include other alcohols, aldehydes, glycerin, etc. The alcohol concentration in the clean beer is generally 8%. The off-gases from the fermentation vessels, which contain primarily CO_2 and ethanol with minor traces of other organic compounds, are collected and sent to a washing column. CO_2, free from alcohol, is released to the atmosphere or will be sent to an adjacent dry ice plant for recovery. *Distillation*: Hydrated alcohol is produced using an atmospheric distillation module with four columns. From fermentation, clean beer with an alcohol concentration of approximately 8% is sent to distillation. The beer may contain many other liquid, solid, and gaseous components. Liquid components include water at 89% to 93% and finer alcohols, acetic aldehyde, succinic acid, acetic acid, furfural, etc., at lower concentrations. Ethyl alcohol present in the beer is extracted by distillation in columns. Hydrated alcohol at 96% concentration is extracted in the vapor phase from the top of the distillation columns, cooled in a plate-type heat exchanger, and transferred to a storage tank in the dehydration section. *Dehydration*: The final stage in the ethanol production process is dehydration. Hydrated alcohol from the distillation process undergoes dehydration with a molecular sieve to produce ethanol at 99.67% purity.

EQUIPMENT

The permittee is authorized to construct the following equipment used during the production of ethanol and to control VOC emissions from the process:

1. Juice Extraction: The permittee is authorized to construct the following major components of a juice extraction system: two sets of revolving sorghum high efficiency knives; one heavy-duty shredder; one high speed belt conveyor; one fixed-bed horizontal diffuser; various juice receivers; four juice heaters; two rotary screens; one lime mixing tank; two pre-drying rolls; one four-roll drying mill; and one juice tank.
2. Juice Treatment and Evaporation: The permittee is authorized to construct the following major components of a juice treatment and evaporation system: one juice regenerator (heater); primary heaters and secondary heaters; one juice evaporator; two concentrated juice tanks; and clean and foul condensate tanks.
3. Mash Preparation, Yeast Treatment and Fermentation: The permittee is authorized to construct the following major components of a mash preparation, yeast treatment and fermentation system: a sulfuric acid tank; one mash cooler; one wine cooler; one yeast treatment tank; seven fermenters; one beer tank; one beer filter; two yeast centrifuges; one beer buffet tank; and one CO_2 scrubbing column.

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4. Distillation: The permittee is authorized to construct the following major components of a distillation system: one distillation column; one degassing column; one heads concentrate column; one rectification column; one fusel oil decanter; one hydrated alcohol tank; one CO_2 washing column.
5. Dehydration: The permittee is authorized to construct the following major components of a dehydration system: one hydrated alcohol heater; two zeolite absorber (molecular sieve) vessels; condensers and coolers; one dehydrated alcohol holding tank; on permeate collector tank; and one CO_2 washing column.
6. Dry Ice Plant: The permittee is authorized to construct a Dry Ice Plant at the SRF Facility. The plant will utilize the CO_2 off gas from the ethanol production process to manufacture dry ice.
7. Air Pollution Control Equipment: The permittee shall install three wet scrubbers to control VOC emissions from the fermentation, distillation and dehydration systems. The wet scrubbers shall have a design control efficiency of 98%. Emissions from the wet scrubbers shall discharge through a wet scrubber stack with a design height of 25 ft (minimum), a design diameter of 4.9 ft (maximum) at a design exit temperature of 70 °F and flow rate of 4,223 acfm.

[Application No. 0510032-001-AC; Rules 62-212.400 (BACT); 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.]

PERFORMANCE RESTRICTIONS

8. Hours of Operation: The hours of operation of the ethanol production process are limited to 8,400 hours in any consecutive twelve month period. [Application No. 0510032-001-AC; Rules 62-212.400 (BACT); 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

9. VOC Standard: The ethanol process emission unit shall not discharge VOC through the wet scrubber stack in excess of 10.20 lb/hr (42.3 TPY). [Application No. 0510032-001-AC; Rules 62-212.400 (BACT); 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.]

10. HAP Standard: The ethanol process emission unit shall not discharge organic HAP through the wet scrubber stack in excess of 0.87 lb/hr (3.45 TPY). [Application No. 0510032-001-AC; Rules 62-212.400 (BACT); 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.]

TESTING REQUIREMENTS

11. Initial Compliance Tests: The wet scrubber stack shall be tested to demonstrate initial compliance with the emissions standard for VOC and HAP given in **Specific Conditions 9 and 10**, respectively above. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit. [Rules 62-212.400 (BACT); 62-4.070, Reasonable Assurance; 62-210.200(PTE); and 62-297.310(7)(a)1, F.A.C.]

12. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the wet scrubber stack shall be tested to demonstrate compliance with the emissions standard for VOC and HAP given in **Specific Conditions 9 and 10**, respectively above. [Rules 62-212.400 (BACT); 62-4.070, Reasonable Assurance; 62-210.200(PTE); and 62-297.310(7)(a)4, F.A.C.]

13. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]

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

Method	Description of Method and Comments
CTM-027 320	Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods 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 CFR 60]

MONITORING REQUIREMENTS

15. Wet Scrubbers Monitoring Requirements:
    a. Scrubbers Operating Parameters: The permittee shall install, calibrate, operate and maintain monitoring devices that continuously measure and record the total pressure drop across each scrubber. If the total pressure drop cannot be measured for the scrubber, then the liquid flow rate and the fan amps shall be measured and recorded for the scrubber. Accuracy of the monitoring devices shall be ± 5% over the operating range.
    b. Scrubbers Guarantee: Prior to installation of the scrubber, the permittee shall submit to the Compliance Authority the proposed design information along with a manufacturer's guarantee that the scrubbers are capable of meeting the emission limitations established by the VOC BACT determination.

    [Rule 624.070(3), F.A.C.; Rule 62-297.310 and Rule 62-212.400, F.A.C.]

RECORDS AND REPORTS

16. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(8), F.A.C.]
17. Notification, Recordkeeping and Reporting Requirements: The permittee shall maintain records of the amount of ethanol produced on a daily, monthly and 12 month rolling average basis along with the feed rate (sweet sorghum, sweet sorghum syrup and molasses) into the ethanol production process emission unit on a monthly basis and 12 month rolling average basis. These records shall be submitted to the Compliance Authority on an annual basis or upon request. [Rule 62-4.070(3), F.A.C.]

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E. Bioreactors and Biogas Flare (EU-005)

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
005	Bioreactors and Biogas Flare: The SRF facility will include bioreactors to treat process wastewaters and to condition the resulting biogas for use as fuel in the biomass boiler or to flare it when it cannot be used in the boiler. During ethanol production, wastewaters from production are collected and treated in the bioreactors to reduce the chemical and biological oxygen demand prior to discharging the waters.

EQUIPMENT

1. The permittee is authorized to construct a biodigester system consisting of the following major pieces of equipment:
   - Two methane bioreactors for treatment of wastewater;
   - One degas tank; and
   - One flare to combust the biogas generated from the bioreactors when the biomass boiler is not available.

   [Application No. 0510032-001-AC]
2. Biogas Flare System: The permittee shall construct one flare system with a continuous pilot and combustion chambers to combust the biogas from the bioreactors when the biomass boiler is not available. The flare shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [Application No. 0510032-001-AC; and Rules 62-212.400 (BACT); 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.]
3. Biogas Scrubber: The permittee shall design, install, operate, and maintain a wet scrubber to remove H_2S from the biogas from the bioreactors prior to combustion in the biogas flare system. The biogas scrubber shall have a control efficiency of at least 98%. The biogas scrubber shall be on line and functioning properly whenever the biogas flare system is in operation. [Application Request; Rules 62-212.400 (BACT); 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.]

PERFORMANCE RESTRICTIONS

4. Approximate Flare Capacity: The biogas flare system shall only combust biogas when the biomass boiler is not operating, or when the biomass boiler is in startup or shutdown mode. The flare will have a rated capacity of combusting 38,000 standard cubic feet per hour (scf/hr) of biogas which is equivalent to a heat input rate of 27.55 mmBtu/hr. Natural gas or propane will be used as fuel for the pilot. [Application No. 0510032-001-AC and Rule 62-210.200(PTE), F.A.C.]
5. Required Operation: The biogas flare shall be operated at all times when all the biogas generated by the bioreactors cannot be combusted in the biomass boiler. [Application No. 0510032-001-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
6. Hours of Operation: The hours of operation of the biogas flare system is limited to 720 hours per year. [Application No. 0510032-001-AC and Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

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NSPS SUBPART A APPLICABILITY

7. General Control Device Requirements: The biogas flare associated with this emission unit must meet all applicable requirements of 40 CFR §60.18, General Control Device Requirements. [NSPS Subpart A and Rule 62-4.070(3), F.A.C.]

EMISSIONS STANDARDS, TESTING AND MONITORING REQUIREMENTS

8. VE Standard: The flare shall be designed for and operated with no visible emissions (VE) except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [NSPS 40 CFR 60, Subpart A and Rule 62-4.070(3), F.A.C.]

9. H_2S Biogas Standard and Testing: Three samples of biogas entering (inlet) and exiting (outlet) the scrubber shall be taken every calendar quarter and tested for H_2S concentration in ppm. The control efficiency of the scrubber shall be determined as indicated below and must be 98% or greater based on the arithmetic average of the 3 samples from each calendar quarter.

