

## Appendix H-1, Permit History/ID Number Changes

City of Lakeland  
C. D. McIntosh

[DRAFT/PROPOSED/FINAL]Permit No.: 1050004-003-AV  
Facility ID No.: 1050004

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**Permit History (for tracking purposes):**

<u>E.U.</u>	<u>ID No</u>	<u>Description</u>	<u>Permit No.</u>	<u>Issue Date</u>	<u>Expiration Date</u>	<u>Extended Date</u> <sup>1,2</sup>	<u>Revised Date(s)</u>
	-001	Boiler Unit #1	AO53-243945	03/23/95	05/27/99		
	-002	Peaking Unit 2 (Diesel Engine)	AO53-244726	06/01/94	05/27/99		
	-003	Peaking Unit 3 (Diesel Engine)	AO53-244726	06/01/94	05/27/99		
	-004	<del>Power Plant Unit #1</del>	AO53-244727	06/01/94	05/27/99		
	-005	Unit 2 Electric Generator	AO53-174090	04/17/90	04/13/95	08/14/96	
	-006	McIntosh Unit 3 Coal/MSW Fired	PSD-FL-008	12/27/78			
			PSD-FL-008A				
			PSD-FL-008B	12/11/95			

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**(if applicable) ID Number Changes (for tracking purposes):**

From: **Facility ID No.:** 40TPA530004

To: **Facility ID No.:** 1050004

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Notes:

1 - AO permit(s) automatic extension(s) in Rule 62-210.300(2)(a)3.a., F.A.C., effective 03/21/96.

2 - AC permit(s) automatic extension(s) in Rule 62-213.420(1)(a)4., F.A.C., effective 03/20/96.

{Rule 62-213.420(1)(b)2., F.A.C., effective 03/20/96, allows Title V Sources to operate under existing valid permits}

TO: Bill Thomas

FROM: Bruce Mitchell *BMM*

DATE: October 31, 1996

SUBJECT: Completeness Review of an Application Package for a Title V Operation Permit  
C.D. McIntosh, Jr. Power Plant: 1050004-003-AV

The Title V operating permit application package for the referenced facility is being processed in Tallahassee. The application was previously forwarded to your office for your files and future reference. Please have someone review the package for completeness and respond in writing by December 16, 1996, if you have any comments. Otherwise, no response is required. If there are any questions, please call the project engineer, Ed Svec, at 904/488-1344 or SC:278-1344. It is very important to verify the compliance statement regarding the facility. Since we do not have a readily effective means of determining compliance at the time the application was submitted, please advise if you know of any emissions unit(s) that were not in compliance at that time and provide supporting information. Also, do not write on the documents.

If there are any questions regarding this request, please call me or Scott Sheplak at the above number(s).

RBM/bm

Assn. Date: March 23, 1995

Call SW District  
& obtain  
signed permit

**PERMITTEE:**

City of Lakeland  
Dept. of Electric & Water Utilities  
3030 E. Lake Parker Drive  
Lakeland, FL 33805

**PERMIT/PROJECT:**

Permit No: A053-243945  
County: Polk  
Expiration Date: 05/27/99  
Project: Unit No. 1  
(McIntosh Power Plant)

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-200 through 297, and Chapter 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of steam generator Unit No. 1 which is a forced draft boiler rated at a nominal load of 90 megawatts (MW). This unit is fired with natural gas at a maximum heat input rate of 985 MMBtu/hour (corresponds to a maximum natural gas firing rate of approximately 970 MCF/hour), or No. 6 fuel oil, with a maximum sulfur content of 2.5% by weight, at a maximum heat input rate of 950 MMBtu/hour (corresponds to a maximum fuel firing rate of approximately  $6.3 \times 10^3$  gallons/hour). This unit is also permitted to burn "on-specification" used oil generated by the City of Lakeland, at a maximum heat input rate of 950 MMBtu/hour.

**Location:** C. D. McIntosh Power Plant,  
3030 East Lake Parker Drive, Lakeland

**UTM:** 17-408.5 E 3105.8 N      **NEDS No:** 0004      **Point ID No:** 01

**Replaces Permit No.:** A053-157652

1. A part of this permit is the attached 15 General Conditions.  
[Rule 17-4.160, F.A.C.]

2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 17-200 through 17-299, or any other requirements under federal, state or local law.  
[Rule 17-210.300, F.A.C.]

Operational and Emission Limitations

3. Steam generator Unit No. 1 is permitted for continuous operation (8,760 hours per year).  
[Operation permit renewal application dated January 14, 1994]

4. This unit is permitted to be fired only with the fuels and at the maximum rates as shown below:

- A. natural gas at a maximum heat input rate of 985 MMBtu/hour;
- B. No. 6 fuel oil at a maximum heat input rate of 950 MMBtu/hour;
- C. "on-specification" (see Specific Condition No. 19) used oil at a maximum heat input rate of 950 MMBtu/hour.

[Operation permit renewal application dated January 14, 1994, City of Lakeland letter of June 24, 1994 and previous operation permits]

5. Sulfur dioxide emissions from this unit while burning No. 6 fuel oil or "on-specification" used oil shall not exceed a rate of 2.75 pounds per million Btu's of heat input. (Based upon the maximum permitted fuel oil heat input rate of Specific Condition No. 4 and the maximum permitted hours of operation of Specific Condition No. 3, this corresponds to maximum allowable sulfur dioxide emission rates of 2,612.5 pounds per hour and 11,443 tons per year, which are not limits in this permit but are included for information only.)  
[Rule 17-296.405(1)(c)1.j., F.A.C.]

6. Except as allowed for in Specific Condition Nos. 8 and 9 (excess emissions), particulate matter emissions from this unit shall not exceed 0.1 pounds per million Btu's of heat input. (Based upon the maximum permitted fuel heat input rates of Specific Condition No. 4, this corresponds to maximum allowable particulate emission rates of 98.5 pounds per hour for natural gas operation and 95.0 pounds per hour for No. 6 fuel oil or "on-specification" used oil operation. These are not limits in this permit but are included for information only.) [Rule 17-296.405(1)(b), F.A.C.]

7. Except as allowed for in Specific Condition Nos. 8 and 9 (excess

**PERMITTEE:**

City of Lakeland  
Department of Electric and Water

**PERMIT/PROJECT:**

Permit No. : A053-243945  
Project: Steam Generator  
C.D. McIntosh Unit No.

1

**Specific Conditions:**

emissions), visible emissions shall not exceed 20% opacity, except for one two-minute period per hour during which opacity shall not exceed 40%.

[Rule 17-296.405(1)(a), F.A.C.]

8. Excess emissions resulting from boiler cleaning (sootblowing) and load change (as defined in Rule 17-210.700(3), F.A.C.) shall be permitted up to and including the maximum levels shown below provided that the duration of such emissions does not exceed 3 hours in any 24 hour period:

- A. visible emissions during boiler cleaning (sootblowing) or load change shall not exceed 60% opacity;
- B. particulate matter emissions during boiler cleaning (sootblowing) or load change shall not exceed 0.3 pounds per million Btu's. (Based upon the maximum permitted fuel heat input rates of Specific Condition No. 4, this corresponds to maximum allowable particulate emission rates of 295.5 pounds per hour for natural gas operation and 285 pounds per hour for No. 6 fuel oil or "on-specification" used oil operation. These are not limits in this permit but are included for information only).

The above excess emissions are allowed provided that best operational practices to minimize the magnitude and duration of excess emissions are adhered to.

[Rule 17-210.700(3), F.A.C.]

9. Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices to minimize the magnitude and duration of the excess emissions are adhered to. The duration of excess emissions resulting from malfunctions shall in no case exceed two (2) hours in any 24 hour period unless specifically authorized by the Department. Excess emissions resulting from malfunctions shall be reported to the Department in accordance with the requirements of Rule 17-4.130, F.A.C. 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 are prohibited.

[Rules 17-210.700(1), (2), (4) and (6), F.A.C.]

10. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

**PERMITTEE:**

City of Lakeland  
Department of Electric and Water

**PERMIT/PROJECT:**

Permit No. : A053-243945  
Project: Steam Generator  
C.D. McIntosh Unit No.

1

**Specific Conditions:**

[Rule 17-296.320(2), F.A.C.]

**Testing Requirements**

11. Test the emissions from the steam generator Unit No. 1 exhaust stack during periods of both non-sootblowing and sootblowing operating conditions for the following annually on or within the 60 day period prior to the date of July 1 of each year.

(X) Particulate matter (PM)

(X) Visible Emissions (VE)

Test reports (other than for EPA or DEP Method 9 tests), which at a minimum provide the information required in Rule 17-297.570(3)a. through u., F.A.C., shall be submitted to the Air Compliance Section of the Southwest District Office of the Department within 45 days of the testing. The particulate emissions compliance tests shall be waived, on a year by year basis, if fuel oil has not been used in this unit, other than startup, for more than 400 hours for the previous 12 month period, except that, regardless of fuel used, a particulate matter test shall be conducted during the 12 month period prior to applying for renewal of this operation permit. Each year when the particulate test is due, if this test waiver provision is invoked, a letter must be sent to this office stating that the above requirements for the waiver have been satisfied.

[Rules 17-297.340(b), (c), (d) and (e) and 17-297.570, F.A.C.]

12. Compliance with the visible emission (VE) limitation of Specific Condition Nos. 7 and 8 shall be determined using DER Method 9 contained in Rule 17-297, F.A.C. The visible emissions test shall be conducted by a certified observer and be a minimum of sixty (60) minutes in duration. The visible emissions test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur and be concurrent with one of the runs of any required particulate matter tests.

[Rule 17-297, and Table 17-297.330, F.A.C.]

13. Compliance with the particulate matter limitation of Specific Condition Nos. 6 and 8 shall be determined using DER Methods 5, 5B, 5F or 17 (as appropriate) contained in Rule 17-297, F.A.C. The stationary point source stack sampling facilities shall meet the requirements of Rule 17-297.345(3), F.A.C.

[Rule 17-297, and Table 17-297.330, F.A.C.]

**PERMITTEE:**

City of Lakeland  
Department of Electric and Water

**PERMIT/PROJECT:**

Permit No. : A053-243945  
Project: Steam Generator  
C.D. McIntosh Unit No.

1

**Specific Conditions:**

14. The permittee shall notify the Air Compliance Section of the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is 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.

[Rules 17-297.340(1)(i), F.A.C.]

15. If the particulate matter test has been waived, then the visible emissions compliance test shall be conducted while operating this unit at a high firing rate that is within 90-100% of the maximum permitted natural gas heat input rate of 985 MMBtu/hour, if feasible. If it is impracticable to test at 90-100% of the maximum permitted heat input rate, subsequent source operation is limited to 110% of the tested rate until a new test is conducted. If, once the unit is so limited, the unit is operated at a higher rate, then within 30 days of that higher rate being achieved an additional compliance test shall be conducted the higher rate (or higher). The test results shall be submitted to the Air Compliance Section of the Southwest District Office of the Department within 45 days of testing. In no case shall the maximum permitted natural gas heat input rate of 985 MMBtu/hour be exceeded. The permittee shall submit a statement of the fuel heat input rate and a description of the fuel in use as a part of any compliance test report.

[Rule 17-4.070(3), F.A.C.]

16. If No. 6 fuel oil has been used in steam generator Unit No. 1 for more than 400 hours during the previous 12 month period, then the visible emissions and particulate matter tests on this unit shall be conducted while firing No. 6 fuel oil at a rate within 90-100% of the maximum permitted rate of 950 MMBtu/hr ( $6.3 \times 10^3$  gallons/hour), if feasible. If it is impracticable to test at 90-100% of the maximum permitted heat input rate, subsequent source operation is limited to 110% of the tested rate until a new test is conducted. If, once the unit is so limited, the unit is operated at a higher rate, then within 30 days of that higher rate being achieved an additional compliance tests shall be conducted the higher rate (or higher). The test results shall be submitted to the Air Compliance Section of the Southwest District Office of the

**PERMITTEE:**

City of Lakeland  
Department of Electric and Water

**PERMIT/PROJECT:**

Permit No. : A053-243945  
Project: Steam Generator  
C.D. McIntosh Unit No.

1

**Specific Conditions:**

Department within 45 days of testing. In no case shall the maximum permitted No. 6 fuel oil heat input rate of 950 MMBtu/hour be exceeded. The permittee shall submit a statement of the fuel type, fuel oil sulfur content and heat content (see Specific Condition No. 24), and fuel heat input rate, as a part of all compliance test reports conducted while burning fuel oil.

[Rule 17-4.070(3), F.A.C.]

17. Compliance with the sulfur dioxide emission limitation of Specific Condition No. 5 shall be demonstrated during any test conducted while burning fuel oil by submitting either of the following with the test report:

- A. a report of fuel oil analysis from your fuel oil vendor representative of the fuel used during the compliance test;
- B. a report of fuel oil analysis for a fuel oil sample taken by the permittee during the compliance test.

The fuel oil analysis reports shall include fuel oil sulfur content, heat content, and calculated sulfur dioxide emission rate in pounds per million Btu of heat input. Analysis shall be done by appropriate ASTM methods for liquid fuels. A statement of the analysis methods used shall be included with the fuel analysis report.

[Rule 17-4.070(3), F.A.C.]

18. Should the Department after investigation have good reason to believe that any of the emission standards in this permit is not being met, the Department may require that compliance with the emission standard be demonstrated by stack testing in accordance with Rule 17-297, F.A.C.

[Rule 17-297.340(2), F.A.C.]

**"On-Specification" Used Oil Requirements**

19. This unit is permitted to burn "on-specification" used oil. "On specification" used oil is defined as used oil that meets the 40 CFR Part 279 (Standards for the Management of Used oil) specifications listed below. Used oil that does not meet any of the following specifications is considered "off-specification" oil and shall not be burned.

**CONSTITUENT/PROPERTY**

**ALLOWABLE LEVEL**



**PERMITTEE:**

City of Lakeland  
Department of Electric and Water

**PERMIT/PROJECT:**

Permit No. : A053-243945  
Project: Steam Generator  
C.D. McIntosh Unit No.

