Florida Department of Environmental Protection

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PERMITTEE

Gulf Power Company
One Energy Place
Pensacola, Florida 32520-0100

Air Permit No. 0050014-024-AC
Lansing Smith Generating Plant Units 1 and 2
Standard Industrial Classification Code No. 4911
Expiration Date: May 1, 2014

Authorized Representative:
Mr. James O. Vick, Environmental Affairs Director

Test Burn of Emissions Control Sorbent Additives
Bay County

PROJECT

Gulf Power operates an existing power plant called the Lansing Smith Electric Generating Plant, which is categorized under Standard Industrial Classification (SIC) as No. 4911. The existing facility is located in Bay County at 4300 County Road 2300, Southport, Florida. The UTM coordinates are: Zone 16, 623.74 km East and 3349.11 km North.

This is the final air construction permit, which authorizes a test of several emissions control sorbent additives called Hydrated Lime, Trona, and Activated Carbon at Lansing Smith Units No. 1 and 2. This authorization is only for a test lasting no more than ninety days to determine a final compliance strategy using these emission control additives to achieve emission reductions of sulfur dioxide (SO_2), hydrogen chloride (HCl) and mercury (Hg) from Units No. 1 and 2. This test will allow for assessment of operational issues when using the emissions control additives. This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions).

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, 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

for Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air 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 the date indicated below to the following persons.

James O. Vick, Gulf Power Company: jovick@southernco.com
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Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

FACILITY DESCRIPTION

The existing facility consists of the following emissions units (E.U.).

E.U. No.	Brief Description
Regulated Emissions Units	
001	Boiler 1 - 1,944.8 British thermal units per hour (MMBtu/hour)
002	Boiler 2 - 2,246.2 MMBtu/hour
003	Combustion Turbine - 542 MMBtu/hour Peaking Unit
004	170 MW Gas Combustion Turbine with HRSG and Duct Burner
005	170 MW Gas Combustion Turbine with HRSG and Duct Burner
006	Cooling Tower
010	Portable Welding Machine
011	Diesel Emergency Sump Pump
012	Diesel Emergency Generator for units -001 and -002
Unregulated Emissions Units and Activities	
007	Material Handling of Coal and Ash
008	Fugitive PM Sources - On-site Vehicles
009	General Purpose Internal Combustion Engines

Units 1 and 2 are tangentially fired, dry bottom boilers that began commercial operation in 1965 and 1967, respectively. Units 1 and 2 have a common 199-foot stack and are each equipped with the following air pollution control and measurement equipment:

- Both hot and cold side electrostatic precipitators to control particulate matter (PM);
- Low NO_X burners and a non-selective catalytic reduction (SNCR) system to control nitrogen oxides (NO_X); and

Continuous emissions monitoring systems (CEMS) to measure and record NO_X and SO_2 emissions and continuous opacity monitoring systems (COMS) to measure and record visible emissions (opacity) of the exhaust gas.

PROPOSED PROJECT

This project addresses coal-fired units 1 and 2. The project will authorize a test burn program involving Hydrated Lime, Trona, and Activated Carbon to reduce combustion emissions of SO_2, acid gases, and mercury. The additives will be injected into the boiler or the existing ESPs/ductwork. The proposed test burn program requires additional material handling systems and injection systems for the additives including a temporary storage tanks and a silo.

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

- The facility is subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, Florida Administrative Code (F.A.C.)
- The facility operates units subject to the Standards of Performance for New Stationary Sources (NSPS) pursuant to 40 CFR Part 60.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the DEP Northwest District Office at: 160 West Government Street, Suite 308, Pensacola, Florida 32502-5740.

3. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

4. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

5. Modifications: No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification.
[Rule 62-210.300(1) F.A.C.]; Rule 62-212.300(1)(a), F.A.C.]