Where: = H_2S inlet concentration in ppm
= H_2S outlet concentration in ppm

10. VE Compliance Tests: The flare system exhaust shall be tested to demonstrate initial compliance with the VE standard given in **Specific Condition 8** above no later than 180 days after initial operation and during each federal fiscal year (October 1st to September 30th) thereafter. EPA Method 22 VE compliance test(s) shall be used to determine the compliance of the flare with the visible emission requirements. The observation period is 2 hours and shall be used according to Method 22. The flare performance test shall be when ethanol is being loaded into trucks that previously held gasoline. [Rule 62-4.070(3), F.A.C.]

11. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]

12. Test Methods: Any required stack and biogas tests shall be performed in accordance with the following methods:

Method	Description of Method and Comments
EPA 15	Determination of Hydrogen Sulfide, Carbonyl Sulfide, and Carbon Disulfide Emissions From Stationary Sources
EPA 22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares 2 Hour Duration

13. Work Practice: Good combustion practices will be utilized at all times to ensure emissions from the flare system are minimized. Therefore, all operators and supervisors shall be properly trained to operate and ensure maintenance of this system in accordance with the guidelines and procedures established by the manufacturer. The training shall include good operating practices as well as methods for minimizing excess emissions. The flare pilot shall be operated with a flame present at all times. [Rules 62-4.070(3) F.A.C.]

14. Biogas Scrubbers Monitoring Requirements:

    a. *Scrubber Operating Parameters*: The permittee shall install, calibrate, operate and maintain monitoring devices that continuously measure and record the total pressure drop across the biogas scrubber. If the total pressure drop cannot be measured for the scrubber, then the liquid flow rate and the fan amps shall be measured and recorded for the scrubber. Accuracy of the monitoring devices shall be ± 5% over the operating range.

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b. *Scrubber Guarantee*: Prior to installation of the scrubber, the permittee shall submit to the Compliance Authority the proposed design information along with a manufacturer's guarantee that the scrubbers are capable of meeting the emission limitations established in this permit.
[Rule 624.070(3), F.A.C.; Rule 62-297.310 and Rule 62-212.400, F.A.C.]

RECORDS AND REPORTS

15. Records: The permittee shall record in a written log the duration of each flare event and the reason for flaring. If requested by the Compliance Authority, the permittee shall provide a copy of these records or a summary of these records. [Rule 62-4.070(3), F.A.C.]

16. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit.
[Rule 62-297.310(8), F.A.C.]

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F. Storage Tanks (EU-006)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
006	Storage Tanks: This emissions unit consists of: the five tanks involved in the ethanol and gasoline blending and storage which results in the denatured ethanol final product; the five tanks that are involved in the ethanol production process; the ammonia or urea storage tank used for the SCR/SNCR system(s); the ULSD fuel oil tank; and the sulfuric acid storage tank.

Tanks will be used during the ethanol production process to store ethanol, byproducts and intermediate products. In addition, the purified ethanol and gasoline (denaturant) will be stored in tanks and then blended, resulting in a product that contains approximately 10% or 85% ethanol and 90% or 15% gasoline by volume with the resulting blended product commonly called E10 or E85. The denatured ethanol product will have dedicated storage tanks. Anhydrous ammonia or urea will be stored in a tank for use in the SCR/SNCR system(s) for the boiler NO_X control. ULSD fuel oil will be stored in a tank for use in the boiler as a startup, shutdown and bed stabilization fuel.

EQUIPMENT

1. The permittee is authorized to construct the following tanks to store volatile organic liquids (VOL):
   a. *Blending and Storage Tanks*:
      - Final Product Ethanol Tanks: The permittee is authorized to construct two nominal 875,000 gallons ethanol product storage tanks with fixed roofs and internal floating roofs to minimize VOC emissions as per 40 CFR 60.110b(a)(2).
      - Second Grade Alcohol Product Storage Tank: The permittee is authorized to construct a nominal 153,220 gallon denatured/gasoline storage tanks with fixed roofs and internal floating roofs to minimize VOC emissions as per 40 CFR 60.110b(a)(2).
      - Denatured /Gasoline Product Storage Tank: The permittee is authorized to construct a nominal 250,000 nominal gallon denatured/gasoline storage tank with a fixed roof and an internal floating roof to minimize VOC emissions as per 40 CFR 60.110b(a)(2).
      - Blend Storage Tank: The permittee is authorized to construct a nominal 50,000 gallon product storage tank with a fixed roof and an internal floating roof to minimize VOC emissions as per 40 CFR 60.110b(a)(2).
   b. *Ethanol Production Process Tanks*:
      - Fusel Oil Storage Tank: The permittee is authorized to construct one nominal 47,551 gallon fusel oil storage tank.
      - Hydrated Alcohol Storage Tank: The permittee is authorized to construct one nominal 2,642 gallon hydrated oil storage tank.
      - Final Product Metering Tank: The permittee is authorized to construct one nominal 7,925 gallon metering storage tank.
      - Second Grade Alcohol Storage Tank: The permittee is authorized to construct one nominal 2,642 gallon second grade storage tank.
      - Fusel Oil Alcohol Storage Tank: The permittee is authorized to construct one nominal 1,849 gallon fusel oil storage tank.
   c. *Other Tanks*:
      - Anhydrous Ammonia or Urea Storage Tank: The permittee is authorized to construct a nominal 5,000 gallon tank to store anhydrous ammonia or urea for the SCR/SNCR system(s). In accordance with 40 CFR 60.130, the storage of anhydrous ammonia or urea shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68.

