



June 20, 2012

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113-87708

Mr. Jeff Koerner, Program Administrator  
Florida Department of Environmental Protection  
Division of Air Resource Management  
2600 Blair Stone Road, MS #5505  
Tallahassee, Florida 32399-2400

JUN 21 2012  
DIVISION OF AIR  
RESOURCE MANAGEMENT

**RE: HARVEST POWER, LLC  
PROJECT NO. 0951340-001-AC/PSD-FL-418  
PROPOSED HARVEST ENERGY GARDEN – ORLANDO FACILITY  
DRAFT PERMIT DATED MAY 30, 2012**

Dear Mr. Koerner:

Harvest Power Orlando, LLC (HP) and Golder Associates Inc. (Golder) have received the Florida Department of Environmental Protection's (FDEP's) draft Air Construction Permit No. 0951340-001-AC / PSD-FL-418 dated May 30, 2012. We have reviewed the draft permit and provide the comments below for the Department's consideration.

Draft Permit, Page 3 of 11, Proposed Project

The description of the proposed project states that the project is considered to be an expansion of the Reedy Creek Improvement District (RCID) facility. HP disagrees with this conclusion, as HP will have complete control of the physical location, with RCID having no authority to make decisions regarding operation, emissions controls, or any other business operations at the Harvest Energy Garden – Orlando facility. However, in the interest of time, in order to begin construction and for HP to meet its contractual obligations, HP will concede the point at this time. HP does appreciate FDEP's statement that HP will be issued separate PSD and Title V permits from RCID.

Draft Permit, Page 7 of 11, Authorized Fuel

The draft permit states that only biogas is authorized to be fired in the engine/generator sets; however, biogas will not be immediately available to fuel the engines. Prior to biosolids being introduced to the anaerobic digestion process, the system will need to be tested for leaks, gas storage, and gas handling, as well as connection to both the engines and the flare. This testing will require using alternative fuels such as propane, natural gas, or landfill gas/biogas from another facility. HP requests that FDEP add propane, natural gas, and biogas/landfill gas from another facility as authorized fuels during the initial startup testing period. The suggested permit language is given below:

5. Authorized Fuel: Propane, natural gas, or biogas/landfill gas from another facility may be combusted in the engine/generator sets during the initial startup testing prior to full commissioning of the facility. Once biosolids have been added to the anaerobic digestion system, and biogas is being generated, only biogas shall be fired in the engine/generator sets. [Design, Application No. 0951340-001-AC, and Rule 62-210.200(PTE), F.A.C.]

Draft Permit, Page 7 of 11, Emission Standards

The emission standards given in specific conditions Nos. 10, 11, and 12 give the carbon monoxide (CO), volatile organic compound (VOC), and nitrogen oxides (NO<sub>x</sub>) emission limits in grams per brake horsepower per hour (g/bhp-hr), with equivalent pound per hour (lb/hr) values. It is understood that these

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Golder Associates Inc.

6026 NW 1st Place

Gainesville, FL 32607 USA

Tel: (352) 336-5600 Fax: (352) 336-6603 www.golder.com



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emission rates are based on the New Source Performance Standards (NSPS); however, brake horsepower is a design criteria, and not a measureable factor during operation of the engines. HP suggests that the emission standards either be given in lb/hr quantities (with the brake horsepower limits given as equivalent rates), or that a conversion of electrical power output in kilowatts (kW) to mechanical power (bhp) be given in order to be able to compare the actual emissions and actual power output to the published emission standards. The documentation provided by the engine manufacturer gives a conversion factor of approximately 1.4 brake horsepower per kilowatt (bhp/kW). The suggested permit language is given below:

10. CO Standard: The emissions of CO from each engine/generator set shall not exceed 24.7 lb/hour and 7.0 g/kW-hr (equivalent to 5.0 g/bhp-hour). [NSPS Subpart JJJJ in 40 CFR 60 and Rule 62-212.400(BACT), F.A.C.]

11. VOC Standard: The emissions of VOC from each engine/generator set shall not exceed 4.9 lb/hr and 1.4 g/kW-hr (equivalent to 1.0 g/bhp-hour). When calculating emissions of VOC, emissions of formaldehyde should not be included. [NSPS Subpart JJJJ in 40 CFR 60 and Rule 62-212.400(BACT), F.A.C.]

12. NO<sub>x</sub> Standard: The emissions of NO<sub>x</sub> from each engine/generator set shall not exceed 9.9 lb/hr and 2.8 g/kW-hr (equivalent to 2.0 g/bhp-hour). [NSPS Subpart JJJJ in 40 CFR 60.]