1

**Specific Conditions:**

Arsenic	5	ppm maximum
Cadmium	2	ppm maximum
Chromium	10	ppm maximum
Lead	100	ppm maximum
Total Halogens	1000	ppm maximum
Flash Point	100	°F minimum
PCB's	less than 50	ppm

*1167 ppm*

[Rule 403.769(3)(b), Florida Statutes and 40 CFR 279.11]

20. Only "on-specification" used oil generated by the City of Lakeland shall be burned in this unit. The quantity of used oil burned in this unit shall not exceed 1000 barrels (42,00 gallons) per calendar year.

[As requested by the applicant in City of Lakeland letter dated June 24, 1994]

21. In order to document compliance with Specific Condition No. 20, records shall be kept of each delivery of "on-specification" used oil with a statement of the origination of the used oil and the quantity delivered/stored for burning. In addition monthly records shall be kept of the quantity of "on-specification" used oil burned in this unit. The above records shall be maintained in a form suitable for inspection, retained for a minimum of a two year period, and made available upon request.

[Rule 17-4.070(3), F.A.C.]

22. In order to document ongoing compliance with the maximum sulfur dioxide emission rate and "on-specification" used oil requirements of Specific Condition Nos. 5 and 19, the permittee shall collect a sample from each batch (1000 gallon maximum) of used fuel oil delivered for firing in this unit. This sample shall be analyzed for sulfur content, heat content and the parameters listed in Specific Condition No. 19 using appropriate EPA or ASTM test methods. Records of the used oil analysis shall be retained for a two year period and made available for inspection upon request. A summary of the "on-specification" used oil analysis for the calendar year shall be included with each "Annual Operating Report for Air Pollutant Emitting Facility" (see Specific Condition No. 25).

[[Rule 17-4.070(3), F.A.C.]

**PERMITTEE:**

City of Lakeland  
Department of Electric and Water

**PERMIT/PROJECT:**

Permit No. : AO53-243945  
Project: Steam Generator  
C.D. McIntosh Unit No.

1

**Specific Conditions:**

Additional Recordkeeping Requirements

23. In order to document compliance with the requirements of Specific Condition Nos. 4, 11, and 16, the permittee shall maintain a record of the type of fuel (natural gas, No. 6 fuel oil, or "on-specification" used oil) used in steam generator Unit No. 1 during each period of operation. The records shall include the total hours of operation for each period of burning No. 6 fuel oil or "on-specification" used oil with a monthly total of oil-fired operating hours for each calendar month. These records shall be recorded in a permanent form suitable for inspection by the Department upon request, and shall be retained for at least a two year period.  
[Rule 17-4.070 (3), F.A.C.]

24. In order to document ongoing compliance with the sulfur dioxide emission limitation of Specific Condition No. 5, the permittee shall maintain records of the sulfur content, heat content and calculated sulfur dioxide emission rate (in pounds/MMBtu) of all No. 6 fuel oil delivered for use in this unit. These records may be based upon vendor provided as-delivered fuel oil analysis or upon analysis of as-delivered fuel oil samples taken by the permittee at the plant. Analysis shall be done by appropriate ASTM methods for liquid fuels. A statement of the analysis methods used shall be included with all fuel analysis records. These records shall be recorded in a permanent form suitable for inspection by the Department upon request, and shall be retained for at least a two year period.  
[Rule 17-4.070(3), F.A.C.]

Reporting Requirements

25. The permittee shall submit to the Air Program of the Southwest District Office of the Department each calendar year on or before March 1, a completed DER Form 17-213.900(4), "Annual Operating Report for Air Pollutant Emitting Facility" for the preceding calendar year. A statement of the total quantity of "on-specification" used oil burned in Unit No. 1 during the calendar year being reported shall be included with the annual report along with a summary of the results of the "on-specification" analysis results (showing worst case for each parameter).  
[Rule 17-210.370(2), F.A.C.]

26. Excess emissions resulting from malfunctions shall be reported

**PERMITTEE:**

City of Lakeland  
Department of Electric and Water

**PERMIT/PROJECT:**

Permit No. : AO53-243945  
Project: Steam Generator  
C.D. McIntosh Unit No.

1

**Specific Conditions:**

to the Department in accordance with the requirements of Rule 17-4.130, F.A.C. The Department may request that written reports of malfunctions be submitted on a quarterly basis.  
[Rule 17-210.700(6), F.A.C.]

**Permit Applications**

27. The permittee shall submit an application for a Title V Major Source operation permit in accordance with the requirements of 17-213.420, F.A.C. [Rule 17-213.420, F.A.C.]


FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

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Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District

Memorandum

4679AS3 0004

TO: Jerry Kissel  
FROM: Clair Fancy   
DATE: March 7, 1995  
SUBJECT: City of Lakeland, McIntosh Unit 1, A053-243945

I have reviewed your February 24th letter regarding whether to extend the averaging time for calculating fuel heat input rates from hourly to monthly averages. Also, Buck Oven has stated that McIntosh Unit 1 was not regulated under the Power Plant Siting rules. Allowing the company to average heat input over 30 days is a relaxation of the prior operating permit limit for heat input and potentially a relaxation of the emission limits for SO<sub>2</sub> and PM. This would allow for short term heat rates above 950 MMBtu/hr on oil, which could be offset by partial load operation during the month. SO<sub>2</sub> and PM emissions are limited by permit for oil firing and, unless the company has demonstrated compliance with these emissions limits at the higher heat rate, the Department has no assurance that they can comply with these standards at heat rates above 950 MMBtu/hr.

In general, heat input rates are related to pollutant emission rates. An initial compliance test is conducted to demonstrate that the emissions unit can comply with the emissions limits at 90 to 100 percent of the maximum permitted heat input rate (MMBtu/hr). PM and SO<sub>2</sub> emission rates are quantified on an hourly basis (three one-hour stack tests for existing sources) using EPA Methods 5 and 6C, respectively. Part of the emissions testing procedure is to establish operating conditions, on an hourly basis, which incur the maximum emissions of these pollutants. Rule 62-297.310(2), F.A.C., requires that testing of emissions shall be conducted with the emissions unit operating at permitted capacity unless the company is willing to reduce their permitted capacity. I do not recommend establishing permit conditions which have emissions standards based on one-hour stack tests and maximum heat input rates based on longer than one-hour averages. Since the emissions are somewhat dependent on the heat input rate, the averaging times for MMBtu/hr limits should be equal to or less than those specified for the emissions standards.

CHF/mc/c

cc: A. Linero  
B. Mitchell  
M. Costello



# Department of Environmental Protection


Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

## MEMORANDUM

TO: Al Linero

FROM: Jerry Kissel 

DATE: February 24, 1995

SUBJECT: City of Lakeland, McIntosh Unit 1, A053-243945

This renewal permit was issued in May 1994, and we have been in negotiations with the permittee since that time regarding various conditions. The only outstanding item remaining is the permittee's request to allow the limitation on fuel input rates to be determined on a monthly average basis (see attached).

We are unwilling to do that, on the basis that that would constitute a relaxation of conditions. We would prefer that you make this call, since you will be processing the Title V application soon, and it seems more appropriate that you make the decision in that circumstance.

### Some relevant points:

- 1) This unit has never had a construction permit, only operating permits
- 2) The prior operating permit states, in the project description:  
For the operation of steam generator unit No. 1 utilizing natural gas at a maximum of 985 MMBTU/hr. or No. 6 fuel oil with a sulfur content of 2.5% or less at a maximum of 950MMBTU/hr.  
and in the test condition:  
Testing of emissions . . . shall be conducted while burning No. 6 fuel oil at a rate of 950 MMBTU/hr.  $\pm 10\%$  heat input.
- 3) In a renewal of a Tampa Electric permit for Gannon Unit 4 (A029-255208), we allowed this monthly averaging of heat input rate, but this may have been an error, and as such, should not establish a precedent in this case. When this Lakeland case is resolved, we will look at reopening the Gannon permit.

cc: F. Shelton, City of Lakeland

c:\lakemc1

**PERMITTEE:**

City of Lakeland  
Department of Electric and Water

**PERMIT/PROJECT:**

Permit No. : A053-243945  
Project: Steam Generator  
C.D. McIntosh Unit No. 1

**Specific Conditions:**

1. A part of this permit is the attached 15 General Conditions. [Rule 62-4.160, F.A.C.]
2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 62-200 through 62-299, or any other requirements under federal, state or local law. [Rule 62-210.300, F.A.C.]

**Operational and Emission Limitations**

3. Steam generator Unit No. 1 is permitted for continuous operation (8,760 hours per year). [Operation permit renewal application dated January 14, 1994]

4. This unit is permitted to be fired only with the fuels and at the maximum rates, as shown below:

PERMITTEE'S  
REQUEST

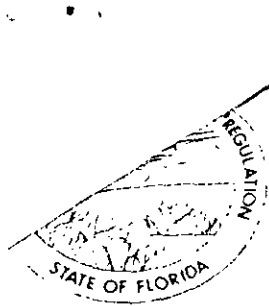
ON A MONTHLY AVERAGE BASIS,

- A. natural gas at a maximum heat input rate of 985 MMBtu/hour;
- B. No. 6 fuel oil at a maximum heat input rate of 950 MMBtu/hour;
- C. "on-specification" (see Specific Condition No. 19) used oil at a maximum heat input rate of 950 MMBtu/hour.

[Operation permit renewal application dated January 14, 1994, City of Lakeland letter of June 24, 1994 and previous operation permits]

5. Sulfur dioxide emissions from this unit while burning No. 6 fuel oil or "on-specification" used oil shall not exceed a rate of 2.75 pounds per million Btu's of heat input. (Based upon the maximum permitted fuel oil heat input rate of Specific Condition No. 4 and the maximum permitted hours of operation of Specific Condition No. 3, this corresponds to maximum allowable sulfur dioxide emission rates of 2,612.5 pounds per hour and 11,443 tons per year, which are not limits in this permit but are included for information only.) [Rule 62-296.405(1)(c)1.j., F.A.C.]

6. Except as allowed for in Specific Condition Nos. 8 and 9 (excess emissions), particulate matter emissions from this unit shall not exceed 0.1 pounds per million Btu's of heat input. (Based upon the maximum permitted fuel heat input rates of Specific Condition No. 4, this corresponds to maximum allowable particulate emission rates of 98.5 pounds per hour for natural gas operation and 95.0 pounds per hour for No. 6 fuel oil or "on-specification" used oil operation. These are not limits in this permit but are included for information only.) [Rule 62-296.405(1)(b), F.A.C.]



# Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa Florida 33610-7347 • 813-625-5500

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary  
Richard Garrity, Deputy Assistant Secretary

ISSUED 4/12/89

## PERMITTEE:

City of Lakeland  
3030 East Lake Parker Drive  
Lakeland, Florida 33805

## PERMIT/CERTIFICATION

Permit No.: A053-157652  
County: Polk  
Expiration Date: 1-25-94  
Issue Date: 1-26-89  
Amendment Date: 04/11/89  
Project: C. D. McIntosh, Jr.,  
Power Plant Steam  
Generator Unit No. 1

This permit amendment is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of steam generator unit No. 1 utilizing natural gas at a maximum of 985 MMBTU/hr. or No. 6 fuel oil with a sulfur content of 2.5% or less at a maximum of 950 MMBTU/hr.

Location: 3030 East Lake Parker Drive, Lakeland, Polk County

UTM: 17-408.5 E 3105.8 N NEDS NO: 0004 Point ID: 01

Replaces Permit No.: A053-76654

PERMITTEE:  
City of Lakeland

Permit/Certification No.: A053-157652  
Project: C. D. McIntosh, Jr., Power Plant  
Steam Generator Unit No. 1

SPECIFIC CONDITIONS

876 *Am/4/1*

1. A part of this permit is the attached 15 General Conditions.
2. Test the emissions for the following pollutant(s) at intervals of 12 months from the date June 1, 1988 and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Regulation within forty-five days of such testing (Section 17-2.700(2), Florida Administrative Code (F.A.C.)).

(X) Particulates	(X) Sulfur Oxides*
( ) Fluorides	( ) Nitrogen Oxides
(X) Opacity	( ) Hydrocarbons

\* A fuel oil analysis may be submitted in lieu of a sulfur dioxide compliance stack test.

3. Testing of emissions from this steam generating unit shall be conducted while burning No. 6 fuel oil at a rate of 950 MMBTU/hr.  $\pm 10\%$  heat input. Failure to submit the input rates or operation at conditions which do not reflect actual operating conditions may invalidate the data (Section 403.161(1)(c), Florida Statutes).

*pm* 4. The maximum allowable particulate emission rate from this source shall be 0.1 pounds per MMBTU heat input over a 2 hour average (Subsection 17-2.600(5)(b)2., F.A.C.).  
*0.65 #/HR nat'l gas, 0.50 #/HR Fuel Oil*

5. The maximum opacity from this source shall be 20 percent (Subsection 17-2.600(5)(b)1., F.A.C.), except for any 2 minutes during a 60 minute period in which the opacity shall not exceed 40 percent (Subsection 17-2.600(5)(b)1., F.A.C.).

*SO<sub>2</sub>* 6. The maximum sulfur dioxide emission rate from this source shall be 2.75 pounds per MMBTU heat input per Subsection 17-2.600(5)(b)3.a.xi, F.A.C.).  
*2,708.75 #/HR nat'l gas, 2,612.50 Fuel Oil*

7. This source shall be tested for particulates and visible emissions under soot blowing and non-soot blowing operating conditions and while being fired on No. 6 fuel oil with a sulfur content of 2.5% or less.

8. Compliance with the emission limitations of Specific Condition Nos. 4 and 5 shall be determined using EPA Methods 1,2,3,4,5,9 & 17 contained in 40 CFR 60, Appendix A and adopted by reference in Section 17-2.700, F.A.C. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Section 17-2.700, F.A.C. and 40 CFR 60, Appendix A.



PERMITTEE:  
City of Lakeland

Permit/Certification No.: 4053-157652  
Project: C. D. McIntosh, Jr., Power Plant  
Steam Generator No. 1

SPECIFIC CONDITIONS (con't):

9. This source shall meet all the applicable excess emission requirement of Section 17-2.250, Florida Administrative Code.
10. This Southwest District Office of the Department of Environmental Regulation shall be notified in writing at least 15 days prior to compliance testing.
11. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:
  - (A) Annual amount of materials and/or fuels utilized.
  - (B) Annual emissions (note calculation basis).
  - (C) Any changes in the information contained in the permit application.
12. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this 26 day of January,  
1989.