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- ULSD Fuel Oil Storage Tank: The permittee is authorized to construct a nominal 50,000 gallon tank to store ULSD fuel oil for use as a biomass boiler fuel for startup, shutdown and flame (bed) stabilization.
- ULSD Fuel Oil Storage Tank: The permittee is authorized to construct a nominal 5,000 gallon tank to store ULSD fuel oil for use in emergency equipment.
- Sulfuric Acid Storage Tank: The permittee is authorized to construct a tank to store sulfuric acid for use in the mash preparation, yeast treatment and fermentation. In accordance with 40 CFR 60.130, the storage of sulfuric acid shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68.

[Application No. 0510032-001-AC]

PERFORMANCE RESTRICTIONS

2. Permitted Capacity: The maximum throughput (process) rate in gallons per year for this emissions unit is 23.01 million gallons of denatured ethanol product in any consecutive twelve month period.
[Application No. 0510032-001-AC and Rule 62-4.070, F.A.C. Reasonable Assurance]

3. Hours of Operation: The hours of operation of this emissions unit are not restricted (8,760 hours per year).
[Application No. 0510032-001-AC and Rule 62-210.200(PTE), F.A.C.]

NSPS SUBPART Kb APPLICABILITY

4. VOL Blending and Storage Tanks: The five Blending and Storage tanks at the SRF facility are subject to NSPS Subpart Kb which applies to any storage tank for which construction, reconstruction, or modification is commenced after July 23, 1984 with a capacity greater than or equal to 151 cubic meters (m^3) or 39,990 gallons that is used to store a VOL with a maximum true vapor pressure greater than or equal to 3.5 kilopascals (kPa) or 0.51 pounds per square inch (psi). The five Blending and Storage tanks each have a capacity greater than 40,000 gallons and store liquids with maximum true vapor pressures greater than 3.5 kPa and consequently are subject to and must comply with the provisions of NSPS 40 CFR 60, Subpart Kb.

5. VOL Ethanol Production Process, Ammonia/Urea and Sulfuric Acid Storage Tanks: The five Ethanol Production Process storage tanks, the ammonia or urea storage tank and the sulfuric acid storage tank at the SRF facility are not subject to NSPS Subpart Kb. These tanks are exempt because either they have a capacity less than 75 m^3 or 19,813 gallons or they have a capacity greater than or equal to 19,813 gallons but less than 39,990 gallons (151 m^3) and store a liquid with a maximum true vapor pressure less than 15 kPa (2.18 psi).

6. ULSD Fuel Oil Storage Tank: The ULSD fuel oil storage tank at the SRF facility is not subject to NSPS Subpart Kb because it is larger or equal to 40,000 gallons (151 cubic meters) and stores a liquid with a maximum true vapor pressure less than 3.5 kPa (0.51 psi).

EMISSIONS STANDARDS

7. VOC Standard for Blending and Storage Tanks: Emissions of VOC from the Blending and Storage tanks will be controlled by the proper construction of the tanks per 40 CFR 60.110b(a)(2) which requires internal floating roofs in the tanks or the equivalent.
[Application No. 0510032-001-AC; Rule 62-212.400 (BACT), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

8. Pressure Relief Valves: In lieu of internal floating roofs in the Blending and Storage tanks, SRF may use pressure relief valves provided that these meet the equivalency requirements of NSPS, Subpart Kb. If SRF decides to use pressure relief valves in lieu of internal floating roofs, it must provide to the Compliance Authority 90 days before construction of the Blending and Storage VOL tanks commences, proof of the valves equivalency as defined in the NSPS.