#### Draft Permit, Page 8 of 11, Initial Compliance Tests

The draft permit states that each engine / generator set shall be tested to demonstrate initial compliance with the emission standards for CO, NO<sub>x</sub>, and VOC within 60 days after achieving permitted capacity, but no later than 180 days after initial startup of each unit. The Harvest Energy Garden – Orlando facility will achieve its permitted biogas generation and emissions capacity when feedstock and biogas production quantities reach build-out conditions at the facility at a future time. Therefore, HP proposes that the initial compliance test be performed within 180 days after facility commissioning starts when biosolids have been added to the anaerobic digestions system and biogas generation has begun. The suggested permit language is given below for the engine units, which can also be used for the Testing Requirements for the Flare:

16. Initial Compliance Tests: Each engine/generator set shall be tested to demonstrate initial compliance with the emissions standards for CO, NO<sub>x</sub>, and VOC pursuant to the NSPS Subpart JJJJ provisions in 40 CFR 60. The initial compliance test must be conducted within 60 days after achieving permitted capacity, but no later than 180 days after the start of facility commissioning when biosolids have been added to the anaerobic digestion system and biogas is being generated. [NSPS Subpart JJJJ in 40 CFR 60 and Rules 62-204.800, 62-297.310(7), and 62-212.400(BACT), F.A.C. (for CO/VOC emissions).]

#### Draft Permit, Page 9 of 11, Monthly Records

The draft permit states the average power produced (bhp) of each engine must be recorded monthly. As stated previously, bhp is not a measurable quantity from the engines, and must be calculated based on the electrical power output (in kW). If electrical power output is recorded and used with the suggested changes to the emissions standards described above, the intent of the requirement (to have a record of the monthly and 12-month rolling NO<sub>x</sub> and SO<sub>2</sub> emissions) will still be maintained. The suggested permit language is given below:

22. Monthly Records: Within ten calendar days following each month, the permittee shall observe and record the total monthly number of hours of operation of each engine, the average electrical power produced (kW) of each engine, and the calculated monthly and 12-month rolling total emissions of NO<sub>x</sub> and SO<sub>2</sub> to demonstrate compliance with the emissions caps. [Rules 62-4.070(3), F.A.C.]

Draft Permit, Page 10 of 11, Authorized Fuel

The draft permit states that only biogas is authorized to be fired in the flare; however, biogas will not be immediately available for the flare to burn. As stated previously, prior to biosolids being introduced to the anaerobic digestion process, the system will need to be tested for leaks, gas storage, and gas handling, as well as connection to both the engines and the flare. Therefore, HP suggests that other fuels be added as an authorized fuel during the initial startup testing period. The suggested permit language is given below:

3. Authorized Fuel: Propane, natural gas, or biogas/landfill gas from another facility may be combusted in the flare during the initial startup testing prior to full commissioning of the facility. After the start of the facility commissioning when biosolids have been added to the anaerobic digestion system, and biogas is being generated, only biogas shall be fired in the flare. [Application No. 0951340-001-AC, and Rule 62-210.200(PTE), F.A.C.]

Draft Permit, Page 11 of 11, Initial Compliance Tests


The draft permit states that the flare shall be tested to demonstrate initial compliance with the visible emissions standards within 60 days after achieving permitted capacity, but no later than 180 days after initial startup of the unit. As stated above, it is unknown at this time when the facility will achieve its permitted capacity. The suggested permit language is given below:

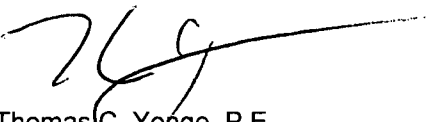
8. Initial Compliance Tests: The emission unit shall be tested to demonstrate initial compliance for visible emissions. The initial compliance test must be conducted within 60 days after achieving permitted capacity, but no later than 180 days after the start of facility commissioning when biosolids have been added to the anaerobic digestion system and biogas is being generated. [Rules 62-4.070(3) and 62-297.310(7), F.A.C.]

Thank you for your consideration of these comments. If you have any questions, please do not hesitate to call me at (352) 336-5600.

Sincerely,

**GOLDER ASSOCIATES INC.**

  
Philip D. Cobb, Ph.D., P.E.  
Senior Project Engineer

  
Thomas C. Yonge, P.E.  
Senior Consultant

cc: Alex MacFarlane, Harvest Power  
John Eustermann, Harvest Power  
Brandon Moffatt, Harvest Power  
Eian Lynch, Harvest Power

PC/tz