



Florida Department of Environmental Protection

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2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

NOTICE OF FINAL PERMIT REVISIONS

In the Matter of an
Application for Permit by:

Mr. Mike Roddy, Manager of Environmental Affairs
Seminole Electric Cooperative, Inc.
P.O. Box 272000
Tampa, FL 33688-2000

Permit Nos. PSD-FL-214E and PSD-FL-344B
Project No. 0490340-010-AC
Midulla Generating Station
Facility ID No. 0490340
Miscellaneous Air Construction Permit Revisions

Enclosed is Final Permit Nos. PSD-FL-214E and PSD-FL-344B (Project No. 0490340-010-AC), which revises the original air construction permits for the two combined cycle units and five combustion turbine sets, respectively, at Seminole Electric Cooperative, Inc.'s Midulla Generating Station. This facility is an existing electrical power plant (SIC No. 4911) located in Hardee County at 6695 County Road 663 in Bowling Green, Florida. This plant was formerly known as the Payne Creek Generating Station. A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes.

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.

Joseph Kahn, Director
Division of Air Resource Management

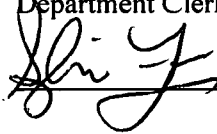
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit package (including the Final Determination and Final Permit) 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 3/4/09 to the persons listed below.

Mr. Mike Roddy, SECI (wmroddy@seminole-electric.com)
Mr. Juan Ramirez, Seminole Electric Cooperative, Inc. (jramirez@seminole-electric.com)
Mr. Walt Hentze, Seminole Electric Cooperative, Inc. (whentze@seminole-electric.com)
Mr. Tom Davis, ECT, Inc. (tdavis@ectinc.com)
Mr. Mike Halpin, Siting Office (halpin_m@dep.state.fl.us)
Ms. Cindy Zhang-Torres, Southwest District Office (cindy.zhang-torres@dep.state.fl.us)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Abrams, EPA Region 4 (abrams.heather@epamail.epa.gov)
Ms. Vickie Gibson, DEP-BAR Reading File (victoria.gibson@dep.state.fl.us)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to § 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.



(Clerk)

3/4/09
(Date)

REVISIONS TO PERMIT PSD-FL-214

The original air construction permit had previously been modified by PSD-FL-214A, PSD-FL-214B, PSD-FL-214C and PSD-FL-214D. All construction related to this project is complete and no further construction is authorized by this action. The following permit conditions are revised as follows. Deleted text is shown as ~~striketrough~~ and new added text is shown with double underline. All other conditions are unchanged and the affected emissions units remain subject to the applicable requirements.

B. Emission Limits

1. Pursuant to Rule 62-212.410, F.A.C., BACT (now Rule 62-212.400, F.A.C.), the maximum allowable emission limitations from two CTs, when firing natural gas or No. 2 fuel oil, shall not exceed the following:

MAXIMUM ALLOWABLE EMISSION LIMITATIONS

<u>POLLUTANT</u>	<u>FUEL</u>	<u>CONCENTRATION</u>	<u>lbs/hr (a)</u>	<u>TPY (b)</u>	<u>TPY (TOTAL)</u>
NO _x	Gas	9 ppmvd(d)	68	596	906
	Oil	42 ppmvd(e)	336	504	
CO	Gas	20 ppmvd	71	622	618
	Oil	25 ppmvd	91	136	
PM/PM ₁₀	Gas	Compliance with the PM/PM ₁₀ mass emissions limits shall be demonstrated with initial tests only.	7	65	147
	Oil	Thereafter, compliance with the fuel sulfur specifications of this permit shall serve as a surrogate for compliance with the emissions limits.	67	100	
SO ₂	Gas	SO ₂ emissions shall be controlled by complying with the fuel sulfur specifications of this permit. The SO ₂ mass emissions rates shown are estimated maximum emissions.	5	65	182
	Oil		101	100	
VOC	Gas	5 ppmvd	10	88	99
	Oil	10 ppmvd	21	31	
Sulfuric Acid Mist (SAM)	Gas	<u>SAM emissions shall be controlled</u>	1	6	39
	Oil	<u>by complying with the fuel sulfur specifications of this permit. The SAM mass emissions rates shown are estimated maximum emissions.</u> <u>[PSD-FL-214E]</u>	22	34	
Visible Emissions	Gas	≤ 10 percent opacity			
	Oil	≤ 10 percent opacity			

