

**Request for Proposals to Design, Construct and Operate a Landfill Gas to Electricity
Facility in Anne Arundel County, MD
November 19, 2009**

EXHIBIT F

OPERATION AND MAINTENANCE ACTIVITIES

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PROJECT OPERATION AND MAINTENANCE ACTIVITIES

The selected Proposer will be responsible for the day-to-day operation, maintenance, repair and replacement of the Projects, The selected Proposer shall perform maintenance, including overhauls, on the engine/generator sets in accordance with manufacturer recommendations. The selected Proposer may only deviate from the engine/generator set maintenance intervals (a) set forth in this Exhibit F or (b) recommended by the manufacturer, with the prior written consent of the Authority, which consent may be granted in the Authority's sole discretion. Any request for such deviations shall be made by the selected Proposer to the Authority in writing and shall include supporting documentation justifying such request.

Selected Proposer's duties include performing and documenting daily, weekly, monthly, quarterly, semi-annual, and annual checks on all equipment as per the manufacturer's recommendations. The system components, including generators, compressors, pumps, electric motors, vessels, valves, transformers, generators, and piping will be checked daily. Other duties will include troubleshooting and repairing the equipment and assisting Subcontractors in larger maintenance tasks such as a Major Overhaul.

All operation and maintenance activities listed in this Exhibit F are recommendations and will be tailored specifically to the selected Proposer's equipment (i.e. gensets, transformers, switchgear, gas skid).

Routine Project Maintenance

The following description of activities is based on a typical LFG generator. The Proposal should include a discussion of any variation from this list, including the addition or deletion of items. The actual activities for the proposed engine/generators will be based on the requirements delineated in the operation/maintenance manuals supplied by the manufacturer, and will be included in the Service Agreement.

Daily duties on the engine/generator sets will include:

- Measure and Record Bearing Temperature
- Check Coolant System Level
- Inspect Engine Air Cleaner Service Indicator
- Check Engine Oil Level Check Fuel System Filter Differential Pressure
- Check Fumes Disposal Filter Differential Pressure
- Check Generator Kilowatt Output
- Check Generator Power Factor Output
- Check Generator Voltage Output
- Check Generator Frequency Output
- Complete a Walk-Around Inspection

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Upon reaching the first initial 250 hour mark, Selected Proposer will perform the following maintenance on the engine/generator sets:

- Measure and Record Crankcase Blowby
- Measure and Record Cylinder Pressure
- Measure and Record Valve Stem Projection

Every 250 hours, Selected Proposer will perform the following maintenance on the engine/generator sets:

- Check Battery Electrolyte Level
- Obtain Cooling System Coolant Sample Test and Add Cooling System Supplemental Coolant Additive
- Obtain Engine Oil Sample
- Drain the Crankcase Vent Mist Eliminator

Every 1,000 hours, Selected Proposer will perform the following maintenance on the engine/generator sets:

- Drain Aftercooler Condensation
- Inspect Alternator
- Inspect and Adjust or Replace Belts on Driven Equipment
- Measure Crankcase Pressure
- Inspect Crankshaft Vibration Damper
- Clean Engine Exterior
- Clean Engine Crankcase Breather
- Change Engine Oil (Dictated by oil samples. May Vary from 1,000 hours Depending on Actual Conditions)
- Change Engine Oil Filter
- Adjust Engine Valve Lash and Bridge
- Drain Gas Pressure Regulator Condensation
- Inspect and Adjust or Replace Hoses and Clamps
- Check and Adjust Ignition System Timing
- Inspect Air Inlet System
- Clean Radiator
- Inspect Water Pump

Every 2,000 Hours, Selected Proposer will perform the following maintenance on the engine/generator sets:

- Lubricate Actuator Control Linkage
- Clean and Inspect Engine Speed/Timing Sensor
- Inspect Generator
- Inspect and Adjust or Replace Ignition System Spark Plugs
- Obtain Cooling System Coolant Sample (Level 2)
- Test and Add Cooling System Supplemental Coolant Additive
- Check Stator Lead

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Every 4,000 Hours, Selected Proposer will perform the following maintenance on the engine/generator sets:

- Measure and Record Crankcase Blowby
- Measure and Record Cylinder Pressure
- Check Engine Mounts
- Check Engine Protective Devices
- Inspect Starting Motor
- Inspect Turbocharger
- Inspect Water Pumps

For the 13.2V switchgear, Selected Proposer will perform the following checks monthly:

- Check Metered Kilowatt Output
- Check Metered Power Factor Output
- Check Metered Voltage Output
- Check Metered Frequency Output
- Inspect Insulators and Bushings for Integrity of Insulation
- Check Interior Surfaces for Signs of Water and Dust Entry
- Inspect Gaskets for Integrity
- Inspect Ventilation Openings for Cleanliness

For the 13.2 kV switchgear, Selected Proposer will perform the following maintenance annually:

- Inspect Power Connections and Joints for Overheating
- Inspect Breaker Operating Mechanism for Looseness and Misalignment
- Check and Record Breaker Contact Wear Erosion
- Inspect Switch Operating Mechanism for Looseness and Misalignment
- Inspect Switch Arc Chutes and Fuse Clamps for Evidence of Arcing
- Inspect Voltage Transformers for Integrity and Cleanliness
- Inspect Current Transformers for Integrity and Cleanliness
- Check that all cabinetry is solidly grounded

For transformers, Selected Proposer will perform the following checks monthly:

- Record Ambient Temperature
- Check and Record KiloVoltAmp Reading from Switchgear
- Check and Record All Gauge Readings
- Inspect Tank and Fittings for Leaks
- Inspect Cooling Fans for Vibration and Free Rotation
- Inspect Control Wiring for Integrity of Insulation
- Inspect Control Boxes for Corrosion and Integrity of Gaskets
- Inspect Paint Finish for Scratches or Wear Exposing Bare Metal

The selected Proposer will perform all operation and maintenance activities set forth in or required under the Interconnection and Operating Agreements, in accordance with the terms and conditions thereof.

