STATEMENT OF BASIS
Hardee Power Partners (A Subsidiary of Invenergy, LLC)
Hardee Power Station
Facility ID No.: 0490015
Hardee County

Title V Air Operation Permit Revision
DRAFT/PROPOSED Permit No.: 0490015-007-AV

This Title V Air Operation Permit Revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213 and 62-214. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit. The existing Hardee Power Station is located at 6695 County Road 663, Fort Green Springs, in Hardee County; UTM Coordinates: Zone 17, 404.8 km East and 3,057.4 km North; Latitude: 22° 38' 02" North and Longitude: 81° 38' 02" West.

The purpose of this revision is to change various permit conditions to match the updated requirements of 40 CFR 60, Subpart GG, which was revised on July 8, 2004. This permitting action will also be used to replace Appendix TV-4, Title V Conditions (version dated 02/12/02) with Appendix TV-6, Title V Conditions (version dated 6/23/06), as well as other minor administrative corrections as described below. It was determined that a concurrent Air Construction permit revision was not required because the changes contained in this revision do not alter the requirements contained in the construction permits to comply with the applicable portions of 40 CFR 60, Subpart GG.

Hardee Power Partners (A Subsidiary of Invenergy, LLC), operates a nominal 370 megawatt (MW) electric generation facility located approximately nine miles northwest of Wauchula in Hardee County, Florida. The Hardee Power Station includes four General Electric (GE) dual-fuel fired combustion turbines (CTs). The facility utilizes pipeline natural gas as its primary fuel source, with No. 2 distillate fuel oil serving as a backup fuel.

Three of the CTs (CT-1A, CT-1B and CT-2A) are identical emissions units, GE Model No. PG-7111 EA, and CTs 1A and 1B together comprise a combined-cycle unit operation and CT 2A is a simple cycle unit operation. All of the CTs have a nominal power production output of 75 MW; and, for CTs 1A and 1B, each has a generator nameplate rating of 113 MW (total of the CT and associated HRSG). CT-1A and CT-1B are each equipped with a heat recovery steam generator (HRSG), which feed one common steam turbine (ST). CT-1A and CT-1B are each equipped with a stack to bypass each unit's HRSG. The maximum permitted heat input rate to each CT is 1,312.3 MMBtu/hr while firing oil, and 1,268.4 MMBtu/hr while firing natural gas. Water injection is used to reduce NO_X emissions when firing natural gas and low sulfur distillate oil (backup fuel). These emission units are regulated under Rule 62-210.300, F.A.C., Permits Required; NSPS - 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted and incorporated by reference in Rule 62-204.800(8), F.A.C.; NSPS - 40 CFR 60, Subpart A; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration; PSD-FL-140; and, these units are not affected by the Acid Rain Program since they meet the requirements of 40 CFR 72.6(b)(6). Continuous Assurance Monitoring (CAM) applies for NO_X.

The fourth and latest CT (CT-2B) is also manufactured by GE, Model No. PG-7121 (7EA), and is a simple cycle unit operation. The CT has an electrical generator with a nominal power production output of 75 MW. Dry low-NO_X (DLN) combustion technology will be used to control nitrogen oxide

emissions, when firing the primary fuel of pipeline natural gas. Water injection will be used to control NO_X emissions, when firing low sulfur distillate oil as a backup fuel. Combustion design and clean fuels will be used to minimize emissions of CO, PM/PM_{10}, SAM, SO_2, and VOC. This emissions unit is regulated under Rule 62-210.300, F.A.C., Permits Required; NSPS - 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted and incorporated by reference in Rule 62-204.800(8), F.A.C.; NSPS - 40 CFR 60, Subpart A; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration; Rule 62-212.400(6), F.A.C. (BACT); PSD-FL-140A; and, the applicable provisions of the Acid Rain Program.

Also included in this permit are miscellaneous unregulated and insignificant emissions units and activities.

Based on the renewal Title V permit application received December 22, 2003, this facility is a major source of hazardous air pollutants (HAPs).

The following changes are being made to Title V Air Operation Permit Renewal No. 0490015-005-AV as a result of this permitting action:

1. All occurrences of "Appendix TV-4, Title V Conditions (version dated 2/12/02)" have been replaced by "Appendix TV-6, Title V Conditions (version dated 6/23/06)".

2. To update the contact address for the Southwest District office, Facility-wide Condition 10. is changed as follows:

   10. The Permittee shall submit all compliance related notifications and reports required of this permit to the Department's Southwest District office:

   Department of Environmental Protection
   Southwest District Office
   ~~3804 Coconut Palm Drive~~13051 North Telecom Parkway
   ~~Tampa, Florida 33619-8218~~ Temple Terrace, FL 33637-0926
   Telephone: ~~813/744-6100~~813/632-7600
   Fax: ~~813/744-6084~~813/632-7668

3. To ensure that all applicable requirements from 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines are included in the permit, Appendix GG, Standards of Performance for Stationary Gas Turbines has been added to the included attachments.