{Permitting Note: The emissions limitations for beryllium and arsenic were removed in PSD-FL-214B.}

(a) The emission limitations in lbs/hr/CT are a 1-hour average as determined pursuant to the Performance Testing conducted pursuant to Condition C.1 below.

(b) The annual emission limitations (TPY) for natural gas are based on two CTs operating at full load for 8,760 hours per year. The annual emission limitations (TPY) for fuel oil are based on the equivalent of full-load operation for a maximum of 1500 hours per year for each of the two CTs (not to exceed 3,000 hrs/yr between the two CTs). The emission calculations are also based at a worst case ambient temperature of 32° F.

(c) Maximum allowable emissions from two CTs if any fuel oil is burned at the facility during the year. The emission calculations are also based at an ambient temperature of 59° F.

(d) The natural gas NO_x allowable emission limitation of 15 ppmvd is corrected to 15 percent O₂. Compliance shall be determined through the initial stack tests and by CEMS thereafter.

(e) The fuel oil NO_x allowable emission limitation of 42 ppmvd is corrected to 15 percent oxygen. Compliance shall be determined through the initial stack tests and by CEMS thereafter.

C. Performance Testing

1. Initial (I) compliance tests shall be performed on each CT using each fuels. Annual (A) compliance tests shall be performed on each CT for each fuel used for more than 400 hours in the federal fiscal year. Tests shall also be conducted prior to permit renewal (R). Testing of emissions shall be conducted at 90% to 100% of the permitted maximum heat input rate for each fuel at average ambient conditions during the test. Tests shall be conducted using EPA reference in Chapter 62-297, F.A.C., and follows:

- a. Reference Method 5B for PM (I: for oil only, assumption is that all PM is PM₁₀). No subsequent testing is required unless requested by the Department pursuant to Rule 62-297.310(7)(b), F.A.C.
- b. Reference Method 9 for VE (I, A, R for oil only).
- c. Reference Method 10 for CO (I, A, R).
- d. Reference Method 20 or 7E for NO_x (I). Thereafter, compliance shall be demonstrated by NO_x CEMS.
- e. Reference Method 18 or 25A for VOC (I, A). Provided compliance is demonstrated with the CO emissions standards, subsequent compliance tests for VOC emissions are not required.
- f. Reference Method 8 for H₂SO₄ Mist (I, A).
- g. ASTM D4294 (or equivalent) for sulfur content of distillate oil (I and A), which can be used for determining SO₂ emissions annually.
- h. ASTM D1072-80, D3031-81, D4084-82, or D3246-81 (or equivalent) for sulfur content of natural gas (I and A, if deemed necessary by the Department).
- i. Other U.S. EPA or DEP approved test methods for the permitted facilities may be used for compliance testing after departmental approval. Unless the permittee requests to modify a reference method, or to use a method for which a method was not designed, such approval shall not constitute an alternative test procedure under Section 62-297.620, F.A.C., or otherwise require modification of the permit.

REVISIONS TO PERMIT NO. PSD-FL-344

The original air construction permit had previously been modified by PSD-FL-344A for revised CO testing. All construction related to this project is complete and no further construction is authorized by this action. The following permit conditions are revised as follows. Deleted text is shown as ~~strikethrough~~ and new added text is shown with double underline. All other conditions are unchanged and the affected emissions units remain subject to the applicable requirements.