6. Unconfined Emissions of Particulate Matter: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. Reasonable precautions include the following: a) Paving and maintenance of roads, parking areas and yards; b) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing; c) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities; d) Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulate from becoming airborne; e) Landscaping or planting of vegetation; f) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter; g) Confining abrasive blasting where possible; and, h.) Enclosure or covering of conveyor systems. In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice. [Rule 62-296.320(4)(c), F.A.C.]

7. General Visible Emissions (VE) Standard:

   a. No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity).
   b. Notwithstanding subparagraph 62-296.320(4)(b)1., F.A.C., above, the owner or operator of an emissions unit subject to the general visible emission standard may request the Department to

establish a higher visible emissions standard for that emissions unit. The owner or operator may request that a visible emissions standard be established at that level at which the emissions unit will be able, as indicated by compliance tests, to meet the opacity standard at all times during which the emissions unit is meeting the applicable particulate matter standard. The Department shall establish such a standard, through the permitting process, if it finds that:

(i.) The emissions unit was in compliance with the applicable particulate emission standard while a compliance test was being conducted but failed to comply with the general visible emissions standard during the test;

(ii.) The emissions unit and associated air pollution control equipment were operated and maintained in a manner to minimize the opacity emissions during the compliance test; and

(iii.) The emissions unit and associated air pollution control equipment were incapable of being adjusted or operated in such a manner as to meet the opacity standard.

(iv.) If the presence of uncombined water is the only reason for failure to meet visible emission standards given in this rule, such failure shall not be a violation of this rule.

[Rule 62-296.320(4)(b) F.A.C, General Visible Emissions Standard]

8. Objectionable Odors Prohibited: No person shall 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.; Rule 62-4.070, F.A.C. Reasonable Assurance]

{Permitting Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.}

Emission Units 1 and 2

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
001	Boiler 1 - 1,944.8 MMBtu/hour
002	Boiler 2 - 2,246.2 MMBtu/hour

COMPLIANCE WITH EXISTING PERMIT CONDITIONS

1. Existing Permits: This permit supplements all existing valid permits. The permittee shall continue to comply with all applicable conditions from valid air construction and Title V operation permits. [Application No. 0050014-024-AC; Rule 62-4.070(3), F.A.C.]

TEMPORARY EQUIPMENT

2. Hydrated Lime Injection System: The permittee is authorized to temporarily install the delivery, conveyance, storage and spray systems associated with applying Hydrated Lime to the boiler, ESPs or the ductwork in units 1 and 2. The Hydrated Lime processing system must meet the reasonable requirements to minimize unconfined emissions of particulate matter (PM) and the VE standards specified in **Conditions 6 and 7 of Section 2** of this permit, respectively. Temporary equipment consists of the following:
   - A temporary silo filled by tanker trucks, a blower truck and a small heat exchanger, and injection lances for the boiler, ESPs or the ductwork.

   [Application No. 0050014-023-AC; Application No. 0050014-024-AC; Rule 62-4.070(3), F.A.C.; Rule 62-210.200(PTE), F.A.C.]
3. Activated Carbon Injection System: The permittee is authorized to temporarily install the delivery, conveyance, storage and spray systems associated with applying the Activated Carbon to the boiler, ESPs or ductwork in units 1 and 2. The Activated Carbon processing system must meet the reasonable requirements to minimize unconfined emissions of particulate matter (PM) and the VE standards specified in **Conditions 6 and 7 of Section 2** of this permit, respectively. Temporary equipment consists of the following:
   - A trailer-mounted blower conveying PAC (powder activated carbon) through injection lances into the boiler, ESPs or ductwork.

   [Application No. 0050014-023-AC; Application No. 0050014-024-AC; Rule 62-4.070(3), F.A.C.; Rule 62-210.200(PTE), F.A.C.]
4. Trona Solution Processing Systems: The permittee is authorized to temporarily install the delivery, conveyance, storage and spray systems associated with applying Trona to the boiler, ESPs or ductwork in units 1 and 2. The Trona processing system must meet the reasonable requirements to minimize unconfined emissions of particulate matter (PM) and the VE standards specified in **Conditions 6 and 7 of Section 2** of this permit, respectively. Temporary equipment consists of the following:
   - A temporary silo filled by tanker trucks, in-line pin mill, blower truck and small heat exchange, and injection lances for the boiler, ESPs or ductwork.