Amended this 11 day of April  
1989.

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL REGULATION



Richard D. Garrity, Ph.D.  
Deputy Assistant Secretary  
Southwest District

*Issue Date - June 1, 1994*

**PERMITTEE:**

City of Lakeland  
Dept. of Electric & Water Utilities  
3030 E. Lake Parker Drive  
Lakeland, FL 33805

**PERMIT/PROJECT:**

*726*  
Permit No: A053-244276  
County: Polk  
Expiration Date: 05/27/99  
Project: Peaking Unit Nos. 2  
and 3 (Diesel Engines)  
(C.D. McIntosh Power Plant)

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-200 through 297, and Chapter 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of Peaking Unit Nos. 2 and 3. These units are diesel generator units each consisting of a diesel fired internal combustion engine which drives a generator capable of producing electric power at a maximum rating of 2.5 megawatts (MW). These units are each fired with No. 2 (diesel) fuel oil, with a maximum sulfur content of 0.5% sulfur by weight, at a maximum firing rate of 201.6 gallons per hour (corresponds to heat input rate of approximately 28 MMBtu/hr).

**Location:** C.D. McIntosh Power Plant  
3030 East Lake Parker Drive, Lakeland

**UTM:** 17-408.5 E 3105.8 N      **NEDS No:** 0004      **Point ID Nos:**  
Unit No. 2 - 02

**Replaces Permit No.:** A053-158429

1. A part of this permit is the attached 15 General Conditions.  
[Rule 17-4.160, F.A.C.].
2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 17-200 through 17-299, or any other requirements under federal, state or local law.  
[Rule 17-210.300, F.A.C.].

Operational and Emission Limitations

3. These diesel generators are permitted for continuous operation (8,760 hours per year).  
[Renewal application dated 01/26/94 and previous operation permits]
4. These diesel generators are permitted to fire only new No. 2 (diesel) fuel oil with a sulfur content not to exceed 0.50% by weight. No used or recycled oil shall be fired. The maximum fuel firing rate for each unit shall not exceed 201.6 gallons per hour (this corresponds to a heat input rate of approximately 28 MMBtu/hour per unit).  
[Renewal application dated 01/26/94 and previous operation permits]
5. Visible emissions shall not be equal to or greater than 20% opacity.  
[Rule 17-296.310(2)(a), F.A.C.]
6. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.  
[Rule 17-296.320(2), F.A.C.]

Testing Requirements

**PERMITTEE:**

City of Lakeland

3

**PERMIT/PROJECT:**

Permit No. : AO53-244726

Project: Peaking Unit Nos. 2 &

(C.D. McIntosh Power Plant)

**Specific Conditions:**

7. Test the emissions from the Unit No. 2 and the Unit No. 3 exhaust stacks for visible emissions annually on or within the 60 day period prior to the date of June 9 of each year. A test report shall be submitted to the Air Program of the Southwest District Office of the Department within 45 days of the testing.

[Rules 17-297.340 and 17-297.570, F.A.C.]

8. The permittee shall notify the Air Program of the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is 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.

[Rules 17-297.340(1)(i), F.A.C.]

9. Compliance with the visible emission (VE) limitation of Specific Condition No. 5 shall be determined using EPA Method 9 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-297, F.A.C. The visible emissions test shall be conducted by a certified observer and be a minimum of thirty (30) minutes in duration. The visible emissions test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. The minimum requirements for stationary point source emission test procedures and reporting shall be in accordance with Rule 17-297, F.A.C. and 40 CFR 60 Appendix A.

[Rule 17-297, F.A.C.]

10. The visible emissions compliance tests shall be conducted while operating the diesel generators at a high firing rate that is within 90-100% of the maximum permitted No. 2 fuel firing rate of 201.6 gallons per hour, if feasible. A compliance test submitted at a rate less than 90% of the maximum permitted firing rate will automatically constitute an amended permitted firing rate at that lesser rate plus 10%. Within 30 days of that lower amended permitted rate being exceeded, a new compliance test shall be conducted at the higher rate. The test results shall be submitted to the Air Program of the Southwest District Office of the Department within 45 days of testing. Acceptance of the test by the

**PERMITTEE:**

City of Lakeland

3

**PERMIT/PROJECT:**

Permit No. : AO53-244726

Project: Peaking Unit Nos. 2 &

(C.D. McIntosh Power Plant)

**Specific Conditions:**

Department will automatically constitute an amended permit at the higher tested rate plus 10%, but in no case shall the maximum permitted No. 2 fuel oil firing rate of 201.6 gallons per hour be exceeded. A statement of the fuel oil firing rate during the test shall be included with all test reports. Failure to submit the fuel oil firing rate or operating under conditions that are not representative of normal operating conditions may invalidate the test and fail to provide reasonable assurance.

[Rule 17-4.070(3), F.A.C.]

11. Compliance with the No. 2 fuel oil sulfur content limitation of Specific Condition No. 4 shall be demonstrated during any VE test through submission of one of the following:

- A. results of a sulfur content analysis of a fuel oil sample representative of the No. 2 fuel oil burned during the test (this may be vendor supplied information or based upon a sample taken at the plant);
- B. vendor supplied documentation that No. 2 fuel oil meeting the required State of Florida specifications (see Specific Condition No. 12) was delivered for use on this boiler (a copy of the documentation for the most recent fuel oil delivery shall be included with the VE test report).

[Rule 17-4.070(3), F.A.C. and previous operation permits]

**Recordkeeping Requirements**

12. In order to document continuing compliance with Specific Condition No. 4, records shall be maintained of the sulfur content, in % by weight, of No. 2 fuel oil delivered for use in this boiler.

On the basis of the requirements of Department of Agriculture and Consumer Services Rule 5F-2001, which requires that No. 2 oil sold in Florida have a maximum sulfur content not to exceed 0.5%, reasonable assurance that the sulfur content requirement is being met can also be provided through vendor supplied documentation that

**PERMITTEE:**

City of Lakeland

3

**PERMIT/PROJECT:**

Permit No. : AO53-244726

Project: Peaking Unit Nos. 2 &

(C.D. McIntosh Power Plant)

**Specific Conditions:**

the fuel oil delivered for use in this boiler meets the above specifications for No. 2 oil. The above records shall be maintained for a minimum of the most recent two year period and made available to the Department upon request.

[Rule 17-4.070(3), F.A.C.]

Reporting Requirements

13. The permittee shall submit to the Air Program of the Southwest District Office of the Department each calendar year on or before March 1, a completed DER Form 17-213.900(4), "Annual Operating Report for Air Pollutant Emitting Facility," for the preceding calendar year.

[Rule 17-210.370(2), F.A.C.]

Operation Permit Renewal

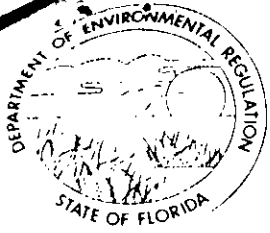
14. At least two applications to renew this operating permit shall be submitted to the Air Program of the Southwest District Office of the Department no later than March 28, 1999 (60 days prior to the expiration date of this permit).

[Rule 17-4.090(1), F.A.C.]

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

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Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District



# Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347 • 813-623-5561

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary  
Richard Garrity, Deputy Assistant Secretary

ISSUED 2/17/89

**PERMITTEE:**

City of Lakeland  
3030 East Lake Parker Drive  
Lakeland, Florida 33805

**PERMIT/CERTIFICATION**

Permit No.: A053-158429  
County: Polk  
Expiration Date: 02-10-94  
Project: Peaking Unit Nos. 2 & 3

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of Peaking Unit Nos. 2 & 3 rated at 2.5 MW each at the C. D. McIntosh, Jr., Power Plant. These units are fired on No. 2 fuel oil with a maximum sulfur content of 0.5%.

Location: 3030 East Lake Parker Drive, Lakeland, Polk County

UTM: 17-408.5 E    3105.8 N    NEDS NO: 0004    Point ID: 03  
Unit No. ~~2-02~~  
Unit No. 3-03

Replaces Permit No.: A053-74767 & A053-74768

PERMITTEE:  
City of Lakeland

Permit/Certification No.: A053-158429  
Project: Peaking Unit Nos. 2 & 3

SPECIFIC CONDITIONS

1. A part of this permit is the attached 15 General Conditions.

2. Test the emissions from each unit for the following pollutant(s) at intervals of 12 months from the date May 9, 1988 and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Regulation within forty-five days of such testing (Section 17-2.700(2), Florida Administrative Code (F.A.C.)).

( ) Particulates	(X) Sulfur Oxides*
( ) Fluorides	( ) Nitrogen Oxides
(X) Opacity	( ) Hydrocarbons

\* A fuel oil analysis may be submitted in lieu of a sulfur dioxide stack test.

3. Testing of emissions must be accomplished within +10% of the rated capacity of 2.5 MW. Failure to submit the input rates or operation at conditions which do not reflect actual operating conditions may invalidate the data (Section 403.161(1)(c), Florida Statutes).

4. Visible emissions shall not be equal to or greater than 20% opacity in accordance with Subsection 17-2.610(2)(a), F.A.C.

5. Compliance with the emission limitations of Specific Condition No. 4 shall be determined using EPA Method No. 9 contained in 40 CFR 60, Appendix A and adopted by reference in Section 17-2.700, F.A.C. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Section 17-2.700, F.A.C. and 40 CFR 60, Appendix A.

6. The compliance test shall be conducted by a certified observer and be a minimum of thirty (30) minutes in duration.

7. This Southwest District Office of the Department of Environmental Regulation shall be notified in writing at least 15 days prior to compliance testing.

8. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

- (A) Annual amount of materials and/or fuels utilized.
- (B) Annual emissions (note calculation basis).
- (C) Any changes in the information contained in the permit application.



PERMITTEE:  
City of Lakeland

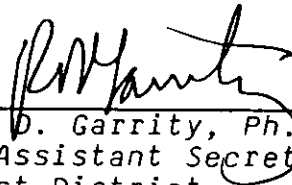
Permit/Certification No.: A053-158429  
Project: Peaking Unit Nos. 2 & 3

SPECIFIC CONDITIONS (con't):

9. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this 16 day of Feb  
1989.

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL REGULATION

  
Richard D. Garrity, Ph.D.  
Deputy Assistant Secretary  
Southwest District

*Issue Date: June 1, 1994*

**PERMITTEE:**

City of Lakeland  
Department of Electric & Water  
Utilities  
3030 E. Lake Parker Drive  
Lakeland, FL 33805

**PERMIT/PROJECT:**

**Permit No:** AO53-244727  
**County:** Polk  
**Expiration Date:** 05/27/99  
**Project:** Peaking Unit No. 1  
(Gas Turbine)  
C.D. McIntosh Power Plant

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-200 through 297, and Chapter 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of Peaking Unit No. 1 at the C.D. McIntosh Power Plant. This unit consists of gas turbine which drives a generator producing electrical power at a maximum rated output of 20 megawatts (MW). The gas turbine is fired with natural gas, or No. 2 fuel oil with a maximum sulfur content of 0.50% by weight. The maximum fuel firing rate is 320 MCF per hour of natural gas (corresponds to approximately 330 MMBtu/hour) or 2,310 gallons per hour of No. 2 fuel oil (corresponds to approximately 320 MMBtu/hour).

**Location:** C. D. McIntosh Power Plant  
3030 East Lake Parker Drive, Lakeland

**UTM:** 17-408.5 E 3105.8 N      **NEDS No:** 0004      **Point ID No:** 04

Replaces Permit No.: A053-158431

1. A part of this permit is the attached 15 General Conditions.  
[Rule 17-4.160, F.A.C.]
2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 17-200 through 17-297, or any other requirements under federal, state or local law.  
[Rule 17-210.300, F.A.C.]

Operation and Emission Limitations

3. This unit is permitted for continuous operation (i.e. 8,760 hours/year).  
[Permit renewal application dated 01/26/94 and previous permits]

4. The gas turbine shall be fired only with the following fuels:

<u>Permitted Fuel</u>	<u>Max. Sulfur Content</u>	<u>Max. Fuel Firing Rate</u>
Natural Gas	- - -	320 MCF/hour  (approx. 330 MMBtu/hour)
No. 2 Fuel Oil (new)	0.5% by weight	2,310 gallons/hour (approx. 320 MMBtu/hour)

No used or recycled oil shall be fired in this unit.  
[Permit renewal application dated 01/26/94 and previous permits]

5. Visible emissions from the gas turbine shall not be equal to or greater than 20% opacity.  
[Rule 17-296.310(2)(a), F.A.C.]

**PERMITTEE:**

City of Lakeland  
C. D. McIntosh Power Plant

**PERMIT/PROJECT:**

Permit No. : A053-244727  
Project: Peaking Unit No. 1  
(Gas Turbine)

**Specific Conditions:**

Testing and Compliance Documentation Requirements

6. Annual visible emissions testing shall be conducted on the gas turbine while burning No. 2 fuel oil. The visible emissions compliance test for the gas turbine can be waived, on a year by year basis, if fuel oil has not been used in the gas turbine for more than 400 hours for the previous 12 months. If this waiver is exercised, each year when the VE test is due a letter must be sent to the Air Program of the Southwest District office of the Department stating that the above qualifications for the waiver have been satisfied. Regardless of the fuel oil operating hours, a visible emissions test shall be conducted during the 12 month period prior to submittal of an operation permit renewal application.  
[Rules 17-297.340(c), (d) and (h), F.A.C.]

7. Compliance with the visible emission limitation of Specific Condition No. 5 shall be determined using EPA Method 9 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-297, F.A.C. The visible emissions test shall be conducted by a certified observer and be a minimum of sixty (60) minutes in duration. The test observation period shall include the period during which the highest opacity can reasonably be expected to occur. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 17-297, F.A.C. and 40 CFR 60, Appendix A.  
[Rule 17-297.330(1)(b), and Table 297.330-1, F.A.C.]

8. The permittee shall notify the Air Program of the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is 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.  
[Rules 17-297.340(1)(i), F.A.C.]