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[Application No. 0510032-001-AC; Rule 62-212.400 (BACT), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

9. VOC Standard for Ethanol Production Process Storage Tanks: Emissions of VOC from the Ethanol Production Process storage tanks will be controlled by the use of pressure relief valves or vapor condensers. [Application No. 0510032-001-AC; Rule 62-212.400 (BACT), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

RECORDS AND REPORTS

10. Storage Tank Records: The permittee shall keep readily accessible records showing the dimension of the storage tanks and an analysis showing the capacity of the storage tanks. Records shall be retained for the life of the facility. The permittee shall also keep records sufficient to determine the annual throughput of the various liquids for the storage tanks for use in the Annual Operating Report. [Rule 62-4.070(3) F.A.C]

11. NSPS Subpart Kb Reporting and Recordkeeping for Blending and Storage Tanks: The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of §60.115b Reporting and Recordkeeping Requirements. The owner or operator shall keep copies of all reports and records required by§60.115b, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment. [Rule 62-4.070(3) F.A.C and NSPS 40 CFR 60, Subpart Kb]

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G. Truck Rack Product Loadout and Flare (EU-007)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
007	Truck Rack Product Loadout and Flare: The denatured blended ethanol product from VOL Blending and Storage tanks will be loaded out to tanker trucks with displaced vapors sent to a product loadout flare for destruction.

The denatured ethanol product will be loaded onto tank trucks at a maximum rate of 600 gpm. Vapors displaced from the trucks will be combusted by a product loadout flare. The product loadout flare will have a nominal rated heat input capacity of 9.8 mmBtu/hr to control vapors displaced from the tanker trucks during the loading of the denatured ethanol product. The flare will have a design control efficiency of 99%.

EQUIPMENT

1. Loading Rack: The permittee is authorized to construct a loading rack that is designed to transfer 600 gpm of denatured ethanol product to tanker trucks.
[Application No. 0510032-001-AC and 62-210.200(PTE), F.A.C.]

2. Flare System: The permittee is required to construct one flare system with a continuous pilot and combustion chambers to destroy displaced vapors during truck loadout. The flare shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
[Application No. 0510032-001-AC and 62-210.200(PTE), F.A.C.]

3. Fueling Station: The permittee is authorized to construct a Fueling Station at the SRF Facility. The station will dispense the denatured ethanol product and E10/E85 blended products to SRF and to sweet sorghum farming-related vehicles. [Application No. 0510032-001-AC and 62-210.200(PTE), F.A.C.]

PERFORMANCE RESTRICTIONS

4. Approximate Capacities: The flare system is designed to combust vapors displaced from the trucks during the loading of the denatured ethanol product. The trucks are assumed to not be in dedicated denatured ethanol product service (i.e., some trucks will have returned from delivering gasoline and gasoline vapors will be displaced). The product loadout flare will have a rated capacity of 9.8 mmBtu/hr. Natural gas or propane will be used as the fuel for the pilot flame.
[Application No. 0510032-0010-AC and Rule 62-210.200(PTE), F.A.C.]

5. Hours of Operation: The flare shall be operated at all times when truck loading operations are taking place. Only E10 or E85 shall only be loaded into the trucks. Although the hours of operation of the pilot for the flare system are not limited (8,760 hours per year) the flare itself is limited to 3,120 hours per year.
[Application No. 0510032-001-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

6. VE Standard: The flare shall be designed for and operated with no visible emissions (VE) except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
[Rule 62-4.070(3), F.A.C.; NSPS 40 CFR 60, Subpart A]

NSPS SUBPART A APPLICABILITY

7. General Control Device Requirements: The product loadout flare associated with this emission unit must meet all applicable requirements of §60.18, General Control Device Requirements.
[NSPS Subpart A and Rule 62-4.070(3), F.A.C.]

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TESTING AND MONITORING REQUIREMENTS

8. VE Compliance Tests: The flare system exhaust shall be tested to demonstrate initial compliance with the VE standard given in **Condition 6** above no later than 180 days after initial operation and during each federal fiscal year (October 1st to September 30th) thereafter. EPA Method 22 VE compliance test(s) shall be used to determine the compliance of the flare with the visible emission requirements. The observation period is 2 hours and shall be used according to Method 22. The flare performance test shall be when ethanol is being loaded into trucks that previously held gasoline. [Rule 62-4.070(3), F.A.C.]

9. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]

10. Test Methods: Any required stack tests shall be performed in accordance with the following methods:

Method	Description of Method and Comments
EPA 22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares 2 Hour Duration

11. Work Practice: Good combustion practices will be utilized at all times to ensure emissions from the flare system are minimized. Therefore, all operators and supervisors shall be properly trained to operate and ensure maintenance of this system in accordance with the guidelines and procedures established by the manufacturer. The training shall include good operating practices as well as methods for minimizing excess emissions. The flare pilot shall be operated with a flame present at all times. [Rules 62-4.070(3) F.A.C.]