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Major Project Maintenance

Major maintenance on the Projects will be performed at the intervals indicated below, unless shorter or longer intervals are appropriate, based on actual equipment condition, as evidenced through use of the manufacturer approved monitoring procedures, and based on manufacturer recommended triggers, indicating that a specific major maintenance activity is required. The work to be performed is detailed as follows:

Every 8,000 hours

- Replace Crankcase Vent Mist Eliminator Filter Element
- Check Rotating Rectifier
- Test Varistor
- Replace Water Temperature Regulator
- Test Winding
- Top End Overhaul (per Caterpillar procedures)

Every 24,000 hours

- In-Frame Overhaul (per Caterpillar procedures)
- Change Cooling System Coolant (NGEC) (or every three years)

Every 40,000 Hours

- Major Overhaul of Engine/Generator Sets (per Caterpillar procedures)

Annual Electrical Maintenance

480 Volt Switchgear

- Inspect Power Connections and Joints for Overheating
- Inspect Breaker Operating Mechanism for Looseness and Misalignment
- Check and Record Breaker Contact Wear Erosion
- Inspect Voltage Transformers for Integrity and Cleanliness
- Inspect Current Transformers for Integrity and Cleanliness
- Check That All Cabinetry is Solidly Grounded
- Check Relay Case Interiors for Cleanliness

13,200 Volt Switchgear

- Inspect Power Connections and Joints for Overheating
- Inspect Breaker Operating Mechanism for Looseness and Misalignment
- Check and Record Breaker Contact Wear Erosion
- Inspect Switch Operating Mechanism for Looseness and Misalignment
- Inspect Switch Arc Chutes and Fuse Clamps for Evidence of Arcing
- Inspect Voltage Transformers for Integrity and Cleanliness
- Inspect Current Transformers for Integrity and Cleanliness
- Check that all cabinetry is solidly grounded

In-Frame Overhaul

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- Inspect Power Connections and Joints for Overheating
- Inspect Breaker Operating Mechanism for Looseness and Misalignment
- Check and Record Breaker Contact Wear Erosion
- Inspect Switch Operating Mechanism for Looseness and Misalignment
- Inspect Switch Arc Chutes and Fuse Clamps for Evidence of Arcing
- Inspect Voltage Transformers for Integrity and Cleanliness
- Inspect Current Transformers for Integrity and Cleanliness
- Check that all cabinetry is solidly grounded

Transformers

- Obtain Dielectric Liquid Sample and Test
- Check and Record Temperature of Terminal Bushings
- Inspect Terminal Bushings and Surge Arrestors for Integrity and Cleanliness

Other Duties

- Routine operation, monitoring and maintenance:
- Condensate management
- Monthly review, organizing, and reporting.
- Scheduled maintenance
- Emergency services.

Blower/Flare Station – Once a week, Selected Proposer will observe the blower/flare station daily when in operation, including a check of the system components and notation of conditions and test the system once a week when on standby mode. Problems will be noted and relayed immediately. Selected Proposer will proceed with corrections. Selected Proposer will measure, observe and record:

- LFG flow. The flow measurement will be accomplished via the in-place flow device and recorded continuously on the chart recorder, if installed.
- Continuous flare flame presence will be accomplished via the flare flame thermocouple and recorded continuously on the chart recorder, if installed.
- LFG composition (methane, carbon dioxide, oxygen, and balance gas)
- Main inlet header vacuum and flare inlet pressure
- Blower/flare control panel status
- Flame arrester pressure drop, if available

Monthly Review, Organizing, and Reporting – Once each month, Selected Proposer will prepare and submit a brief report summarizing the activities performed and as well as presenting the data collected on the project during the period in electronic and paper format. All paper documents submitted must be printed on recycled paper with a notation in the footer. The monthly report will contain the collected data and a summary of Selected Proposer's activities including any recommendations, if necessary. In conjunction with the LFG system monitoring, data will be entered into a computer database for storage and organization as noted above.

Emergency Services - Emergency services include events that require immediate response; these could include, but not be limited to:

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- Emergency call-out
- Power outages
- Storm events

Response to the urgent nature of these items is such that they cannot be scheduled; Selected Proposer staff would respond to these conditions as appropriate, however in no event shall such response require more than four (4) hours.

PROJECT MANAGEMENT DURING OPERATIONS

Selected Proposer will provide assistance to the Authority and the County as reasonably required for filings and reporting required by the Interconnection Agreements, the Power Purchase Agreement and to any Government Authority. While it is anticipated that the Authority shall be responsible for energy marketing, including daily bidding into the PJM wholesale electricity market (e.g. Day Ahead” or “Real Time”) or any other daily market, the Proposer is expected to assist with data collection and data transmittal.

The Proposer will be responsible for filing any information required by Federal, State or local permit issued to the LFGTE facility.