9. Visible emissions testing shall be conducted while firing No. 2 fuel oil at a rate within 90-100% of the maximum permitted heat input rate of 2,310 gallons per hour (corresponds to a fuel firing rate of approximately 320 MMBtu/hour), if feasible. A compliance

**PERMITTEE:**

City of Lakeland  
C. D. McIntosh Power Plant

**PERMIT/PROJECT:**

Permit No. : A053-244727  
Project: Peaking Unit No. 1  
(Gas Turbine)

**Specific Conditions:**

test submitted at a rate less than 90% of the maximum permitted rate will automatically constitute an amended permitted fuel firing rate at that lesser rate. Within 30 days of that lower amended permitted rate being exceeded by more than 10%, a new compliance test shall be conducted at the higher rate. The test results shall be submitted to the Southwest District Office of the Department within 45 days of testing. Acceptance of the test by the Department will automatically constitute an amended permit at the higher tested rate, but in no case shall the maximum permitted No. 2 fuel oil firing rate of 2,310 gallons per hour be exceeded.

[Rule 17-4.070(3), F.A.C.]

10. A statement of the gas turbine fuel oil firing rate (gallons/hour) and corresponding heat input rate (MMBtu/hour) during the test period shall be included with each test report. Failure to submit this information with the test report may fail to provide reasonable assurance of compliance. [Rule 17-4.070(3), F.A.C.]

11. Proof of compliance with the fuel oil sulfur content limitation of Specific Condition No. 4 shall be submitted to the Department with any required visible emissions compliance test reports. This documentation may take the form of results of a fuel analysis done in accordance with an appropriate ASTM method, or by fuel supplier documentation that the fuel oil delivered for use in the gas turbine met the specifications for No. 2 fuel oil. (See Specific Condition No. 12). [Rule 17-4.070(3), F.A.C.]

**Recordkeeping Requirements**

12. In order to document continuing compliance with Specific Condition No. 4, records shall be maintained of the sulfur content, in % by weight, of No. 2 fuel oil delivered for use in the gas turbine. On the basis of the requirements of Department of Agriculture and Consumer Services Rule 5F-2001 (which requires that No. 2 oil sold in Florida have a maximum sulfur content not to exceed 0.5%), reasonable assurance that the sulfur content requirement is being met can also be provided through vendor supplied documentation that the fuel oil delivered for use in the

**PERMITTEE:**

City of Lakeland  
C. D. McIntosh Power Plant

**PERMIT/PROJECT:**

Permit No. : AO53-244727  
Project: Peaking Unit No. 1  
(Gas Turbine)

**Specific Conditions:**

gas turbine meets the above specifications for No. 2 fuel oil. The above records shall be maintained for a minimum of the most recent two year period and made available to the Department upon request. [Rule 17-4.070(3), F.A.C.]

13. In order to document compliance with the requirements of Specific Condition Nos. 4 and 6, the permittee shall maintain records for the gas turbine which include the following information for each period of operation:

- A. date, time and duration (hours) of operation of the gas turbine;
- B. type (natural gas or No. 2 fuel oil) and estimated quantity (MCF or gallons) of fuel used during operation period.

The records shall also include a total of the oil-fired operating hours for each calendar month for the gas turbine. These records shall be recorded in a permanent form suitable for inspection by the Department upon request, and shall be retained for at least a two year period.

[Rule 17-4.070 (3), F.A.C.]

**Reporting Requirements**

14. The permittee shall submit to the Air Program of the Southwest District Office of the Department each calendar year on or before March 1, completed DER Form 17-213.900(4), "Annual Operating Report for Air Pollutant Emitting Facility," for the preceding calendar year.

[Rule 17-210.370(2), F.A.C.]

**PERMITTEE:**

City of Lakeland  
C. D. McIntosh Power Plant

**PERMIT/PROJECT:**

Permit No. : AO53-244727  
Project: Peaking Unit No. 1  
(Gas Turbine)

**Specific Conditions:**

Permits

15. Four applications to renew this operating permit shall be submitted to the Air Program of the Southwest District Office of the Department no later than March 28, 1999 (60 days prior to the expiration date of this permit).

[Rule 17-4.090(1), F.A.C.]

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

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Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District Office

# 1995 TITLE V ANNUAL EMISSIONS FEE REVIEW REPORT

For monthly reports. Tracks completion of 1995 effort.

to end of **JANUARY**

Area of state	# Title V facilities	# forms rc'd	# forms rvw'd	# correct	# incorrect
NW & NE	216	10	10	9	1
C & SE	200	1	1	1	0
S & SW	267	6	1	1	0
<b>Totals</b>	<b>683</b>	<b>17</b>	<b>12</b>	<b>11</b>	<b>1</b>

2% Complete of 1995 effort

to end of **FEBRUARY**

Area of state	# Title V facilities	# forms rc'd	# forms rvw'd	# correct	# incorrect
NW & NE	216	13	13	12	1
C & SE	200	29	27	21	6
S & SW	267	86	16	10	6
<b>Totals</b>	<b>683</b>	<b>128</b>	<b>56</b>	<b>43</b>	<b>13</b>

6% Complete of 1995 effort

to end of **MARCH**

Area of state	# Title V facilities	# forms rc'd	# forms rvw'd	# correct	# incorrect
NW & NE	208	202	150	99	51
C & SE	204	185	154	127	27
S & SW	268	235	54	47	7
<b>Totals</b>	<b>680</b>	<b>622</b>	<b>358</b>	<b>273</b>	<b>85</b>

40% Complete of 1995 effort

to end of **APRIL**

Area of state	# Title V facilities	# forms rc'd	# forms rvw'd	# correct	# incorrect
NW & NE	208	205	200	140	10
C & SE	204	185	185	161	24
S & SW	260	242	140	118	22
<b>Totals</b>	<b>672</b>	<b>632</b>	<b>525</b>	<b>419</b>	<b>56</b>

62% Complete of 1995 effort

to end of **MAY**

Area of state	# Title V facilities	# forms rc'd	# forms rvw'd	# correct	# incorrect
NW & NE					
C & SE					
S & SW	260	245	245	194	41
<b>Totals</b>	<b>260</b>	<b>245</b>	<b>245</b>	<b>194</b>	<b>41</b>

75% Complete of 1995 effort

to end of **JUNE**

Area of state	# Title V facilities	# forms rc'd	# forms rvw'd	# correct	# incorrect
NW & NE					
C & SE					
S & SW					
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

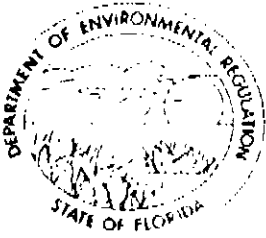
#DIV/0! Complete of 1995 effort

to end of **JULY**

Area of state	# Title V facilities	# forms rc'd	# forms rvw'd	# correct	# incorrect
NW & NE					
C & SE					
S & SW					
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

#DIV/0! Complete of 1995 effort





# Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7547 • 813-623-5561

Bob Martinez, Governor

Edie Wachtman, Secretary

John Steeter, Assistant Secretary

Richard Grant, Deputy Assistant Secretary

Issued  
2/1/89

## PERMITTEE:

City of Lakeland  
3030 East Lake Parker Drive  
Lakeland, Florida 33805

## PERMIT/CERTIFICATION

Permit No.: A053-158431  
County: Polk  
Expiration Date: 02-10-94  
Project: Peaking Unit No. 1

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of Peaking Unit No. 1 rated at 20 MW at the C. D. McIntosh, Jr., Power Plant. This unit is fired on natural gas or No. 2 fuel oil with a maximum sulfur content of 0.5%.

Location: 3030 East Lake Parker Drive, Lakeland, Polk County

UTM: 17-408.5 E 3105.8 N NEDS NO: 0004 Point ID: 04

Replaces Permit No.: A053-74766

PERMITTEE:  
City of Lakeland

Permit/Certification No.: 4053-158431  
Project: Peaking Unit No. 1

SPECIFIC CONDITIONS

1. A part of this permit is the attached 15 General Conditions.
2. Test the emissions for the following pollutant(s) at intervals of 12 months from the date May 9, 1988 and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Regulation within forty-five days of such testing (Section 17-2.700(2), Florida Administrative Code (F.A.C.)).  

( ) Particulates	(X) Sulfur Oxides*
( ) Fluorides	( ) Nitrogen Oxides
(X) Opacity	( ) Hydrocarbons

" A fuel oil analysis may be submitted in lieu of a sulfur dioxide stack test.
3. Testing of emissions must be accomplished within  $\pm 10\%$  of the rated capacity of 20 MW. Failure to submit the input rates or operation at conditions which do not reflect actual operating conditions may invalidate the data (Section 405.161(1)(c), Florida Statutes).
4. Visible emissions shall not be equal to or greater than ~~20% opacity~~ in accordance with Subsection 17-2.610(2)(a), F.A.C.
5. Compliance with the emission limitations of Specific Condition No. 4 shall be determined using EPA Method No. 9 contained in 40 CFR 60, Appendix A and adopted by reference in Section 17-2.700, F.A.C. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Section 17-2.700, F.A.C. and 40 CFR 60, Appendix A.
6. If No. 2 fuel oil has been used to fire this unit for more than 400 hours in the 12 months prior to the annual compliance test, the compliance test shall be conducted while this unit is being fired on No. 2 fuel oil (Chapter 17-2.700(2)(a)3.b., F.A.C.).
7. The compliance test shall be conducted by a certified observer and be a minimum of thirty (30) minutes in duration.
8. This Southwest District Office of the Department of Environmental Regulation shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:  
City of Lakeland


Permit/Certification No.: A053-158431  
Project: Peaking Unit No. 1

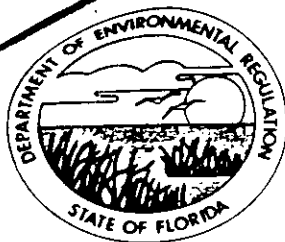
SPECIFIC CONDITIONS (con't):

9. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:
- (A) Annual amount of materials and/or fuels utilized.
  - (B) Annual emissions (note calculation basis).
  - (C) Any changes in the information contained in the permit application.
10. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this 16 day of Feb  
1994

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL REGULATION

  
Richard D. Garrity, Ph.D.  
Deputy Assistant Secretary  
Southwest District



# Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant  
Dr. Richard Garnty, Deputy

## PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
3030 East Lake Parker Drive  
Lakeland, FL. 33805

## PERMIT/CERTIFICATION

Permit No: A053-174090  
County: Polk  
Expiration Date: 04/13/95  
Project: C.D. McIntosh, Jr.  
Power Plant, Unit #2

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For Operation of the nominal 114.7 MW (electric) Steam Generator designated as C. D. McIntosh, Jr. Power Plant Unit #2. This source is fired on low sulfur No. 6 fuel oil with a maximum heat input of 1,115 MMBTU per hour, or natural gas with a maximum heat input of 1,184.5 MMBTU per hour.

Location: 3030 E. Lake Parker Drive, Lakeland, Polk County

UTM: 17-408.5 E 3105.8 N NEDS NO: 0004 Point ID: 05

Replaces Permit No.: A053-99463

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
3030 East Lake Parker Drive  
Lakeland, FL. 33805

PERMIT/CERTIFICATION

Permit No: A053-174090  
County: Polk  
Expiration Date: 04/13/95  
Project: C.D. McIntosh, Jr.  
Power Plant, Unit #2

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.
2. Visible Emissions shall not exceed 20% opacity except for one six-minute period per hour of not more than 27% opacity. (Rule 17-2.660, F.A.C., and 40 CFR 60.42).
- PM  
③ Particulate Matter Emissions shall not exceed 0.10 pound per million Btu heat input. (Rule 17-2.660, F.A.C., and 40 CFR 60.42).
- SO<sub>2</sub>  
④ Sulfur Dioxide Emissions shall not exceed 0.80 pound per million Btu heat input. (Rule 17-2.660, F.A.C., and 40 CFR 60.43(a)(1)).
- NO<sub>x</sub>  
⑤ Nitrogen Oxides Emissions shall not exceed 0.30 pound per million Btu heat input when burning fuel oil. Nitrogen Oxides Emissions shall not exceed 0.20 pound per million Btu heat input when burning natural gas. If fuel oil and natural gas are burned simultaneously in any combination, the applicable Nitrogen Oxides Emissions limit shall be determined by proration using the formula specified in 40 CFR 60.44(b). (Rule 17-2.660, F.A.C., and 40 CFR 60.44).
6. The heat input rate shall not exceed 1,115 MM Btu per hour when burning fuel oil. The heat input rate shall not exceed 1,184.5 MM Btu per hour when burning natural gas. If fuel oil and natural gas are burned simultaneously in any combination, then the maximum permitted heat input rate shall be determined by proration.
7. This source is permitted to operate 24 hours/day, 7 days/week, and 52 weeks/year (8760 hours/year).
8. This source must comply with the Emission and Fuel Monitoring requirements of 40 CFR 60.45.

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
3030 East Lake Parker Drive  
Lakeland, FL. 33805

PERMIT/CERTIFICATION

Permit No: A053-174090  
County: Polk  
Expiration Date: 04/13/95  
Project: C.D. McIntosh, Jr.  
Power Plant, Unit #2

SPECIFIC CONDITIONS:

9. Test the emissions for the following pollutants at intervals of 12 months from the date July 5, 1990 and submit a copy of the test data to the Air Section of the Southwest District Office within forty-five days of such testing. Testing procedures shall be consistent with the requirements of Rule 17-2.700, F.A.C. and 40 CFR 60.46. The duration of each opacity test shall be 60 minutes. Opacity tests shall be conducted using EPA Method 9.

- Particulates
- Sulfur Oxides \*
- Fluorides
- Nitrogen Oxides
- Opacity
- Hydrocarbons
- Total Reduced Sulfur

\* A Fuel analysis of a representative fuel sample taken during the particulate compliance test and a calculation of the sulfur dioxide emission rate which is based upon the fuel analysis may be submitted in lieu of the required sulfur oxides emission test.

10. Except as provided in Specific Conditions No. 11 or 12, compliance testing shall be conducted while burning fuel oil.

11. If the source is burning natural gas when a compliance test is required, then the compliance test may be conducted while burning natural gas.