RECORDS AND REPORTS

12. Records: The permittee shall record in a written log the duration of each flare event and the reason for flaring. If requested by the Compliance Authority, the permittee shall provide a copy of these records or a summary of these records. [Rule 62-4.070(3), F.A.C.]

13. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(8), F.A.C.]

DRAFT

H. Miscellaneous Storage Silos (EU-008)

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
008	Miscellaneous Storage Silos: Silos at SRF to store lime for the wastewater treatment and DSIS systems; limestone and sand for the BFB boiler (if used); urea (if used); and fly ash from the boiler.

The SRF will include equipment and silos for the handling and storage of dry materials.

CONSTRUCTION

1. Equipment: The permittee is authorized to construct the following silos each with a baghouse (bin vent filters) to control PM emissions:
   - One lime storage silo for the DSIS;
   - One lime storage silo for the wastewater treatment system;
   - If used in SNCR/SCR system(s), one urea storage silo;
   - One limestone storage silo, if a BFB boiler is used;
   - One sand storage silo, if a BFB boiler is used; and
   - Fly ash storage silo.

   [Application No. 0510032-001-AC]

PERFORMANCE RESTRICTION

2. Hours of Operation: The hours of operation of this emission unit are not limited (8,760 hours per year). [Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C.; Rule 62-212.400(BACT), F.A.C.; and Rule 62-4.070, F.A.C. Reasonable Assurance]

EMISSIONS STANDARDS

3. PM Standard: PM emissions from each baghouse of the silos shall not exceed 0.01 gr/dscf. [Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C.; Rule 62-212.400(BACT), F.A.C.; and Rule 62-4.070, F.A.C. Reasonable Assurance]

4. VE Standard: VE from the silo baghouses shall not exceed 5% opacity as demonstrated by initial and annual compliance tests. A visible emission reading of 5% opacity or less may be used to establish compliance with the PM emission standard in Specific **Condition 3** above**.** A visible emission reading greater than 5% opacity will require the permittee to perform a PM emissions stack test within 60 days to show compliance.
   [Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C.; Rule 62-212.400(BACT), F.A.C.; and Rule 62-4.070, F.A.C. Reasonable Assurance]

TESTING AND MONITORING REQUIREMENTS

5. Initial Compliance Tests: Each silo shall be tested to demonstrate initial compliance with the VE emissions standard specified in **Condition 4** above. The initial test shall be conducted within 180 days after initial operation.
   [Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C.; Rule 62-212.400(BACT), F.A.C.; and Rule 62-4.070, F.A.C. Reasonable Assurance]

6. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), each silo shall be tested to demonstrate compliance with the VE emissions standard specified in **Condition 4** above.
   [Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C.; Rule 62-212.400(BACT), F.A.C.; and Rule 62-4.070, F.A.C. Reasonable Assurance]

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7. PM Compliance Test: The initial and annual VE tests in **Conditions 5 and 6** above shall serve as a surrogate for the PM emissions tests. If the VE emissions standard in **Condition 4** above is not met, PM tests utilizing EPA Method 5 must be conducted within 60 days on the silo bin vent filters to show compliance with the PM emissions standard in **Condition 3** above.
[Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C.; Rule 62-212.400(BACT), F.A.C.; and Rule 62-4.070, F.A.C. Reasonable Assurance]

8. Test Requirements: The permittee shall notify the compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix CTR (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]

9. Test Methods: Any required stack tests shall be performed in accordance with the following methods.

Method	Description of Method and Comments
EPA 5	Determination of Particulate Emissions. The minimum sample volume shall be 30 dry standard cubic feet.
EPA 9	Method 9 - Visual Determination of the Opacity of Emissions from Stationary Sources 60 Minute Test

RECORDS AND REPORTS

10. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix CTR (Common Testing Requirements) of this permit. For each test run, the report shall also indicate the operating rate. [Rule 62-297.310(8), F.A.C.]

DRAFT

I. Two Emergency Generators (EU-009)

This section of the permit addresses the following emissions units.

ID	Emission Unit Description
009	Two emergency generators each rated at 2,000 kilowatts (kW) or 2,682 horsepower (Hp)

Two emergency generators, each rated at 2,000 kW, will be installed to provide backup electrical power in the event of a power outage at the SRF facility. The engines will fire ULSD fuel oil or propane and each will be limited to 500 hours per year of operation during emergencies. Each unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. Each engine will be designed to meet USEPA's emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2006 or later.

EQUIPMENT

1. Emergency Generators: The permittee is authorized to install, operate, and maintain two 2,000 kW or less emergency generators. [Application No. 0510032-001-AC and Rule 62-210.200 (PTE), F.A.C.]

