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August 24, 1990

OF COUNSEL
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RECEIVED

AUG 24 1990

DER-BAQM

Ms. Cindy Phillips
Bureau of Air Regulation
Department of Environmental Regulation
2600 Blair Stone Road, Third Floor
Tallahassee, FL 32399-2400

Re: Florida Power & Light Company -- Orimulsion Test
Burn, Sanford Unit No. 4/Draft PSD Permit

Dear Cindy:

The following are the comments of Florida Power & Light Company (FPL) concerning the draft PSD permit, Permit No. AC64-180842.

1. Introduction, paragraph 2 - FPL proposes the following language:

For the construction of test equipment and modification of existing equipment at Sanford Power Plant's Unit 4 in order to burn Orimulsion fuel up to 120 full-capacity equivalent burn days during an 18-month period for the purpose of research and testing. The 1 MWe slipstream pilot test equipment consists of a spray dryer absorber, a reagent preparation system, a pulse jet fabric filter baghouse and a high volume, low pressure pulse jet fabric filter baghouse. The spray dryer is rated for 4500 ACFM and uses slaked lime. The 2.5-5 MWe slipstream pilot test equipment consists of a reverse air/sonic fabric filter baghouse, rated for 14,400 ACFM, a vertical-packed alkali scrubber rated for 10,800 ACFM, a "SOXAB" reagent regenerator, a regenerated sorbent tank, a spent sorbent tank, and a steam stripper. The boiler is equipped with two air preheaters and two dust collectors. Pilot test streams will exhaust through main stack which will be equipped with

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continuous opacity, carbon monoxide, nitrogen oxide, and sulfur dioxide monitors. Pilot streams will be equipped with SO₂ monitors and will also be sampled for particulate matter.

The research program will consist of boiler performance testing and testing of certain experimental pilot-scale pollution control equipment in two separate side streams as follows:

- Medium volume/medium pressure pulse jet fabric filter (FGD products and fly ash)
- High volume/low pressure pulse jet fabric filter (particulate matter)
- Reverse air fabric filter (particulate matter)
- Lime spray dryer (SO₂)
- Alkali scrubber (SO₂)

Permittee will also test a pilot-scale SOXAL regeneration system (alkali sorbent regeneration system).

Emissions from the side streams will exhaust through the unit's stack, which will be equipped with continuous opacity, NO_x and SO₂ monitors. A continuous emission monitor for CO will be located at the economizer outlet.

Rationale

These proposed changes will reflect recent minor revisions to the proposed test equipment which (1) add medium volume/medium pressure and high volume/low pressure descriptions for baghouses, (2) indicate that SOXAL is not a pollution control device, and (3) show that the CEM for CO is at the economizer outlet rather than at the stack.

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2. Specific Condition 2 - FPL proposes the following changes:

Unit 4 shall be fired with Orimulsion Fuel, No. 6 Residual Oil, No. 2 Fuel Oil, and/or or Natural Gas only. Units 3 and 5 shall be fired with Natural Gas or Fuel Oil with one percent sulfur content (by weight) or less only. This condition amends previously existing conditions in operating permits AO 64-131230 and AO 64-132060.

Rationale

The modification to the permits for Units 3 and 5 should be made in the Final Order approving the test burn, rather than in the separate Unit 4 permit (see Rule 17-103.120, F.A.C.). A proposed final order is enclosed which attaches separate modifications to the air operating permits for Units 3 and 5 to indicate that only natural gas, No. 2 fuel oil, and/or No. 6 fuel oil with a maximum equivalent sulfur content of one percent (by weight) may be burned in the respective unit during the Orimulsion test burn on Unit 4, and that this restriction shall not apply for any periods when Orimulsion burning is stopped for seven days or longer. It should be noted that present repair work at the plant, and associated unit down-time, will preclude the consumption, prior to the projected Orimulsion test start-up date, of all of the 1.5% sulfur residual oil now on site. Thus, FPL will need to co-fire that oil with natural gas in order to comply with the intended 1.0% fuel sulfur content limitation.

3. Specific Condition 3(a) - FPL proposes the following change:

- a) Particulate Matter: Steady-state - 0.3 lb/MMBtu; Excess emissions for soot-blowing and load changes not to exceed 3 hours per 24-hour period - 0.6 lb/MMBtu.

start-up shutdown malfunction

Rationale

This change is consistent with the definition for excess emissions contained in Rule 17-2.100(73), F.A.C., which includes conditions occurring during "startup, shutdown, sootblowing, load changing or malfunction."

4. Specific Condition 3(b) - FPL proposes the following change:

- b) Particulate Matter with diameter ≤ 10 μm (PM_{10}): Steady-state - 0.3 lb/MMBtu; Excess emissions for soot-blowing and load changes not to exceed 3 hours per 24-hour period - 0.6 lb/MMBtu.

Rationale

This change assures that the particulate matter limits apply to all particulate matter emitted.