12. If the source is burning a mixture of natural gas and fuel oil simultaneously when a compliance test is required, then the compliance test may be conducted while burning that mixture of natural gas and fuel oil simultaneously.

13. If the most recent compliance test was conducted pursuant to Specific Condition No. 11 or 12, and the fuel input is changed for a total of more than 15 days such that the percentage of total heat input derived from fuel oil increases by 10% or more (using the most recent compliance test as a basis), then the results from new compliance tests shall be submitted to the Air Section of the Southwest District Office within 45 days of the 15th day that the source is fired with the changed fuel input. (Rule 17-4.070(3), F.A.C.)

**PERMITTEE:**

City of Lakeland Department of  
Electric and Water Utilities  
3030 East Lake Parker Drive  
Lakeland, FL. 33805

**PERMIT/CERTIFICATION**

Permit No: A053-174090  
County: Polk  
Expiration Date: 04/13/95  
Project: C.D. McIntosh, Jr.  
Power Plant, Unit #2

**SPECIFIC CONDITIONS:**

14. Compliance testing shall be conducted while operating within  $\pm 10\%$  of the maximum permitted heat input rate. A compliance test submitted at operating levels less than 90% of the maximum permitted heat input rate will automatically constitute an amended permit at the lesser rate until another test, showing compliance at a higher rate is submitted. The permittee shall submit a statement of the actual heat input rate as a part of each compliance test. Failure to include the actual heat input rate in the results may invalidate the tests and fail to provide reasonable assurance of compliance. (Rule 17-4.070(3), F.A.C.)

15. The permittee shall notify the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is 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. (Rule 17-2.700(2)(a)9., F.A.C.)

16. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following information pursuant to Section 403.061(13), Florida Statutes:

- (A) Annual amount of materials and/or fuels utilized.
- (B) Annual emissions (note calculation basis).
- (C) Any changes in the information contained in the permit application.

17. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapter 17-2, or any other requirements under federal, state, or local law. (Rule 17-2.210, F.A.C.)

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
3030 East Lake Parker Drive  
Lakeland, FL. 33805

PERMIT/CERTIFICATION

Permit No: AO53-174090  
County: Polk  
Expiration Date: 04/13/95  
Project: C.D. McIntosh, Jr.  
Power Plant, Unit #2

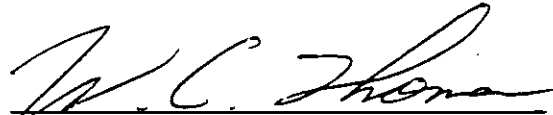
SPECIFIC CONDITIONS:

18. Four applications to renew this operating permit shall be submitted to the Southwest District Office of the Department by February 12, 1995.

Issued this 17 day of

April, 1990.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION



*For* Dr. Richard D. Garrity  
Deputy Assistant Secretary  
4520 Oak Fair Boulevard  
Tampa, Florida 33610-7347  
Phone (813) 623-5561



*Active File*

Florida Department of  
**Environmental Protection**

**Memorandum**

TO: Howard Rhodes  
THROUGH: Clair Fancy  
FROM: A. A. Linero *AA Linero*  
DATE: December 9, 1995  
SUBJECT: City of Lakeland - C. D. McIntosh Unit No. 3

Attached for your signature is an amendment to the City of Lakeland's PSD Permit applicable to Unit No. 3 at the C. D. McIntosh Power Plant.

The amendment revises the original 1978 EPA-issued PSD permit (as previously amended by the Department) to allow burning of petroleum coke (petcoke).

To avoid an increase in SO<sub>2</sub> the City has agreed to an absolute limit of 0.718 pounds per million Btu heat input (lb/10<sup>6</sup> Btu) while maintaining the previously agreed-to scrubber efficiency requirements. You might recall that we had set 0.75 lb/10<sup>6</sup> as the point at which they could operate their scrubber at less than 90 percent efficiency. The new limit is an improvement.

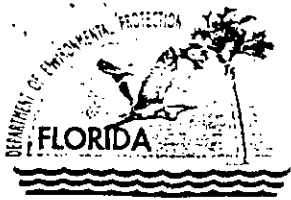
They also requested the ability to use natural gas and low sulfur fuel (<0.5 % S) without restriction. This will result in even lower SO<sub>2</sub> emissions during those times.

We are requiring that the City provide information documenting that there is no (PSD-significant) increase in sulfuric acid mist emissions and carbon monoxide emissions on an annual basis as required by the WEPCO revisions to our rules.

There were no comments from the public, EPA, or the Park Service. Comments from the City were considered. They have seen the final determination and will have no objections to the final permit.

CHF/aal/1

Attachments



# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

December 11, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton, Ch.E.  
Environmental Coordinator  
City of Lakeland  
Department of Water and Electric Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

Re: City of Lakeland, C.D. McIntosh Unit No. 3  
Amendment of Final Determination - PSD-FL-008(B)

The Department hereby amends the Conditions of Approval related to sulfur dioxide (SO<sub>2</sub>) emissions and fuel use in the subject Final Determination (dated December 27, 1978) pursuant to 40 CFR 52.21 - Prevention of Significant Deterioration (PSD Permit). The PSD Permit, previously amended on September 5, 1995, is amended as follows:

Condition 1.A.

FROM:

Particulate matter emitted into the atmosphere from the boiler shall not exceed:

<u>Mode of Firing</u>	<u>lb/10<sup>6</sup> Btu Heat Input</u>
Coal	0.044
Coal/Refuse	0.050
Oil	0.070
Oil/Refuse	0.075

Ms. Farzie Shelton  
December 11, 1995  
Page Two

TO:

Particulate matter emitted into the atmosphere from the boiler shall not exceed:

<u>Mode of Firing</u>	<u>lb/10<sup>6</sup> Btu Heat Input</u>
Coal	0.044
Coal/Petcoke	0.044
Coal/Refuse	0.050
Coal/Petcoke/Refuse	0.050
Oil	0.070
Oil/Refuse	0.075

Condition 2.A.

FROM:

Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input.

TO:

Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input in accordance with 40 CFR 60 Subpart D-Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971.

Condition 2.B.

FROM:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal is burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 1.2 pounds per million Btu heat input and 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the sulfur dioxide emission limitation and percent reduction requirement shall be determined on a 30-day rolling average.

Ms. Farzie Shelton  
December 11, 1995  
Page Three

TO:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal or blends of coal and petroleum coke or refuse are burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the percent reduction requirement shall be determined on a 30-day rolling average. This compliance information shall be retained for a period of three years and made available by the City upon request by the Department. Whenever blends of petroleum coke with other fuels are co-fired, sulfur dioxide emissions shall not exceed 0.718 pounds per million Btu heat input based on a 30-day rolling average and shall comply with the reduction requirements given above.

Condition 2.C.

FROM:

The burning of oil or a combination of oil and municipal refuse as an emergency fuel without the use of the SO<sub>2</sub> scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

TO:

The burning of high sulfur oil (greater than 0.5 percent sulfur by weight) or a combination of high sulfur oil and municipal refuse as an emergency fuel without the use of the SO<sub>2</sub> scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

Ms. Farzie Shelton  
December 11, 1995  
Page Four

Condition 2.D.

FROM:

During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of oil or a combination of oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO<sub>2</sub> scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

TO:

During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of high sulfur oil (greater than 0.5 percent sulfur by weight) or a combination of high sulfur oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO<sub>2</sub> scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

Condition 2.E. (new)

Continuous burning of natural gas, low sulfur fuel oil (less than or equal to 0.5 percent sulfur by weight), or combinations of these two fuels with or without the use of the SO<sub>2</sub> scrubber will be allowed.

Condition 6. Continuous Monitoring Requirements

FROM:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic coal sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The coal analysis data shall be used in conjunction with emission factors and the continuous monitoring data to calculate SO<sub>2</sub> reduction.

TO:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic solid fossil fuel sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The solid fossil fuel analysis data shall be used in conjunction with emission factors and the continuous monitoring data to calculate SO<sub>2</sub> reduction.

Ms. Farzie Shelton  
December 11, 1995  
Page Five

Condition 8 (new)

The following fuels may be burned:

Coal only

Low sulfur fuel oil only ( $\leq$  0.5 percent sulfur by weight)

Coal and up to 10 percent refuse (based on heat input)

Low sulfur fuel oil and up to 10 percent refuse (based on heat input)

Coal and up to 20 percent petroleum coke (based on weight)

Coal and up to 20 percent petroleum coke (based on weight) and 10 percent refuse (based on heat input)

High sulfur fuel oil ( $>$  0.5 percent sulfur by weight) consistent with Conditions 2.C. or 2.D.

Natural gas only, or in combination with any of the other fuels or fuel combinations listed above

Condition 9 (new)

The City shall maintain and submit to the Department on an annual basis for a period of five years from the date the unit is initially co-fired with petroleum coke, information demonstrating in accordance with 40 CFR 52.21 (b)(33) and 40 CFR 52.21 (b)(21)(v) that the operational changes did not result in emissions increases of carbon monoxide, nitrogen oxides, or sulfuric acid mist.

A copy of this amendment letter shall be attached to and shall become a part of Permit PSD-FL-008.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION



Howard L. Rhodes, Director  
Division Air Resources Management

Ms. Farzie Shelton  
December 11, 1995  
Page Six

CERTIFICATE OF SERVICE

This is to certify that this PERMIT AMENDMENT and all copies were mailed to the listed persons before the close of business on 12-11-95.

**FILING AND ACKNOWLEDGMENT**

FILED, on this date, pursuant to Chapter 120.52(9), Florida Statutes, with the designated Deputy Clerk, receipt of which is hereby acknowledged.

Kim Jober                      12-11-95  
Clerk    Date

cc: J. Harper, EPA  
J. Bunyak, NPS  
B. Oven, DEP  
B. Thomas, SWD  
R. Harwood, PCESD  
K. Kosky, KBN  
A. Morrison, HGSS

Final Determination

City of Lakeland  
Department of Water and Electric Utilities  
C. D. McIntosh Power Plant Unit No. 3  
Lakeland, Florida  
Polk County

Electric Utility Steam Generating Unit  
Coal/Municipal Refuse/Oil - Fired Boiler  
364 MW

Permit No. PSD-FL-008(B)

Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation

December 11, 1995



## Final Determination

On November 3, 1995, a draft permit amendment, Intent to Issue, Notice of Intent to Issue, and Preliminary Determination were sent to The City of Lakeland, EPA Region IV, the Southwest Florida DEP District, Polk County, and the National Park Service. The draft permit amendment was to change certain Conditions of Approval related to fuel use, emission limits, and compliance procedures contained in the Final Determination dated December 27, 1978 applicable to the C.D. McIntosh Power Plant, Unit No. 3 as amended on September 5, 1995.

The Public Notice was published by the City of Lakeland on November 10, 1995 in the The Ledger, a newspaper of general circulation in Polk County, Florida.

No comments were received during the 30-day review and comment period except from the City of Lakeland by letter dated November 9, 1995.

The City and the Department request or require a number of clarifications and changes to the draft permit amendment as follows:

### **CONDITION 2.A.**

#### **DEPARTMENT COMMENT:**

The sulfur dioxide (SO<sub>2</sub>) limitation of 1.2 pounds per million Btu heat input (lb/10<sup>6</sup> Btu) in Condition 2.B. may appear to be a relaxation of the 40 CFR 60 Subpart D requirement applicable to Unit 3 which requires compliance with the same limit on the basis of three hours-worth of stack tests. To clarify, the Department will amend existing Condition 2.A. as follows:

#### **FROM:**

Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input.

#### **TO:**

Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input in accordance with 40 CFR 60 Subpart D-Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971.

**SPECIFIC CONDITION 2.B.**

**CITY'S COMMENTS:**

The City requests that records on sulfur dioxide (SO<sub>2</sub>) emissions and reduction percentages be maintained on site rather than submitted quarterly to the Department. Exceedances would be included in the excess emissions reports already required for submission to the Department. Additionally the City wishes to clarify that the lower SO<sub>2</sub> emission rate of 0.718 pounds per million Btu heat input (lb/10<sup>6</sup> Btu) applies only when petcoke blends are fired.

**DEPARTMENT'S RESPONSE:**

The Department agrees that the excess emissions reports (as well as the reports and compliance requirements pursuant to Title IV and Title V of the Clean Air Act) will provide the Department sufficient information to determine when the unit does not operate in compliance with applicable SO<sub>2</sub> limits. The Department agrees that the condition as drafted can be misconstrued to require compliance with the petcoke SO<sub>2</sub> emission limit when petcoke is not co-fired. In accordance with the previous comment, the Department also wishes to remove the 1.2 lb SO<sub>2</sub>/10<sup>6</sup> Btu emission rate from this condition as confusing and in apparent conflict with the limit in Condition 2.A. Therefore draft Specific Condition 2.B. is changed as follows:

**FROM:**

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal or blends of coal and petroleum coke or refuse are burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 1.2 pounds per million Btu heat input and 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the sulfur dioxide emission limitation of 0.75 pound per million Btu heat input and percent reduction requirement shall be determined on a 30-day rolling average and submitted to the Department on a quarterly basis. Whenever blends of coal and petroleum coke or refuse are burned, sulfur dioxide emissions shall not exceed 0.718 pounds per million Btu heat input based on a 30-day rolling average.

TO:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal or blends of coal and petroleum coke or refuse are burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the percent reduction requirement shall be determined on a 30-day rolling average. This compliance information shall be retained for a period of three years and made available by the City upon request by the Department. Whenever blends of petroleum coke with other fuels are co-fired, sulfur dioxide emissions shall not exceed 0.718 pounds per million Btu heat input based on a 30-day rolling average and shall comply with the reduction requirements given above.

CONDITIONS 2.C. and 2.D.

CITY'S COMMENTS:

The City believes that there can be some confusion regarding the oil described in existing Conditions 2.C. and 2.D. which is "high sulfur oil" and the new Condition 2.E. related to firing "low sulfur oil." The City recommends some clarification language to define the oil in Conditions 2.C. and 2.D.

