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| 1030012 75633 | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | |
| **FACILITY:** **Florida Power Corporation** | | | | | | | | | | | | | | | | | | | | | **PERMIT ID: 82** | | | | | | | | | | | | | |
| **Progress Energy Florida, Inc., Higgins Plant** | | | | | | | | | | | | | | | | | | | | | **DISTRICT:** Southwest | | | | | | | | | | | | | |
| **ADDRESS:** 998 East Shore Drive | | | | | | | | | | | | | | | | | | | | | **CONTACT PHONE:** | | | | | | | | | | | | | |
| Oldsmar, FL | | | | | | | | | | | | | | | | | | | | | 727-820-5351 | | | | | | | | | | | | | |
| **ARMS NO:**  **1030012 007** | | | | | | | | | **PERMIT NO:** | | | | | | | | | | | | **Expiration Date:** 12/31/12  **Renewal Due Date:** 5/20/12 | | | | | | | | | | | | | |
|  | | | | | | | | | **1030012-004-AV** | | | | | | | | | | | |  | | | | | | | | | | | | | |
|  | | | | | | | | |  | | | | | | | | | | | | **Test Due Date:** Annually On or Before 9/30 | | | | | | | | | | | | | |
| **EMISSION UNIT DESCRIPTION :** **Combustion Turbine Peaking Unit No. 4; Rated at 42.9 MW at 59 degrees F and 631 MMBtu Fired on New No. 2 Fuel Oil** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **INSPECTION DATE:** | | | | | | | | **ARMS INSPECTION TYPE:** | | | | | | | | | | | | | | **COMPLIANCE STATUS:** | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | **June 20, 2011** | | | | |  |  | | | INS**1** | | **✓** | **INS2** |  | | INS**3** | |  | FUI | | | **✓** | | **IN** |  | MNC | | | |  | | SNC | |
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| **INSPECTION TYPE:** | | | | **✓** | **Initial** | | | |  | | Re-inspection | | | |  | | Complaint | | | |  | | Drive-by | | | |  | | Quarterly | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ✓ | | | **A. General Review:** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **1.** | | Permit File Review | | | | | | | | | | | | | | | | | | | | | | | |  | | Yes | | |  | | No | |
|  | | ***C****omments:* | | | | | | | | | | | | | | | | | | | | | | | |  | |  | | |  | |  | |
| **2.** | | Introduction and Entry | | | | | | | | | | | | | | | | | | | | | | | |  | | Yes | | |  | | No | |
|  | | ***C****omments: I was greeted by Mr. Gus Schaefer who provided the information re: the hours of operation, the Fuel Certificate of Analysis (COA), the Fuel throughput etc.* | | | | | | | | | | | | | | | | | | | | | | | |  | |  | | |  | |  | |
| **3.** | | **Is the Responsible Official/Authorized Representative still: Tom Callaghan?** | | | | | | | | | | | | | | | | | | | | | | | |  | | Yes | | |  | | No | |
|  | | ***C****omments:*  **The Responsible Official/Authorized Representative’s e-mail is:** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **4.** | | **Is the facility contact still:** Gus Schaefer**?** | | | | | | | | | | | | | | | | | | | | | | | |  | | Yes | | |  | | No | |
|  | | ***C****omments:*  **The facility contact’s e-mail is: Gustave.Schaefer@pgnmail.com** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **IN** | | **MNC** | **SNC** | **B. Specific Conditions:** | | | | | |
| **✓**  **✓**    **✓**  **✓**  **✓**  **✓**  **✓**  **✓**  **✓**  **✓**  **✓**  **✓**  **✓**  **✓**  **✓** | |  |  | This permit or a copy thereof shall be kept at the work site of the permitted activity.  [APPENDIX TV-4, TITLE V CONDITION 12(12)]    **Comments***: The facility had the permit on hand.*    Renewals. Prior to one hundred eighty (180) days before the expiration of a permit issued pursuant to Chapter 62-213, F.A.C., the permittee shall apply for a renewal of a permit using forms incorporated by reference in the specific rule chapter for that kind of permit. [Rule 62-4.090(1), F.A.C.]    **Comments*:*** *The permit application is due to be submitted on, or before,* 5/20/12*.*    2. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C., Pinellas County Ordinance 97-05, Section 33, Sec. 58-178]    **Comments*:*** *An upwind/downwind survey of the facility was conducted. The observed parameters were:*  *Downwind odor detected- none; Wind direction - NNE Upwind odor detected-none*    3. Prevention of Accidental Releases (Section 112(r) of CAA). If required by 40 CFR 68, the permittee shall submit to the implementing agency:  A. A risk management plan (RMP) when, and if, such requirement becomes applicable; and  B. Certification forms and/or RMPs according to the promulgated rule schedule.  [40 CFR 68]    **Comments***: Progress Energy has submitted the RMP to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center and it is on file.*    4. The "Statement of Compliance", shall be submitted to this office and EPA, annually, within 60 days after the end of each calendar year. [Rules 62-213.440(3)(a)2. & 3. and (b), F.A.C.]    **Comments:** *The Annual Statement of Compliance (ASOC) was received in the month of January 2011.*    **B.1.** Permitted Capacity. CTP 1 and CTP 2 each have a maximum heat input of 566 MMBtu/hour at 59° F and each powers a generator rated at 37.0 MW (megawatts of electricity). CTP 3 and CTP 4 each have a maximum heat input of 631 MMBtu/hour at 59° F and each powers a generator rated at 42.9 MW. At other ambient temperatures, the units shall be operated in accordance with established performance curves, which will be made available at the site during compliance testing.  [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and, AO 52-216420, AO 52-216421, AO 52-216422, and AO 52-216423.]    **Comments***:* *Operated a t a rate of 456.02 MMBTU/hr.*    **B.4.** Methods of Operation - Fuels.  (a). Only new No. 2 fuel oil having a maximum sulfur content of 0.5 percent, by weight, or natural gas having a maximum sulfur content of 1 grain per 100 dscf shall be fired in these turbines.  (b). The heat inputs in Specific Condition B.1 are based on the following fuel consumption rates while firing new No. 2 fuel oil and natural gas. These rates may vary depending on the heating values of the fuels:   |  |  |  | | --- | --- | --- | | Emissions Unit(s) | New No. 2 Fuel Oil | Natural Gas | | CTP 1 & CTP 2 | 4,032 gals/hr (96 bbl/hr) | 0.57 MMCF/hr | | CTP 3 & CTP 4 | 4,494 gals/hr (107 bbl/hr) | 0.63 MMCF/hr |   [Rules 62-4.160(2) and 62-213.440(1), F.A.C.; and, AO 64-216420, AO-216421, AO 64-216422, and AO 64-216423.]  **B.6.** Sulfur Content. The sulfur content of the new No. 2 fuel oil shall not exceed 0.5 percent, by weight, and the sulfur content of the natural gas shall not exceed 1 gr/100 dscf.  [Rule 62-213.440, F.A.C.; and, AO 64-216420, AO-216421, AO 64-216422, and AO 64-216423.]    **Comments***:* *The Fuel Oil used in EUs 004 & 006 (CTPs 1 & 3) had a Sulfur content of 0.45%.*  *The NG used in EUs 004 & 006 (CTPs 1 & 3) had a Sulfur content of less than 0.5*  *grains/100 dscf.*  *The Fuel Oil used in EUs 005 & 007 (CTPs 2 & 4) had a Sulfur content of 0.40%.*  *The NG used in EUs 004 & 006 (CTPs 1 & 3) had a Sulfur content of less than 0.5*  *grains/100 dscf.*   Emission Limitations and Standards **B.5.** Visible Emissions. Visible emissions from each turbine shall not be equal to or greater than 20 percent opacity.  [Rule 62-296.320(4)(b)1., F.A.C.; and, AO 64-216420, AO-216421, AO 64-216422, and AO 64-216423.]  **B.11.** The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rules 62-204.800, 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.]  ***Comments****: The last VE Test performed on this EU in 2007 yielded an Opacity of 5.0 %.*   Excess Emissions **B.7.** Excess emissions from these emissions units resulting from startup, shutdown or malfunction shall be permitted provided that 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. [Rule 62-210.700(1), F.A.C.]  **B.8.** Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]    **Comments***:* *There were no excess emissions per Mr. Schaefer during the last 12 months.*   Monitoring of Operations **B.9.** The permittee shall demonstrate compliance with the sulfur content limit with a fuel analysis provided by the vendor or permittee upon each fuel delivery. See Specific Condition **B.12.**  [Rule 62-213.440, F.A.C.; and, AO 52-216420, AO 52-216421, AO 52-216422, and AO 52-216423.]  AND  **B.12.** The fuel sulfur content, percent by weight, provided by the vendor or permittee for each delivery of liquid fuels shall be evaluated using either ASTM D1552-90 or later editions, ASTM D2622-94, ASTM D4294-90, or both ASTM D4057-88 and ASTM D129-91, or the later editions. In addition, any ASTM method (or later editions) referenced in Rule 62-297-440(1) F.A.C., or in 40 CFR 60.335 (b) (10) is acceptable. [Rules 62-213.440 and 62-297.440, F.A.C.]  ***Comments****: The ASTM used for fuel oil sulfur analysis was ASTM D1552.*    **B.10.** Determination of Process Variables.  (a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.  (b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5), F.A.C.]    **Comments***: Progress Energy has obtained a statement from the manufacturer of the Coriolis Meters that the meters are calibrated at the factory for life.*    **B.2.** Emissions Unit Operating Rate Limitation After Testing. See Specific Condition **B.13.**  **&**  **B.13.** Operating Rate During Testing.  Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defines as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than capacity. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.  [Rules 62-297.310(2) & (2)(b), F.A.C.]  **B.14.** Applicable Test Procedures.  (a) Required Sampling Time.  2. Opacity Compliance Tests. When EPA Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:  c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.  [Rule 62-297.310(4)(a)2.c., F.A.C.]    **Comments***: The last VE Test performed on EU 005 in 2007 yielded an Opacity of 10.0 % while operating at the rate of 440.6 MMBTU/hr which was 83% of Max at the inlet temperature of 80oF.*    **B.15.** Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.  (a) General Compliance Testing.  3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:  a. Did not operate; or  b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.  4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:  a. Visible emissions, if there is an applicable standard;  8. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.  9. The owner or operator shall notify the Air Quality Division of the Pinellas County Department of Environmental Management, at least 15 days prior to the date on which each formal compliance testis to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.  (b) Special Compliance Tests. When the Air Quality Division of the Pinellas County Department of Environmental Management, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Air Quality Division of the Pinellas County Department of Environmental Management.  (c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.  [Rule 62-297.310(7), F.A.C.; and, SIP approved]  **B.16.** Visible Emissions Testing - Annual. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:  a. only gaseous fuels; or  b. gaseous fuels in combination with any amount of liquid fuels for less than 400 hours per year; or  c. only liquid fuels for less than 400 hours per year.  [Rules 62-297.310(7)(a)4. and 8., F.A.C.]  **Comments***:* *The facility has requested the exemption to perform a VE test on the Higgins Turbine Peakers for the past three (3) years and it has been granted on the basis that the EUs have operated less than 400 hours with Fuel Oil during that period of time. Mr. Schaefer stated that he will be requesting the exemption again for compliance year 2011, given that at the present and projected rate of operation, the 400 hours with Fuel Oil will not be exceeded. Mr. Schaefer added that since the Combined Cycle Turbines (CCTS) began operation, there has been little or no need to operate the Turbine Peakers at Higgins.*   Record keeping and Reporting Requirements Record keeping and Reporting Requirements  **B.17.** Malfunction Reporting. In the case of excess emissions resulting from malfunctions as defined in Specific Conditions B.7 and B.8, 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 Air Quality Division of the Pinellas County Department of Environmental Management.  [Rule 62-210.700(6), F.A.C.]    **Comments**:  *Mr. Schaefer stated that the Higgins Plant had not experienced any malfunctions or produced excess emissions in the last 12 consecutive running months.*    **B.18.** Test Reports.  (a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Air Quality Division of the Pinellas County Department of Environmental Management on the results of each such test.  (b) The required test report shall be filed with the Air Quality Division of the Pinellas County Department of Environmental Management as soon as practical but no later than 45 days after the last sampling run of each test is completed.  [Rule 62-297.310(8), F.A.C.]  **Comments:** *The last report required to be submitted was in-compliance with (a) and (b) above.* | | | | | |
| **✓** | |  |  | Valid Permit [Rule 62-210.300] | | | | | |
| **✓** | |  |  | Changes to Facility/emission unit [Rule 62-210.300] *Does the emission unit description above match what the facility is operating (Number of emission units or points, model number and serial number, etc.)  Yes  No* | | | | | |
| **✓** | | | **C. Other:** | | | | | | |
| **Pollution Prevention Activities**   * P2 Handouts Provided:  P2 Brochure;  P2 Manual;  P2 Checklist * Have any emissions reductions occurred  *Yes /*  *No*   Chemical Substitution;  Equipment Changes;  Process Changes  Chemical/Material Reuse; On-site Recycling;  Other:  ***Comments:*** *The reduction in operation of the Turbine Peakers and Emissions At Higgins are attributed to the new CCTS at the Bartow, Weedon Island Plant, being able to absorb the “peak” demand for power which historically had relied on the Higgins as well as the Bayboro Turbine Peakers.* | | | | | | | | | |
| Closing Conference: *I informed Mr. Schaefer that the facility was in compliance with applicable rules and permit conditions.* | | | | | | | | | |
| **Inspector(s)**: Jose Rodriguez, *Pinellas County, Air Quality Division* | | | | | | | | | |
| **Signature(s)**: Date: | | | | | | | | **Date: June 27, 2011** | |
| ACCESS? | | | **✓** | EASIIR? | **✓** |