4. To provide a cross-reference to the attached appendix, the following new Common Condition C.20. has been added:

   40 CFR 60, Subpart GG

   C.20. These emissions units are also subject to all of the applicable requirements of 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines. (See attached Appendix GG, Standards of Performance for Stationary Gas Turbines.)
   [40 CFR 60, Subpart GG; and, Rule 62-213.440, F.A.C.]

5. To reflect the July 8, 2004 revisions to 40 CFR 60.334(a) which removed the +/-5% accuracy requirement, Specific Conditions A.10. and B.13. are changed as follows:

A.10. CMS Requirements. The Permittee shall install, operate, and maintain a continuous monitoring system (CMS) to monitor and record the fuel consumption and~~,~~ the ratio of water to fuel being fired in the turbine. ~~The system shall be accurate to within ±5.0 percent and shall be approved by the Department.~~
[40 CFR 60.334(a); and, PSD-FL-140]

B.13. CMS Requirements. The permittee shall install, calibrate, operate and maintain a continuous monitoring system (CMS) to monitor and record the fuel consumption and~~,~~ the ratio of water to fuel being fired in the CT. ~~The system shall be accurate to within ±5.0 percent and shall be approved by the Department.~~ As an alternative to the monitoring requirements of this condition, the permittee may comply with the monitoring requirements of specific condition **B.17** (See Alternate Monitoring Plan).
[40 CFR 60.334(a)]

6. To update the requirements of 40 CFR 60.334, Specific Conditions A.11. and B.15. are changed as follows:

A.11. Critical Fuel Parameters. The Permittee shall monitor sulfur content and nitrogen content of the fuel being fired in the CTs. Pursuant to the monitoring~~custom monitoring schedule~~ provisions of 40 CFR 60.334(h~~b~~)~~(2)~~, the frequency of determination of these values shall be as follows:
1. Monitoring of the nitrogen content of No. 2 fuel oil is not required. The sulfur content of distillate fuel oil shall be determined for each shipment of No. 2 fuel oil received; and,
2. Monitoring of the nitrogen content of pipeline natural gas is not required. The sulfur content of pipeline natural gas will be monitored using the applicable monitoring procedures specified in 40 CFR 60.334(h)~~based on twice-monthly analyses provided by the natural gas supplier~~.
[40 CFR 60.334(h~~b~~)~~(1) & (2)~~]

B.15. Critical Fuel Parameters. The Permittee shall monitor sulfur content and nitrogen content of the fuel being fired in the CT. Pursuant to the monitoring~~custom monitoring schedule~~ provisions of 40 CFR 60.334(h~~b~~)~~(2)~~, the frequency of determination of these values shall be as follows:
1. Monitoring of the nitrogen content of No. 2 fuel oil is not required. The sulfur content of distillate fuel oil shall be determined for each shipment of No. 2 fuel oil received; and,
2. Monitoring of the nitrogen content of pipeline natural gas is not required. The sulfur content of pipeline natural gas will be monitored using the applicable monitoring procedures specified in 40 CFR 60.334(h)~~based on twice-monthly analyses provided by the natural gas supplier~~.
[40 CFR 60.334(h~~b~~)~~(1) & (2)~~]

7. To update the requirements of 40 CFR 60.335, Specific Condition A.19. is changed as follows:

A.19. Sulfur Content. The Permittee shall determine compliance with the sulfur content standard in 40 CFR 60.333(b) using applicable test methods and procedures specified in 40 CFR 60.335~~as follows: ASTM D 2880-96, or more recent version, shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-90(94)E-1, D 3031-81(86), D 4084-94, or D 3246-92, or more recent versions, shall be used for the sulfur content of gaseous fuels (incorporated by reference - see 40 CFR 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Department~~.
[40 CFR 60.335~~(d)~~; and, PSD-FL-140]

8. To reflect that the requirements of 40 CFR 60.335(e) are obsolete, Specific Condition A.20. is changed as follows:

   A.20. Reserved~~To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in 40 CFR 60.335(a) and 40 CFR 60.335(d) of 40 CFR 60.335 to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency~~.
   [40 CFR 60.335(e)]