DEPARTMENT'S RESPONSE:

The Department agrees with the City and revises existing Condition 2.C. as follows:

FROM:

The burning of oil or a combination of oil and municipal refuse as an emergency fuel without the use of the SO<sub>2</sub> scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

TO:

The burning of high sulfur oil (greater than 0.5 percent sulfur by weight) or a combination of high sulfur oil and municipal refuse as an emergency fuel without the use of the SO<sub>2</sub> scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

Similarly, the Department revises existing Condition 2.D. as follows:

FROM:

During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of oil or a combination of oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO<sub>2</sub> scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

TO:

During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of high sulfur oil (greater than 0.5 percent sulfur by weight) or a combination of high sulfur oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO<sub>2</sub> scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

#### CONDITION 5.B.

#### CITY'S COMMENTS:

The City points out that the tests are for initial performance demonstration rather than annual compliance tests and that the additional reference methods are not necessary. The City also contends that 3-hour tests are no longer appropriate to determine compliance for a unit regulated on a rolling average basis by CEMS and that the test requirements can be removed.

#### DEPARTMENT'S RESPONSE:

The Department agrees that the performance tests referred to in Condition 5.B. are initial tests. The revision proposed by the Department will not be made and the condition will remain in its original form.

**CONDITION 6.**

**CITY'S COMMENTS:**

The City points out that prior to the proposed revision they had to analyze coal but not refuse. The revision appears to require analysis of any solid fuel, presumably including refuse. The City suggests use of the term "solid fossil fuels" in lieu of solid fuels.

**DEPARTMENT'S RESPONSE:**

The Department agrees. The City will still need to estimate sulfur in the refuse (on the order of 0.1 percent sulfur by weight) to calculate SO<sub>2</sub> input to the scrubber and reduction. Sources for those estimates include the "daily log of fuels used and copies of fuel analyses" maintained by the City per its Site Certification requirements (Condition I.B.3). Therefore draft Condition 5.B. is amended as follows:

**FROM:**

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic solid fuel sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The solid fuel analysis data shall be used in conjunction with emission factors and continuous monitoring data to calculate SO<sub>2</sub> reduction.

**TO:**

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic solid fossil fuel sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The solid fossil fuel analysis data shall be used in conjunction with emission factors and continuous monitoring data to calculate SO<sub>2</sub> reduction.

**CONDITION 8.**

**CITY'S COMMENTS:**

The City wishes to clarify that high sulfur fuel can be fired in accordance with conditions in their original PSD permit conditions and did not intend to limit itself to low sulfur fuel oil which can be fired under the revised conditions.

DEPARTMENT'S RESPONSE:

The Department agrees and did not intend to limit the City with respect to the type of oil that may be fired during scrubber or coal feed equipment malfunctions. Therefore Condition 8 is changed as follows:

FROM:

The following fuels may be burned:

Coal only

Low sulfur fuel oil only ( $\leq$  0.5 percent sulfur by weight)

Coal and up to 10 percent refuse (based on heat input)

Low sulfur fuel oil and up to 10 percent refuse (based on heat input)

Coal and up to 20 percent petroleum coke (based on weight)

Coal and up to 20 petroleum coke (based on weight) and 10 percent refuse (based on heat input)

Natural gas

TO:

The following fuels may be burned:

Coal only

Low sulfur fuel oil only ( $\leq$  0.5 percent sulfur by weight)

Coal and up to 10 percent refuse (based on heat input)

Low sulfur fuel oil and up to 10 percent refuse (based on heat input)

Coal and up to 20 percent petroleum coke (based on weight)

Coal and up to 20 petroleum coke (based on weight) and 10 percent refuse (based on heat input)

High sulfur fuel oil ( $>$  0.5 percent sulfur by weight) consistent with Conditions 2.C. or 2.D.

Natural gas only, or in combination with any of the other fuels or fuel combinations listed above

CONDITION 9.

CITY'S COMMENTS:

The City questions whether it is necessary to demonstrate that the use of petcoke will not result in emission increases of carbon monoxide or sulfuric acid mist given that emissions increases due to petcoke are not expected.

DEPARTMENT'S RESPONSE:

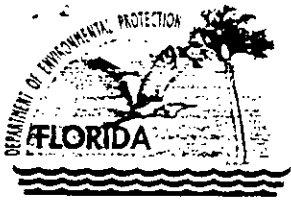
Based on technical articles and references about petcoke as well as tests conducted elsewhere, the Department had reason to expect increased emissions of carbon monoxide and sulfuric acid mist when firing a low sulfur coal and petcoke blend compared with firing low sulfur coal alone.

The City did not include any data on sulfuric acid mist and carbon monoxide emissions when firing low sulfur coal representative of present actual operation. The Department considers the inferences drawn from the other trial test scenarios to be presumptive but not conclusive indicators which gave the City reason to believe that there will be no increases in these emissions when firing petcoke.

In the Department's letter of September 11, 1995, the City was advised to search past records to see if any carbon monoxide or sulfuric acid data exist which are representative of the low sulfur coal condition. The Department pointed out that tests to obtain these data are inexpensive and easy to conduct. Submission of such data might have obviated the need to report representative annual emissions in the future for these two parameters.

CONCLUSION:

The Final Determination of the Department is to amend PSD Permit No. PSD-FL-008 as described in the public information package with minor changes as indicated above.



# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

September 11, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton, Ch.E.  
Environmental Coordinator  
City of Lakeland  
Department of Water and Electric Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

Re: Modification of PSD-FL-008, Petcoke Project  
City of Lakeland, C.D. McIntosh Unit No. 3

We have reviewed the information which you provided at the August 11 meeting between City and Department representatives. The City indicated its intent to pursue the petroleum coke (petcoke) project upon amendment of the Final Determination (permit) applicable to C. D. McIntosh Unit 3. The City provided a summary of previous understandings from past meetings with Department personnel and requested a prompt decision on applicability of Prevention of Significant Deterioration (PSD) and Best Available Control Technology (BACT) to the proposed project.

A Department summary of the early meetings might vary on a few points. In any case, the project will be reviewed in light of the amended PSD permit and the applicable rules in Chapter 62, Florida Administrative Code (FAC).

Actual emissions prior to the petcoke project should be calculated based on the lower of the historical actual emissions or allowable emissions. Since the Unit was apparently operating in excess of allowable sulfur dioxide (SO<sub>2</sub>) limits contained in both the previous and amended PSD permits, allowable emissions should be used. We propose to rely on the new SO<sub>2</sub> limits rather than the previous ones which required 85 percent scrubbing efficiency for all grades of coal. This will benefit the City. Annual estimates of emissions prior to the project should be based on actual hours of operation, actual fuel combusted, capacity factors, etc. In the case of pollutants other than SO<sub>2</sub>, actual emissions reflecting past operation, should be based on past (or new) compliance tests, CEMS data, applicable inferences from the petcoke test program, engineering estimates, etc.



Ms. Farzie Shelton  
September 11, 1995  
Page Two

Actual emissions (representative actual annual emissions) following the proposed change should be projected in accordance with the definitions given in FAC 62-212.200(2)(d) and 40 CFR 52.21(b)(33). This method is also favorable to the City since it does not require future annual emissions to be estimated as the Potential-to-Emit. Actual emissions after the change should be estimated from information and inferences derived from the previous petcoke tests, engineering estimates, etc.

We estimate SO<sub>2</sub> emissions before the change (based on present allowable emission rates and recent coal sulfur specifications) to be between 0.6 pounds per million Btu heat input (lb/10<sup>6</sup> Btu) and 0.75 lb/10<sup>6</sup> Btu. It appears that the SO<sub>2</sub> emission rate when firing the proposed petcoke blend will be less than or equal to 0.75 lb/10<sup>6</sup> Btu. Therefore it is possible that there will be a relatively small increase in annual SO<sub>2</sub> emissions.

Sulfuric acid mist emissions may increase because of catalytic transformation of SO<sub>2</sub> to SO<sub>3</sub> in the presence of vanadium, all other factors being equal. We recommend that the City review past records to see if there are any test data upon which to base historical sulfuric acid mist emissions. The data would need to come from tests during which the SO<sub>2</sub> emissions were roughly equal to the present allowable limit. There does not appear to be a way to infer past or future acid mist emissions from the petcoke test program. Since the trigger level is only 7 tons per year, we recommend that methods of control be considered. It is possible that the scrubber will remove the additional mist. In any case, tests are easy to conduct and inexpensive.

Although carbon monoxide (CO) emissions appear to increase when burning petcoke, the City theorizes that the increase is due to the grindability characteristics of low sulfur coal. Testing while burning low sulfur coal (without petcoke) could prove this hypothesis. If true, no increase would be expected in CO following the proposed switch to the petcoke/low sulfur coal blend. Again, CO data are easy and inexpensive to obtain.

With respect to nitrogen oxides (NO<sub>x</sub>), we note that there are past compliance test data indicating emission rates of 0.324, 0.473, and 0.434 lb/10<sup>6</sup> Btu during 1992, 1993, and 1994 respectively. Since these tests were presumably conducted when firing low sulfur coal, it would not be necessary to conduct more tests. Interestingly, it appears that there is no significant difference between the NO<sub>x</sub> data obtained when burning low sulfur coal (0.410 lb/10<sup>6</sup> Btu) and that obtained when burning a petcoke/low sulfur coal blend (0.413 lb/10<sup>6</sup> Btu). Additionally, the SO<sub>2</sub> emissions were within present allowable levels thus further validating these tests. Similar arguments appear to hold for particulate matter.

Ms. Farzie Shelton  
September 11, 1995  
Page Three

Ultimately it is up to the City to submit the most appropriate comparisons of actual annual emissions prior to the proposed petcoke switch with representative actual annual emissions following the switch. It may turn out that no increases in emissions are predicted thus exempting the project from PSD and BACT. However the definitions cited above require reporting to determine at future dates if there were increases such that PSD/BACT was triggered. We recommend that the City prepare some basic cost data to control any pollutants which increase as a result of the petcoke project. Please refer to our letter of May 5, 1995 for a description on how such information should be presented.

We look forward to receiving your application and are prepared to discuss these matters with you at your convenience. If you have any questions, please call A. A. Linero, P.E., Administrator, New Source Review Section, at (904)488-1344.

Sincerely,



C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/aal/1

cc: J. Harper EPA  
P. Bunyak NPS  
H. Rhodes DEP  
B. Owen DEP  
D. Beason DEP  
B. Thomas, SWD  
R. Harwood, PCESD  
K. Kosky, KBN  
A. Morrison, HGSS



# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

September 5, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton, Ch.E.  
Environmental Coordinator  
City of Lakeland  
Department of Water and Electric Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

Re: Amendment of PSD-FL-008  
City of Lakeland, C.D. McIntosh Unit No. 3

Attached is one copy of the Amendment of the Conditions of Approval related to sulfur dioxide emissions in the subject Final Determination (dated December 27, 1978) pursuant to 40CFR 52.21 - Prevention of Significant Deterioration (PSD Permit). Accompanying the Amendment is our Final Determination based on comments received following the Public Notice of August 2, 1995.

We agree that changing the Nitrogen Oxide (NO<sub>x</sub>) emission limitation from 0.7 pounds per million Btu heat input (lb/10<sup>6</sup> Btu) averaged over 3 hours to 0.6 lb/10<sup>6</sup> Btu averaged over 30 days probably would have represented a relaxation of the present condition and would have contravened NSPS Subpart D requirements. We concur that adding a second NO<sub>x</sub> limitation would result in additional but unnecessary documentation. In our opinion, the issue will be adequately addressed by the future development by EPA of NO<sub>x</sub> limits applicable to Group 2 dry bottom wall-fired Units pursuant to Title IV, "Acid Rain" of the 1990 Clean Air Act Amendments. Accordingly, Condition 4.A. will remain per the Final Determination referenced above.

The changes in the PSD permit do not conflict with the maximum sulfur dioxide air emissions limits given in Section 3.7.1 of the State of Florida Conditions of Certification (PA 74-06) applicable to Unit No. 3. However we will update the Certification shortly to reflect the sulfur dioxide reduction requirements as well as the correct particulate emission limits from the PSD Permit.

Ms. Farzie Shelton  
September 5, 1995  
Page two

If you have any questions please call me or Mr. A. A. Linero,  
P.E., at (904)488-1344.

Sincerely,



C.H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/aal/1

Enclosure

cc: B. Thomas, SWD  
J. Harper, EPA  
J. Bunyak, NPS  
R. Harwood, PCESD  
K. Kosky, KBN  
H. Oven, DEP  
A. Morrison, HGSS



# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

September 5, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton, Ch.E.  
Environmental Coordinator  
City of Lakeland  
Department of Water and Electric Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

Re: Amendment of PSD-FL-008 Final Determination  
City of Lakeland, C.D. McIntosh Unit No. 3

The Department hereby amends the Conditions of Approval related to sulfur dioxide (SO<sub>2</sub>) emissions in the subject Final Determination (dated December 27, 1978) pursuant to 40 CFR 52.21 - Prevention of Significant Deterioration (PSD Permit). The PSD Permit is amended as follows:

Condition 2.B.

From:

A flue gas desulfurization system will be installed to treat all exhaust gases and will operate at a minimum SO<sub>2</sub> removal efficiency of 85 percent whenever coal is burned.

To:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal is burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 1.2 pounds per million Btu heat input and 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the sulfur dioxide emission limitation and percent reduction requirement shall be determined on a 30-day rolling average.

Ms. Farzie Shelton  
September 5, 1995  
Page Two

Condition 6. Continuous Monitoring Requirements

From:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, a continuous SO<sub>2</sub> monitor shall be installed prior to the flue gas desulfurization system for the purposes of calculating SO<sub>2</sub> removal efficiencies.

To:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM- certified automatic coal sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The coal analysis data shall be used in conjunction with emission factors and the continuous monitoring data to calculate SO<sub>2</sub> reduction.

A copy of this amendment letter shall be attached to and shall become a part of Permit PSD-FL-008.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
Virginia B. Wetherell, Secretary

Ms. Farzie Shelton  
September 5, 1995  
Page Three

CERTIFICATE OF SERVICE

This is to certify that this PERMIT AMENDMENT and all copies were mailed to the listed persons before the close of business on September 5, 1995.

**FILING AND ACKNOWLEDGEMENT**

FILED, on this date, pursuant to Chapter 120.52(9), Florida Statutes, with the designated Deputy Clerk, receipt of which is hereby acknowledged.