   [Application No. 0050014-023-AC; Application No. 0050014-024-AC; Rule 62-4.070(3), F.A.C.; Rule 62-210.200(PTE), F.A.C.]

PERFORMANCE RESTRICTIONS

5. Duration of Test Burn: The test burn program is for a duration of ninety days to determine whether the fuel blend along with post combustion controls reduces overall emissions impact. The ninety

days do not have to be consecutive, i.e., days may be broken into testing periods so long as all testing is concluded by May 1, 2014. [Application No. 0050014-024-AC; Rule 62-4.070(3), F.A.C.]

6. Emission Increases: This permit does not authorize major modifications or increases in capacity. [Rule 62-210.200, F.A.C. (Definitions: Major Modification, Potential-to-Emit, Actual Baseline Emissions; Projected Actual Emissions and Significant Emissions Rate)]

TEST SCHEDULE

7. Compliance Authority Test Schedule Notification: Fifteen days (15) prior to the application of the additives, the permittee shall provide to the Compliance Authority in writing a test schedule. At a minimum the schedule shall include the test dates for each trial burn, the planned duration of each trial burn and the air emission tests that will be conducted during each trial burn (stack test or Continuous Emission Monitor (CEM) data). Any trial burn that results in an exceedance of emission limits specified in any valid air construction and Title V operation permits (**see Condition 1 of this subsection**) shall cease operation as soon as possible, but in no circumstances shall more than 4 hours pass in any day before operations cease or returned to normal unit operation.
[Rule 62-4.070(3), F.A.C.; Rule 62-210.200(PTE), F.A.C.]

MONITORING REQUIREMENTS

8. Test Burn Emissions: Combined Unit 1 and 2 stack emissions shall be determined by CEMS for NO_X, SO_2, and a continuous opacity monitor (COM) for VE, when firing representative coal or coal fuel blends and injection of Trona, hydrated lime, and activated carbon in units 1 or 2 during each trial burn. HCl and Hg emissions shall be measured periodically by CEMS or equivalent methods when firing representative coal or coal fuel blends and injection of Trona, hydrated lime, and activated carbon in units 1 or 2 during each trial burn. Opacity will be used as indicator tool to estimate PM emissions and a representative number of PM stack tests will be conducted using EPA Method 5 or equivalent emissions tests. At least one PM stack test shall be conducted during a representative trial of each individual acid gas sorbent and when an acid gas sorbent is used in combination with ACI. Test results shall be recorded in units of pounds per MMBtu (lb/MMBtu).
[Application No. 0050014-024-AC; Rule 62-210.200(PTE), F.A.C.; Rule 62-4.070(3), F.A.C.]

9. Monitoring of Operations: For each trial test burn on each unit, the permittee shall conduct the following monitoring: the type, amount, and heat input of coal fired; electrical outputs; hydrated lime injection rates; activated carbon injection rates; Trona injection rates.
[Application No. 0050014-024-AC; Rule 62-210.200(PTE), F.A.C.; Rule 62-4.070(3), F.A.C.]

RECORDS AND REPORTS

10. Test Report: Within 60 days of completing all test burns, the permittee shall submit a final report summarizing all test burns to the Office of Permitting and Compliance. The final report shall provide the following: the actual schedule and overall description of each trial test burn; any operational issues related to the coal additive or sorbent injection; continuous emissions monitors (NO_X and SO_2) and VE (opacity) data; a summary of the specified operational parameters (i.e. unit load, coal type or coal blend fired, and injection rate of additives); stack test emissions results for Hg, HCl and PM for all trial test burns.
[Rule 62-4.070(3) F.A.C.; Rule 62-210.200(PTE) F.A.C.; Rule 62-212.400, F.A.C.]