PERFORMANCE RESTRICTIONS

2. Hours of Operation: Each emergency generator may operate in response to emergency conditions for up to 500 hours per year and 100 non-emergency hours per year for generator maintenance and testing purposes. The duration of any one maintenance action or test is limited to 30 consecutive minutes.
[Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C. and NSPS 40 CFR 60, Subpart IIII]

3. Authorized Fuel: These units shall fire ULSD fuel oil or propane. The ULSD fuel oil shall contain no more than 0.0015% sulfur by weight.
[Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C. and NSPS 40 CFR 60, Subpart IIII]

EMISSION STANDARDS

4. Emissions Limits: Each emergency generator shall comply with the following emission limits and demonstrate compliance in accordance with the procedures given in NSPS 40 CFR 60, Subpart IIII the language of which is given in Appendix IIII. Manufacturer certification can be provided to the Department in lieu of actual stack testing.

Source (model year)	CO (g/KW-hr)	PM (g/KW-hr)	Hydrocarbons (g/KW-hr)	NO_X (g/KW-hr)
Subpart IIII (2006 and later)	3.5	0.20	6.4 (NMHC[a]+NO_X)	

a. NMHC means Non-Methane Hydrocarbons.

[Application No. 0510032-001-AC; NSPS 40 CFR 60, Subpart IIII and Rule 62-4.070(3), F.A.C.]

RECORDS AND REPORTS

5. Notification, Recordkeeping and Reporting Requirements: The permittee shall adhere to the compliance testing and certification requirements listed in 40 CFR 60.4211 and maintain records demonstrating fuel usage and quality. [Rule 62-212.400 (BACT), F.A.C. and 40 CFR 60.4211]

NSPS APPLICABILITY

6. NSPS Subpart IIII Applicability: These emergency generators are Stationary Compression Ignition Internal Combustion Engines (Stationary ICE) and shall comply with applicable provisions of 40 CFR 60, Subpart IIII, including emission testing or certification. [40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines]

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NESHAP APPLICABILITY

7. NESHAPS Subpart ZZZZ Applicability: These emergency generators are a Liquid Fueled Reciprocating Internal Combustion Engines (RICE) and shall comply with applicable provisions of 40 CFR 63, Subpart ZZZZ. Pursuant to 40 CFR 63.6590(c) the generators must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII.
[40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)]

DRAFT

J. Emergency Diesel Fueled Fire Pump Engine (EU-010)

This section of the permit addresses the following emissions unit.

ID	Emission Unit Description
010	One emergency diesel fire pump engine rated at 600 hp (448 kW)

A 600 hp diesel fire pump engine will be installed to provide firewater during power outages. This unit will fire ULSD fuel oil or propane and will be limited to 500 hours per year of operation. This unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. The engine will be designed to meet USEPA's emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2009 or later.

EQUIPMENT

1. Diesel Engine Driven Fire Pump Engine: The permittee is authorized to install, operate, and maintain one diesel engine driven fire pump engine of 600 hp or less.
[Application No. 0510032-001-AC and Rule 62-210.200(PTE), F.A.C.]

PERFORMANCE RESTRICTIONS

2. Hours of Operation: The fire pump engine may operate in response to emergency conditions for up to 500 hours per year and 100 non-emergency hours per year for fire pump engine maintenance and testing The duration of any one maintenance action or test is limited to 30 consecutive minutes.
[Application No. 0510032-001-AC; Rule 62-210.200 (PTE), F.A.C. and NSPS 40 CFR 60, Subpart IIII]

3. Authorized Fuel: This unit shall fire ULSD fuel oil or propane. The ULSD fuel oil shall contain no more than 0.0015% sulfur by weight. [Application No. 0510032-001-AC and Rule 62-210.200 (PTE), F.A.C. and NSPS 40 CFR 60, Subpart IIII]

EMISSION STANDARDS

4. Emissions Limits: The emergency fire pump engine shall comply with the following emission limits and demonstrate compliance in accordance with the procedures given in NSPS 40 CFR 60, Subpart IIII. Manufacturer certification may be provided to the Department in lieu of actual testing.
[40 CFR 60.4211 and Rule 62-4.070(3), F.A.C.]

Model Year	CO (g/hp-hr)	NMHC + NO_X (g/hp-hr)	PM (g/hp-hr)
Subpart IIII (2009 or later)	2.6	3.0	0.15

[Application No. 0510032-001-AC and 40 CFR 60, Subpart IIII and Rule 62-4.070(3), F.A.C.]