K. Kosky                      9-5-95  
Clerk                                      Date

cc: B. Thomas, SWD  
R. Harwood, PCESD  
J. Harper, EPA  
J. Bunyak, NPS  
H. Oven, PPS  
K. Kosky, KBN  
A. Morrison, HGSS

Final Determination

City of Lakeland  
Department of Water and Electric Utilities  
C. D. McIntosh Power Plant Unit No. 3  
Lakeland, Florida  
Polk County

Electric Utility Steam Generating Unit  
Coal/Municipal Refuse/Oil - Fired Boiler  
364 MW

Permit No. PSD-FL-008A

Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation

September 5, 1995



### Final Determination

On July 11, 1995 a proposed Permit Amendment, Intent to Issue, Public Notice of Intent to Issue, and Technical Evaluation and Preliminary Determination applicable to the existing C. D. McIntosh Power Plant Unit No. 3 were sent to The City of Lakeland, EPA Region IV, the Southwest Florida DEP District, Polk County, and the National Park Service. The Permit Amendment was to change sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) removal requirements and limitations.

The Public Notice was published by the City of Lakeland on August 2, 1995 in the The Ledger, a newspaper of general circulation in Polk County, Florida.

A communication was received from EPA based on a draft package submitted to them for prior review. They indicated no adverse comments at the time. No comments were received during the 30-day review and comment period except from the City of Lakeland by letter dated July 25, 1995.

The City contends that a change in their present NO<sub>x</sub> emission limit from 0.7 pounds per million Btu heat input (lb/10<sup>6</sup> Btu) on a 3-hour basis to 0.6 lb/10<sup>6</sup> on a 30-day basis would constitute a relaxation of the existing limit and contravene the applicable NSPS Subpart D. Furthermore, the City contends that if the second limit were made an additional requirement, it would result in additional but unnecessary documentation.

The Department has determined that the long-term mean of NO<sub>x</sub> emissions will probably be lower with the existing limit than the proposed one. Additionally, the issue will be adequately addressed by the future development by EPA of NO<sub>x</sub> limits applicable to Group 2 dry bottom wall-fired unit pursuant to Title IV, "Acid Rain" of the 1990 Clean Air Act Amendments.

Accordingly, the Technical Evaluation and Preliminary Determination dated July 11, 1995 is incorporated into this Final Determination with the exception of the portions related to NO<sub>x</sub> emission limits.

The Final Determination of the Department is to amend PSD Permit No. PSD-FL-008 as described in the public information package with the exception of the amendment of the NO<sub>x</sub> emission limit indicated above.

Memorandum

TO: Virginia Wetherell  
THROUGH: Kirby Green  
FROM: Howard Rhodes *HR*  
DATE: September 1, 1995  
SUBJECT: City of Lakeland - C. D. McIntosh Unit No. 3

Attached for your signature is an amendment to the City of Lakeland's PSD Permit applicable to Unit No. 3 at the C. D. McIntosh Power Plant.

The amendment amends the original 1978 EPA-issued PSD permit to account for the fact that EPA determined in 1979 that a particular set of New Source Performance Standards (NSPS) did not apply to this unit. The NSPS formed the basis for sulfur dioxide emission limits contained in the original PSD permit.

The City requested earlier this year that conditions requiring specific sulfur dioxide removal efficiencies be removed as long as the unit met the maximum emission limit of 1.2 pounds per million Btu heat input. We negotiated an agreement that requires them to reduce potential sulfur dioxide emissions to between 65 and 90 percent. The result is that under most operating scenarios their emissions will be 0.75 pounds per million Btu or less.

Unit No. 3 is equipped with an electrostatic precipitator for particulate control and a limestone scrubber for sulfur dioxide control.

We are now working with the City to evaluate a proposal to burn petroleum coke in the same unit.

I recommend your approval of the attached amendment.

HLR/aal/l

Attachments

TO: Files

FROM: Scott Sheplak *draft*

DATE: August 4, 1995

Re: City of Lakeland  
McIntosh Power Plant,  
Facility ID No. 40TPA530004, Unit #3

Permit PSD-FL-0008, dated December 27, 1978, for McIntosh Unit #3.

Particulate matter (PM) emission limits:

<u>Mode</u>	<u>lb/MMBTU Input</u>
Coal	0.044
Coal/Refuse	0.050
Oil	0.070
Oil/Refuse	0.075

*oil used as  
igniter fuel  
pollution control device  
for coal primarily*

Sulfur dioxide (SO<sub>2</sub>) emission limits:

<u>Mode</u>	<u>lb/MMBTU Input</u>
Solid Fossil Fuel	1.2
Oil or Oil/Refuse	0.8

Nitrogen oxides (NO<sub>x</sub>) emission limits:

<u>Mode</u>	<u>lb/MMBTU Input</u>
Coal or Coal/Refuse	0.7
Oil or Oil/Refuse	0.3

Permit PA 74-06-SR for McIntosh Unit #3.

Stack emissions limited by Chapter 17-2.04(6)(e)1., F.A.C. :

Particulate Matter Oil 0.1 lb/MMBTU Input

Sulfur dioxide (SO<sub>2</sub>) emission limits:

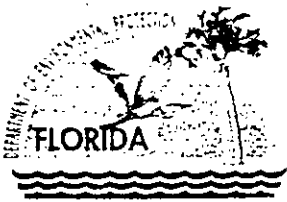
<u>Mode</u>	<u>lb/MMBTU Input</u>
Solid Fuel	1.2
Liquid Fuel	0.8

Files  
August 4, 1995  
Page Two

Nitrogen oxides (NO<sub>x</sub>) emission limits:

<u>Mode</u>	<u>lb/MMBTU Input</u>
Solid Fuel	0.70
Liquid Fuel	0.30
Gaseous Fuel	0.20

PA 74-06-SR limits based on fossil fuels. PSD-FL-0008 includes limits based on refuse. The NO<sub>x</sub> limit for gaseous fuel of 0.20 lb/MMBTU input is not contained in PSD-FL-0008.



# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

July 11, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton, Ch.E.  
Environmental Coordinator  
City of Lakeland  
Department of Water and Electric Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

Re: Amendment of PSD-FL-008  
City of Lakeland, C.D. McIntosh Unit No. 3

Attached is one copy of the Proposed Permit Amendment, Intent to Issue, Public Notice of Intent to Issue Permit Amendment (for publication by the City), and Technical Evaluation and Preliminary Determination for the existing C.D. McIntosh Power Plant Unit No. 3 located in Lakeland, Florida.

Please submit any written comments you may wish to have considered concerning the Department's proposed action to Mr. A. A. Linero, P.E. at the above address. If you have any questions please call me or Mr. Linero at (904)488-1344.

Sincerely,

C.H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/aal/l

Enclosure

cc: B. Thomas, SWD  
J. Harper, EPA  
J. Bunyak, NPS  
L. Novak, PCESD  
K. Kosky, KBN  
Buck Oven, DEP



# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400  
August XX, 1995

Virginia B. Wetherell  
Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

**DRAFT**

Ms. Farzie Shelton, Ch.E.  
Environmental Coordinator  
City of Lakeland  
Department of Water and Electric Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

Re: Amendment of PSD-FL-008 Final Determination  
City of Lakeland, C.D. McIntosh Unit No. 3

The Department hereby amends the Conditions of Approval related to sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) emissions in the subject Final Determination pursuant to 40 CFR 52.21 - Prevention of Significant Deterioration (PSD Permit). The PSD Permit is amended as follows:

Condition 2.B.

From:

A flue gas desulfurization system will be installed to treat all exhaust gases and will operate at a minimum SO<sub>2</sub> removal efficiency of 85 percent whenever coal is burned.

To:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal is burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 1.2 pounds per million Btu heat input and 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the sulfur dioxide emission limitation and percent reduction requirement shall be determined on a 30-day rolling average.

Ms. Farzie Shelton  
August XX, 1995  
Page Two

**DRAFT**

Condition 4.A.

From:

NO<sub>x</sub> emitted to the atmosphere from the boiler shall not exceed 0.7 pound per million Btu heat input when firing coal or coal/refuse.

To:

NO<sub>x</sub> emitted to the atmosphere from the boiler shall not exceed 0.60 pounds per million Btu heat input from coal or coal/refuse on a 30-day rolling average basis.

Condition 6. Continuous Monitoring Requirements

From:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, a continuous SO<sub>2</sub> monitor shall be installed prior to the flue gas desulfurization system for the purposes of calculating SO<sub>2</sub> removal efficiencies.

To:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic coal sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The coal analysis data shall be used in conjunction with emission factors and the continuous monitoring data to calculate SO<sub>2</sub> reduction.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the applicant of the amendment request/application and the parties listed below must be filed within 14 days of receipt of this amendment. Petitions filed by other persons must be filed within 14 days of the amendment issuance or within 14 days of their receipt of this amendment, whichever occurs first. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

Ms. Farzie Shelton  
August XX, 1995  
Page Three

**DRAFT**

The Petition shall contain the following information:

- (a) The name, address and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,
- (g) A statement of the relief sought by petitioner, stating precisely the action the petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this amendment. Persons whose substantial interests will be affected by any decision of the Department with regard to the amendment request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this amendment in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.



**DRAFT**

Ms. Farzie Shelton  
August XX, 1995  
Page Four

A copy of this amendment letter shall be attached to and shall become a part of Permit PSD-FL-008.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

\_\_\_\_\_  
Virginia B. Wetherell, Secretary

CERTIFICATE OF SERVICE

This is to certify that this Permit Amendment and all copies were mailed to the listed persons before the close of business on August XX, 1995.

**FILING AND ACKNOWLEDGEMENT**  
FILED, on this date, pursuant to Chapter 120.52(9), Florida Statutes, with the designated Deputy Clerk, receipt of which is hereby acknowledged.

\_\_\_\_\_  
Clerk

\_\_\_\_\_  
Date

cc: B. Thomas, SWD  
L. Novak, PCESD  
J. Harper, EPA  
J. Bunyak, NPS  
H. Oven, PPS

Technical Evaluation  
and  
Preliminary Evaluation

City of Lakeland  
Department of Water and Electric Utilities  
C. D. McIntosh Power Plant Unit No. 3  
Lakeland, Florida  
Polk County

Electric Utility Steam Generating Unit  
Solid Fossil Fuel/Municipal Refuse/Oil - Fired Boiler  
364 MW

Permit No. PSD-FL-008A

Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation

July 10, 1995

I. General Information

A. Applicant

City of Lakeland  
Department of Water and Electric Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

B. Request

On January 4, 1995, the City of Lakeland (City) submitted a request (Attachment 1) for an amendment to Permit PSD-FL-008A originally issued by the United States Environmental Protection Agency (EPA) on December 27, 1978 and applicable to the City's C. D. McIntosh Power Plant, Unit No. 3 (Unit 3) in Lakeland, Florida. The requested amendments to EPA's Final Determination were:

- o Adjust particulate matter limits to 0.1 pounds per million Btu (lb/mmBtu) heat input regardless of fuel;
- o Clarify that the minimum sulfur dioxide (SO<sub>2</sub>) removal efficiency of 85 percent applies only when high sulfur coal is burned;
- o Delete the requirement to install an SO<sub>2</sub> monitor at the inlet to the scrubber, since the monitor at the stack is sufficient for use in determining SO<sub>2</sub> removal efficiencies;
- o Recognize that natural gas and low sulfur fuel oil may be used as startup fuels or at any other time; and
- o Allow co-firing of petroleum Coke with other fuels following a successful test burn.

On April 6, 1995, the City submitted a modification (Attachment 2) of its original submittal excluding the issues related to particulate matter, SO<sub>2</sub> monitoring, natural gas, and low sulfur oil while deferring the issue of petcoke co-firing. The modification addressed only the revision of Condition of Approval 2.B. of the Final Determination which the City requested to amend as follows:

From: A flue gas desulfurization system will be installed to treat all exhaust gases and will operate at a minimum SO<sub>2</sub> removal efficiency of 85 percent whenever coal is burned.

To: A flue gas desulfurization system will be designed to treat exhaust gases. The FGD system will operate at: (1) A minimum SO<sub>2</sub> removal efficiency of 85 percent whenever high sulfur (i.e. 3.3 percent or greater) coal is burned, or (2) a minimum of 55 percent SO<sub>2</sub> removal efficiency when the SO<sub>2</sub> emissions are 0.9 lb/mmBtu or less. The sulfur dioxide emissions from the unit shall not exceed 0.9 lb/mmBtu based on a 30-day rolling average.

### C. Justification

The City justified its request on the premise that the Final Determination made by EPA in 1978 was based on applicability of 40 CFR Part 60 - Standards of Performance for New Stationary Sources, Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978 (NSPS Subpart Da). The City received a review from EPA dated March 9, 1979 (Attachment 3) wherein the Regional Counsel concludes that Unit 3 is not subject to Subpart Da.

### D. Rule Applicability

The City inferred that the earlier NSPS Subpart D (applicable to units for which construction commenced after August 17, 1971) and the information contained in its application (submitted before Subpart Da was proposed) are the applicable requirements. In summary, these are a maximum SO<sub>2</sub> emission limit of 1.2 lb/mmBtu and 80 percent SO<sub>2</sub> removal efficiency when burning high sulfur (greater than 3.3 percent) coal. The City apparently believed that the Best Available Control Technology (BACT) determination (based on a proposed version of Subpart Da) was annulled by the opinion of EPA's Regional Counsel. Following the Department's opinion to the contrary, the City requested that the Department first amend the Final Determination (PSD Permit) prior to addressing the petcoke request.

The Department reviewed the correspondence, the Preliminary and Final Determinations, EPA Guidelines for conducting BACT reviews, EPA Guidance memos, etc. and concludes that the opinion of EPA's Regional Counsel did not invalidate the case-by-case BACT determination or the related Conditions of Approval contained in the PSD Permit which was pursuant to implementation of Section 165 of the 1977 Clean Air Act Amendments (CAAA's). The Department agrees that Subpart Da is not applicable, therefore Unit 3 does not presently need to comply with its provisions except those which were included in the PSD Permit or required by Subpart D.