9. To update the requirements for complying with 40 CFR 60.335, Specific Condition B.16. is changed as follows:

   B.16. Fuel Records.
   (a) Natural Gas. The permittee shall demonstrate compliance with the fuel sulfur limit for natural gas specified in this permit by maintaining records of the sulfur content of the natural gas being supplied using the applicable monitoring procedures specified in 40 CFR 60.334(h)~~for each month of operation~~. Methods for determining the sulfur content of the natural gas shall be made using the applicable test methods and procedures specified in 40 CFR 60.335~~ASTM methods D4084-82, D3246-81~~, or equivalent methods. These methods shall be used to determine the sulfur content of the natural gas fired in accordance with any EPA-approved custom fuel monitoring schedule (see Alternate Monitoring Plan: specific condition **B.17.**) or natural gas supplier data or the natural gas sulfur content referenced in 40 CFR 75, Appendix D. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency pursuant to 40 CFR 60.335~~(e)~~. However, the permittee is responsible for ensuring that the procedures in 40 CFR 60.335 or 40 CFR 75 are used to determine the fuel sulfur content for compliance with the 40 CFR 60.333 SO_2 standards.
   (b) Low Sulfur Distillate Oil. For all bulk shipments of low sulfur distillate oil received at this facility, the permittee shall obtain from the fuel vendor an analysis identifying the sulfur content. Methods for determining the sulfur content of the distillate oil shall be made using the applicable test methods and procedures specified in 40 CFR 60.335~~ASTM D129-91, D2622-94, or D4294-90~~, or equivalent methods. Records shall specify the test method used and shall comply with the requirements of 40 CFR 60.335~~(d)~~.
   [Rules 62-4.070(3) and 62-4.160(15), F.A.C.]

10. To reflect that 40 CFR 60.334 has been revised to include several options for monitoring fuel sulfur contents, Specific Condition B.17. is changed as follows:

    B.17. Alternate Monitoring Plan.
    1. The following alternate monitoring may be used to demonstrate compliance.
    (a) The NO_X CEMS data may be used in lieu of the monitoring system for water-to-fuel ratio and the reporting of excess emissions in accordance with 40 CFR 60.334(c)~~(1)~~, Subpart GG. ~~Subject to EPA approval, the calibration of the water-to-fuel ratio monitoring device required in 40 CFR 60.335(c)(2) will be replaced by the 40 CFR 75 certification tests of the NO_x CEMS.~~
    (b) The NO_X CEMS data shall be used in lieu of the requirement for reporting excess emissions in accordance with 40 CFR 60.334(c)~~(1)~~, Subpart GG.

(c) When requested by the Department, the CEMS emission rates for NO_X on this unit shall be corrected to ISO conditions to demonstrate compliance with the NO_X standard established in 40 CFR 60.332.

(d) A **custom fuel monitoring schedule** pursuant to 40 CFR 75, Appendix D, for natural gas, may be used in lieu of the daily sampling requirements of 40 CFR 60.334(h~~b~~)~~(2)~~ provided the following conditions are met.

(1) The permittee shall apply for an Acid Rain Permit within the deadlines specified in 40 CFR 72.30.

(2) The permittee shall submit a monitoring plan, certified by signature of the Authorized Representative, that commits to using a primary fuel of pipeline supplied natural gas containing no more than 2 grains of sulfur per 100 SCF of gas pursuant to 40 CFR 75.11(d)(2).

(3) Each unit shall be monitored for SO_2 emissions using methods consistent with the requirements of 40 CFR 75 and certified by the USEPA.

This custom fuel-monitoring schedule will only be valid when pipeline natural gas is used as a primary fuel. If the primary fuel for these units is changed to a higher sulfur fuel, SO_2 emissions must be accounted for as required pursuant to 40 CFR 75.11(d).

~~[40 CFR 60, Subpart GG; and, PSD-FL-140A]~~

(e) The permittee shall monitor the sulfur contents of the No. 2 distillate fuel oil (or a superior grade) and natural gas. These values may be provided by the vendor and the frequency of determinations of these values shall be as follows:

(1)~~a.~~ No. 2 Distillate Fuel Oil (or a superior grade). The sulfur content shall be determined on each occasion that fuel is transferred to the storage tanks from any other source. Records of these values shall be kept by the facility for a five year period for regulatory agency inspection purposes.

(2)~~b.~~ Natural Gas. Monitoring shall be conducted in accordance with the applicable provisions of 40 CFR 60.334(h) and 60.335. Alternatively, p~~P~~ursuant to 40 CFR 60.334(h~~b~~)~~(2)~~, a custom fuel monitoring schedule for the determination of these values may~~shall~~ be followed for the natural gas fired at this facility ~~and shall be~~ as follows:

(Note: There are no changes to the "Custom Fuel Monitoring Schedule for Natural Gas" in paragraphs 2. and 3. of this condition.)

11. To reflect that language and numbering of 40 CFR 60.334 has been revised regarding the reporting of excess emissions, Specific Condition C.19. is changed as follows:

C.19. Excess Emissions Defined. For the purpose of reports required under 40 CFR 60.7(c) (see specific conditions **C.1.** through **C.4.**), periods of excess emissions that shall be reported are defined as follows:

a. *Nitrogen oxides*. For CT-1A, CT-1B and CT-2A, any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332 by the performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in 40 CFR 60.8. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under 40 CFR 60.335~~(a)~~.

For CT-2B, NO_X CEMS data will be used in accordance with specific conditions **B.17.(a)** and **(b)**.

b. *Sulfur dioxide*. Any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 percent, by weight.

[40 CFR 60.334(j~~e~~)~~(1) & (2)~~]