5. Specific Condition 3(c) - FPL proposes the following change:

- c) Sulfur Dioxide: 4.3 lb/MMBtu heat input.

Rationale

This change was made for editorial clarification.

6. Specific Condition 3(d) - FPL proposes the following change:

- d) Visible emissions: Steady-state - 60% opacity; excess emissions for soot blowing or load changes not to exceed 3 hours per 24-hour period - 100% opacity.

Rationale

This change is consistent with the definition for excess emissions contained in Rule 17-2.100(73), F.A.C., which includes conditions occurring during "startup, shutdown, sootblowing, load changing or malfunction."

7. Specific Condition 5(a) - FPL proposes the following change:

- a) Particulate Matter: EPA Test Method 5 or 17 (40 CFR 60 Appendix A) shall be used to conduct eight 3-run steady-state tests and two 3-run soot-blowing tests. The first steady-state test shall be conducted within one two weeks of start-up of burning Orimulsion Fuel.

Rationale

This change is consistent with the proposal by FPL to begin such testing within one week after the first full week of burning Orimulsion.

8. Specific Condition 6(d) - FPL proposes the following change:

- d) Trace elements and metals which shall include at least the following: mercury, vanadium pentoxide fumes, chromium, cadmium, arsenic, nickel, manganese, beryllium, copper, zinc, lead, selenium, phosphorous, thallium, silver, antimony, and barium. For mercury, EPA Test Method 101 (40 CFR 61, Appendix B) shall be used to conduct one 3-run steady-state test. For vanadium pentoxide fumes the method from the NIOSH Manual of Analytical Methods, or equivalent method, shall be used. For the remaining elements and metals, the EMFIC Interim test Method shall be used to conduct one 3-run steady-state test.

Trace elements and metals, which shall include at least the following: mercury, vanadium, chromium, cadmium, arsenic, nickel, manganese, beryllium, copper, zinc, lead, selenium, phosphorous, thallium, silver, antimony, barium, and mercury. EPA Draft Multimetals train shall be used for these elements. A separate Method 5 train shall be used for vanadium pentoxide using the analysis method described in the NIOSH Manual of Analytical Methods.

Rationale

This change reflects an agreement reached between Cindy Phillips of the Department and Walter S. Smith, President of Entropy Environmentalists, Inc., consultant to FPL.

9. Specific Condition 7(a) - FPL proposes the following change:

- a) Verbal notification Notification of any changes to the scheduled test dates shall be given to the Department as soon as practicable. at least 15 days prior to testing unless otherwise agreed to by the Department
(17-2-700(2)(a)9-7 F.A.C.

*Call
Central District*

Rationale

This change is requested due to the uncertain nature of testing circumstances. Because of the number of tests scheduled, a minor change in a single test could affect several other tests. Unforeseen circumstances which may arise make it difficult, if not impossible, to provide notice to the Department more than 24 hours in advance at times. FPL asks the Department to bear with us for the scheduling of the tests. Every effort will be made to notify the Department of changes in the test schedule as soon as such information becomes available.

10. Specific Condition 7(b) - FPL proposes the following change:

- b) Testing of trace elements and metals, and sulfuric acid mist shall be conducted with the source operating within 10% of its full capacity achievable when burning Orimulsion.

Rationale

This change anticipates the circumstance that the unit might not achieve the same capacity with Orimulsion as it realizes with oil.

11. Specific Condition 7(c) - FPL proposes the following change:

- c) At least one 3-run test for particulate matter, sulfur dioxide, nitrogen oxides, and volatile organic compounds shall be conducted with the source operating within 10% of its full capacity achievable when burning Orimulsion.

Rationale

This change anticipates the circumstance that the unit might not achieve the same capacity with Orimulsion as it realizes with oil.

12. Specific Condition 7(e)(iv) - FPL proposes the following change:

- iv. Copies of stack emission test results for stack and pilot test streams.

Rationale

FPL requests that stack emission test results be treated in a separate subsection from pilot test stream pollution control equipment test results. (See No. 14 below.)

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13. Specific Conditions 7(e)(v) and 7(e)(vi) - FPL
proposes the following change:

v. A summary of opacity records, and readings, including a daily log of excess opacity emissions.

~~vi. Frequency of excess opacity emission.~~

Rationale

This change was made for editorial clarification.

14. Proposed Specific Condition 7(e)(vii) - FPL
proposes the following language:

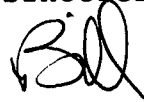
vii. A detailed report of the pilot pollution control equipment test results within ninety (90) days after permittee has notified the Department that the Orimulsion test burn has been completed.

Rationale

This change is to clarify what FPL believes to be the intent of the parties.

Thank you for the opportunity to comment on the proposed PSD permit. We appreciate your continued assistance and support. If you have any questions, please do not hesitate to call me.

Sincerely,



William H. Green

ARM/bjh
Enclosures