Emissions Performance Testing

4. Permitted Capacity: The heat input to each combustion turbine set from firing natural gas shall not exceed ~~635.6~~ 676.2 MMBtu per hour based on the following: 100% base load, a higher heating value (HHV) for natural gas and a compressor inlet air temperature of ~~50~~ 55.4° F. The heat input to each combustion turbine set from firing No. 2 fuel oil shall not exceed ~~576.8~~ 606.6 MMBtu per hour based on the following: 100% base load, HHV and a compressor inlet air temperature of ~~78~~ 85.1° F. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Heat input rates will vary depending upon compressor conditions and the combustion turbine characteristics. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves on file with the Department. [Design, Rule 62-210.200, F.A.C. (Definition - PTE)]

25. Annual Performance Tests:

Note: The following condition incorporates the changes from previously issued Permit No. PSD-FL-344A for revised CO testing. Therefore, only the changes in current Project No. 0490340-010-AC (PSD-FL-344B) are shown in ~~strikethrough~~ and double underline.

- (a) To demonstrate compliance with the emission standards specified in this permit, the permittee shall conduct annual performance tests for NO_x, CO, and visible emissions for each combustion turbine on each fuel. Provided compliance is demonstrated with the CO emissions standards, subsequent compliance tests for VOC emissions are not required. ~~VOC emission tests are not required annually provided the CO emission standards are being met.~~ The CO standard shall be demonstrated initially by the measurement of CO emissions upstream and downstream of the oxidation catalyst and by calculating CO removal efficiency; thereafter, compliance with the CO standard shall be demonstrated by conducting tests downstream of the oxidation catalyst. Within the first 24 months of operation, the permittee shall have one coupon of the catalyst from each Twin Pac (5 total) analyzed for catalytic reactivity. Subsequent samples shall be taken at 24-month intervals ($\pm$ 2 months) and analyzed for catalytic reactivity. The purpose of the sampling program is to track the loss of catalyst reactivity. Based on data collected for the samples, the operator shall appropriately plan for the addition of catalyst or the replacement of catalyst as necessary to ensure compliance with the emissions standards of this permit. Within 60 days of determining the catalyst reactivity, the permittee shall submit a report to the Compliance Authority summarizing the results, the general trend of catalyst reactivity, all CO emissions tests and plans for adding or replacing catalyst. Testing for ammonia slip is required during the first scheduled annual performance tests after the cumulative hours of operation on each combustion turbine exceed 1,500 hours of oil firing or 5,000 hours of gas firing starting from the initial installation of the SCR catalysts. Thereafter, ammonia testing is required during the first scheduled annual performance tests after subsequent cumulative 1,500 hours of oil firing and 5,000 hours of gas firing in each combustion turbine or after regeneration, replacement or addition to the SCR catalyst system. If conducted at permitted capacity, NO_x emissions data collected during the annual NO_x continuous monitor RATA required pursuant to 40 CFR 75 may be substituted for the required annual performance test. Tests required on an annual basis shall be conducted at least once during each federal fiscal year (October 1st to September 30th). In the event that the operation of a combustion turbine is

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less than 400 hours per year on natural gas or distillate oil, annual testing is not required for that year and that fuel. [Rule 62-297.310(7)(a), F.A.C.]

There are no changes to paragraphs (b) and (c).

26. Tests Prior to Permit Renewal: Prior to renewing the air operation permit, the permittee shall conduct performance tests for CO, NO_x, ~~VOC~~ and visible emissions from each combustion turbine. Provided compliance is demonstrated with the CO emissions standards, subsequent compliance tests for VOC emissions are not required. Testing for ammonia slip meeting the requirements of Condition 25 (above) "Annual Performance Tests" will satisfy the requirements of this condition. These tests shall be conducted within the 12-month period prior to renewing the air operation permit. For pollutants required to be tested annually, the permittee may submit the most recent annual compliance test to satisfy the requirements of this provision. [Rule 62-297.310(7)(a)3, F.A.C.]