RECORDS AND REPORTS

5. Notification, Recordkeeping and Reporting Requirements: The permittee shall adhere to the compliance testing and certification requirements listed in 40 CFR 60.4211 and maintain records demonstrating fuel usage and quality. [Rule 62-212.400 (BACT), F.A.C. and 40 CFR 60.4211]

NSPS APPLICABILITY

6. NSPS Subpart IIII Applicability: The fire pump engine is an Emergency Stationary Compression Ignition Internal Combustion Engine (Stationary ICE) and shall comply with applicable provisions of 40 CFR 60, Subpart IIII.
[40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines]

DRAFT

NESHAP APPLICABILITY

7. NESHAPS Subpart ZZZZ Applicability: The fire pump engine is a Liquid Fueled Reciprocating Internal Combustion Engine (RICE) and shall comply with applicable provisions of 40 CFR 63, Subpart ZZZZ. Pursuant to 40 CFR 63.6590(c) the fire pump engine must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII.
[40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)]

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K. Facility-Wide Fugitive VOC Emission Leaks (EU-011)

This section of the permit addresses the following emissions unit.

ID	Emission Unit Description
011	Facility-Wide Fugitive VOC Emission Leaks: This emission unit consists of the fugitive VOC emissions from equipment leaks involved in the ethanol production process and associated processes at the SRF facility. Total fugitive VOC emissions from equipment leaks at the SRF facility were estimated to be 6.52 TPY. To minimize VOC fugitive emissions, SRF shall implement a monthly leak detection and repair (LDAR) program. The plan to implement the LDAR program shall be approved by the Compliance Authority in accordance with New Source Performance Standard (NSPS) 40 CFR Part 60, Subpart VVa. The following emission units are either subject to the requirements of NSPS 40 CFR Part 60, Subpart VVa and must be addressed in the LDAR program plan or addressed by the plan has part of the BACT to minimize emissions of VOC from the SRF facility: • *EU-002: Cogeneration Biomass Boiler , i.e., biogas feed system to boiler;* • *EU-003: Cooling Towers;* • *EU-004: Ethanol Production Process;* • *EU-005: Bioreactors and Biogas Flare;* • *EU-006: Storage Tanks; and* • *EU-007: Truck Rack Product Loadout and Flare.*

NSPS SUBPART VVa

1. Leak Detection and Repair (LDAR) Program: SRF is subject to NSPS 40 CFR 60, Subpart VVa - VOC Equipment Leaks in the Synthetic Chemical Manufacturing Industry (SOCMI), for projects that commence construction or modifications after November 7, 2006. NSPS Subpart VVa requires a LDAR program. SRF must demonstrate compliance with Subpart VVa, including the LDAR program, no later than 180 days after SRF becomes operational.
   [40 CFR 60, Subpart VVa and Rule 62-4.070, F.A.C. Reasonable Assurance]

2. Equipment Subject to NSPS, Subpart VVa: As per **Condition 12** of Section II of this permit, a list of all the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, and valves at SRF that are subject to NSPS Subpart VVa must be submitted to the Compliance Authority no later than 90 days prior to commencing operation.
   [Rule 62-212.400 (BACT), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

TESTING AND MONITORING REQUIREMENTS

3. LDAR Program Plan Implementation: As per **Condition 11** of Section II of this permit, the permittee must submit for approval a LDAR program plan no later than 90 days prior to commencing operation. Once the program plan is approved by the Compliance Authority, the permittee shall implement the program within 180 days of initial startup of the SRF. [40 CFR 60, Subpart VVa ; Application No. 0510032-001-AC; Rule 62-210.200(PTE), F.A.C. and Rule 62-4.070(3), F.A.C. Reasonable Assurance]

4. Compliance with NSPS VVa: The permittee shall demonstrate compliance with the requirements of §§60.482–1a through 60.482–10a or §60.480a(e) for all equipment subject to NSPS Subpart VVa within 180 days of initial startup of the SRF. [Application No. 0510032-001-AC; Rule 62-210.200(PTE), F.A.C.; Rule 62-4.070(3), F.A.C. Reasonable Assurance and NSPS, Subpart VVa]

5. Test Methods and Procedures: The permittee shall show the SRF is in compliance with the requirements of NSPS Subpart VVa following the test methods and procedures specified in §60.485a.

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[Application No. 0510032-001-AC; Rule 62-210.200(PTE), F.A.C.; Rule 62-4.070(3), F.A.C. Reasonable Assurance and NSPS, Subpart VVa]

RECORDS AND REPORTS

6. NSPS VVa Recordkeeping Requirements: The permittee shall follow the recordkeeping requirements specified in §§60.486a to show compliance with NSPS Subpart VVa and submit the records to the Compliance Authority 180 days after the initial startup of the SRF and annually thereafter. [Application No. 0510032-001-AC; Rule 62-210.200(PTE), F.A.C.; Rule 62-4.070(3), F.A.C. Reasonable Assurance and NSPS, Subpart VVa]

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