Although Subpart Da does not apply, according to a memo (Attachment 4) dated November 15, 1978, EPA clearly expected case-by-case BACT reviews made by its regional offices after the date of the proposed Subpart Da (September 18, 1978) to reflect that level of control technology (85 percent SO<sub>2</sub> scrubbing efficiency) even if project applications were received prior to date of the proposed Subpart Da. The memo afforded applicants the opportunity to "present evidence of unusual circumstances which justify less control."

The federal rules under which the PSD Permit was issued were adopted by the Department pursuant to Chapter 403, Florida Statutes, and included in Chapters 62-4, 62-210, 62-212, 62-272, 62-275, 62-296, and 62-297 of the Florida Administrative Code. Accordingly, EPA delegated PSD Permitting authority to the Department.

#### E. Historical Operation of Unit 3

Since startup in 1982, the unit has primarily burned relatively low sulfur coal. Tests conducted in 1992, 1993, and 1994 (Attachment 5) indicated compliance with the maximum emission limits given in the PSD Permit for nitrogen oxides (NOx), and SO<sub>2</sub>. SO<sub>2</sub> emissions were 0.65, 0.35, and 0.62 lb/mmBtu for the three years respectively. NOx emissions were under 0.5 lb/mmBtu compared with the PSD Permit limitation of 0.7 lb/mmBtu.

Data from 1994 (Attachment 6) indicate that the scrubbing efficiency (including by-pass for re-heat) ranged from 40 to 70 percent. This equates to overall SO<sub>2</sub> potential emission reduction of 45 to 75 percent including sulfur retention in the ash. While awaiting a decision, the City is operating the scrubber at 85 percent SO<sub>2</sub> removal efficiency while burning relatively low sulfur coal. However, more lime is used, more sludge is generated and stack re-heat is accomplished at substantial cost. Also there is no spare scrubbing capacity to provide for malfunctioning of the flue gas desulfurization (FGD) system.

#### F. Revised Determination

The SO<sub>2</sub> BACT determined by EPA was based on the more stringent proposed NSPS Da requirements of September 18, 1978 rather than the less stringent final version issued June 11, 1979. By its memo of January 10, 1979 (Attachment 7), the EPA Office of Air Quality Planning and Standards (OAQPS) directed Regions to review BACT determinations made between the time NSPS Subpart Da was issued and finalized to determine if "alternative (less stringent) controls would be more appropriate." It also reiterated that where the final version is more stringent than the proposed one, the more stringent controls would need to be incorporated into revised BACT determinations.

Based on the above, the BACT for Unit 3 would likely have been revised to account for the less stringent SO<sub>2</sub> requirements of the final Subpart Da if it was subject to Subpart Da provisions. Because the BACT was based on the proposed Subpart Da, it is logical to assume that the BACT can be reconsidered in light of the the EPA directive. Considering the non-applicability of Subpart Da BACT determinations made for similarly affected units, and the existing equipment serving Unit 3, the Department proposes to revise the SO<sub>2</sub> emissions limitations in the PSD permit as follows:

#### Condition 2.E.

From:

A flue gas desulfurization system will be installed to treat all exhaust gases and will operate at a minimum SO<sub>2</sub> removal efficiency of 85 percent whenever coal is burned.

To:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal is burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 1.2 lb/mmBtu heat input and 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 lb/mmBtu heat input. Compliance with the sulfur dioxide emission limitation and percent reduction requirements shall be determined on a 30-day rolling average.

EPA set a BACT emission limit for NO<sub>x</sub> at 0.7 lb/mmBtu which is higher than the proposed or final Subpart Da requirement of 0.60 lb/mmBtu. The reason given by EPA was that the applicant would incur significant time delays if the requirement of Subpart Da (whether applicable or not) was imposed. Based on the compliance test results provided by the City, the Department considers a more stringent limit to be appropriate and proposes a change as follows:

Condition 4.A.

From:

NO<sub>x</sub> emitted to the atmosphere from the boiler shall not exceed 0.7 lb/mmBtu heat input when firing coal or coal/refuse.

To:

NO<sub>x</sub> emitted to the atmosphere from the boiler shall not exceed 0.60 lb/mmBtu heat input from coal or coal/refuse on a 30-day rolling average basis.

Between the proposed and final Subpart Da, the basis for calculating SO<sub>2</sub> removal was changed from scrubbing efficiency to overall reduction of sulfur dioxide concentration potential including consideration of retention in ash. The Department proposes to change the scrubber inlet monitoring requirement to one which determines fuel sulfur content. The Department proposes to change the the present requirement as follows:

Condition 6. Continuous Monitoring Requirements

From:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, a continuous SO<sub>2</sub> monitor shall be installed prior to the flue gas desulfurization system for the purpose of calculating SO<sub>2</sub> removal efficiencies.

To:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic coal sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The coal analysis data shall be used in conjunction with emission factors and the continuous monitoring data to calculate SO<sub>2</sub> reduction.

#### G. Cost, Energy and Other Environmental Impacts

The Department reviewed impact information provided by the City. It is summarized in Attachment 8. Compared to the City's request, application of Final Subpart Da limits of (70 percent sulfur dioxide potential concentration reduction when emissions are less than 0.6 lb/mmBtu) costs an additional \$1,900,000 on an annualized basis. The present requirement of 85 percent scrubber efficiency costs \$2,800,000 (\$4,850,000 with a new scrubber module) more than the City's proposal on an annualized basis. These represent incremental costs of between \$1,000 and \$2000 per ton of SO<sub>2</sub> removed (roughly \$3000-4000 per ton of SO<sub>2</sub> if a new module is purchased).

The energy impacts are included within in the cost analysis and represent the additional energy required to operate the scrubber and well as the energy penalty due to stack re-heat when it is not possible to use bypassed flue gas. The increases over the City's proposal are 16,400 MW-hr/yr and 21,100 MW-hr/yr for the Final Subpart Da limits the existing PSD Permit respectively.

The other main impact relates to the amount of scrubber sludge generated. Compared to the City's request, the Final Subpart Da option generates 5 percent more sludge while the present PSD Permit requirements result in 15 percent more sludge. Water consumption is also greater by roughly 53 percent for both the Final Subpart Da scenario the current PSD Permit requirements.

The Department's proposal lies roughly mid-way between the City's proposal and the Final Subpart Da limits. It is achievable using existing equipment and appears to be cost effective.

#### H. Other Issues

The City has pointed out that Unit 3 has only two modules, each of which can process only 55 percent of the flue gas and that Subpart Da units typically have at least one spare module. The City contends that they cannot meet the Final Subpart Da limits or the 85 percent efficiency requirement in the PSD Permit as soon as a single module malfunctions. This is correct. However extra modules are required for emergency purposes only for Da units of

365 MW while Unit 3 is a non-Da 364 MW unit. Emergency conditions were already addressed in the PSD Permit which allows burning of oil and refuse without use of the scrubber as long as SO<sub>2</sub> emissions do not exceed 0.8 lb/mmBtu. Furthermore the Department's proposal will give the City much flexibility than it now has to continue operating Unit 3 during a partial malfunction without having to implement emergency operation modes.

The City contends that EPA permitted FPC Crystal River Units 4 and 5 about the same time as Unit 3, yet allowed them to use specification coal with no scrubbing and to comply only with the requirements of Subpart D. Apparently EPA issued Lakeland's permit on December 27, 1978 in accordance with the PSD regulations (requiring case-by-case BACT determination) proposed on November 3, 1977 and promulgated on June 19, 1978. EPA issued FPC's permit on February 27, 1978 in accordance with the previous regulations. EPA applied the newer PSD rules to permits issued after March 1, 1978 which was the originally scheduled date for final rule promulgation. Moreover, low sulfur coal was proposed by FPC and accepted by EPA (together with PSD-based SO<sub>2</sub> reductions at its existing Units 1 and 2).

The City provided information to the Department that the Louisa Generating Station Unit 3 in Illinois received a much less stringent BACT determination under identical permitting circumstances (non-Subpart Da unit but subject to case-by-case BACT pursuant to the 1977 CAAA's). The Louisa Unit 3 was the case-in-point of the EPA November, 1978 memo discussed above which directed regions to presume the 85 percent scrubbing efficiency requirement of the then-proposed Subpart Da. The applicant proposed a low sulfur coal strategy which was approved. The applicant received an SO<sub>2</sub> emission limit of 0.96 lb/mmBtu (30-day basis) in the permit issued in August, 1979. The Department considered the information provided by the City in developing its proposed action which is less stringent than the Final Subpart Da but more stringent than the BACT determination made for the Louisa Plant.

The City proposed to comply with an emissions limit of 0.90 lb/mmBtu on a 30 day rolling basis. There appears to be no actual benefit to the City or improvement to air quality since both the present and proposed SO<sub>2</sub> reduction requirements will insure that a value much less than 0.90 lb/mmBtu is achieved unless the City switches to a very high sulfur fuel program. There may be a benefit related to SO<sub>2</sub> increment consumption and the Department will accept the new value if the City wishes to have it imposed on its operations.



INTENT TO ISSUE

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CERTIFIED MAIL

In the Matter of an  
Application for Permit by:

The City of Lakeland  
Department of Electric & Water Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5099

DEP File No. PSD-FL-008A  
Polk County

INTENT TO ISSUE

The Department of Environmental Protection (Department) gives notice of its intent to issue an amendment (copy attached) for the proposed changes as detailed in the application specified above and the Department's Technical Evaluation (copy attached), for the reasons stated below.

The applicant, City of Lakeland Department of Electric and Water Utilities (City), applied on January 4, 1995 (revised April 6, 1995) to the Department of Environmental Protection for an amendment of the Conditions of Approval related to sulfur dioxide (SO<sub>2</sub>) emissions limits contained in the Final Determination (PSD Permit) applicable to the C.D. McIntosh Plant, Unit No. 3. The determination was originally issued by the United States Environmental Protection Agency (EPA) on December 27, 1978, pursuant to 40 CFR 52.21, "Prevention of Significant Deterioration." The Department proposes to amend the nitrogen oxides (NO<sub>x</sub>) emissions limits contained in the same PSD permit as well as the method to demonstrate compliance with the NO<sub>x</sub> and SO<sub>2</sub> Limits.

The Department has permitting jurisdiction under F.A.C. 62-212, "Stationary Source-Preconstruction Review," which incorporates the requirements of 40 CFR 52.21 pursuant to delegation of authority for the program by EPA to the Department. The above actions are not exempt from permitting procedures. The Department has determined that an amendment to the Final Determination is required.

Pursuant to Section 403.815, Florida Statutes and DEP Rule 62-103.150, F.A.C., you (the City) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit Amendment. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department, at 2600 Blair Stone Road, Tallahassee, Florida 32399, within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the amendment.

The Department will issue the amendment with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

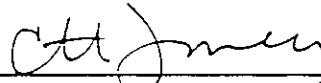
- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION



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C. H. Fancy, P.E., Chief  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399  
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this INTENT TO ISSUE and all copies were mailed by certified mail before the close of business on 7-11-95 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kenn Johnson 7-11-95  
Clerk Date

Copies furnished to:

B. Thomas, SW District  
L. Novak, PCESD  
J. Harper, EPA  
J. Bunyak, NPS  
H. Oven, PPS  
K. Kosky, KBN

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NOTICE OF INTENT TO ISSUE PERMIT AMENDMENT  
PSD-FL-008A

The Department of Environmental Protection (Department) gives notice of its intent to issue an amendment of Permit PSD-FL-008 to the City of Lakeland Department of Electric and Water Utilities (City) to change certain Conditions of Approval related to sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) emission limits contained in the Final Determination dated December 27, 1978 applicable to the C.D. McIntosh Power Plant, Unit No. 3.

The minimum sulfur dioxide (SO<sub>2</sub>) removal efficiency requirement when burning coal will be changed from 85 percent to:

- o 1.2 lb/million Btu and 10 percent of the potential combustion concentration (90 percent reduction), or
- o 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 lb/million Btu.

The method for calculating SO<sub>2</sub> removal efficiency will be changed from continuous monitors before and after the scrubber to analysis of fuel together with continuous SO<sub>2</sub> monitoring after the scrubber.

The NO<sub>x</sub> emission limit when firing coal or coal/refuse will be reduced from 0.7 lb/million Btu to 0.60 lb/million Btu.

Compliance with applicable NO<sub>x</sub> and SO<sub>2</sub> limits will be demonstrated on a 30 day rolling average basis as well as by annual performance tests.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection  
Bureau of Air Regulation  
111 S. Magnolia Drive, Suite 4  
Tallahassee, Florida 32301

Department of Environmental Protection  
Southwest District  
8407 Laurel Fair Circle  
Tampa, Florida 33619

Polk County ESD  
330 W. Church Street  
Bartow, Florida 33830

Any person may send written comments on the proposed action to Administrator, New Source Review at the Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road - Mail Station 5505, Tallahassee, Florida 32399-2400. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

Florida Department of  
**Environmental Protection**

**Memorandum**

TO: Clair Fancy  
FROM: A. A. Linero *AAL Linero 7/10*  
DATE: July 10, 1995  
RE: City of Lakeland, McIntosh Unit 3

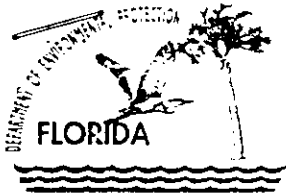
Following EPA's cursory review, attached is the package to amend the PSD Permit for the referenced unit. After thorough research, I have concluded that EPA intended to impose the Conditions of Approval on Unit 3 based on the originally proposed NSPS Subpart Da whether or not the unit was, strictly speaking, a Da source. I also discovered that EPA intended to revise BACT determinations made between the time Da was proposed and when it was finalized to adjust for the level of stringency between the two Da versions. It is on that basis (together with the non-applicability of Da) that I am recommending the amendments in the attached package.

The cost to the City will be on the order of \$1,000,000 per year compared to its request largely because of stack reheat costs, additional limestone requirements etc. To comply with the existing 85 percent scrubber efficiency requirement would cost them \$2,800,000 beyond their proposal. Of course it can be argued that we are saving them on the order of \$2,000,000 per year compared with their present permit whereas they would like to save \$2,800,000.

I recommend making their NO<sub>x</sub> limit stricter. Their data show that they can easily comply. I am recommending that we let them meet their continuous monitoring requirement through fuel analysis and outlet CEMS instead of inlet and outlet CEMS. Compliance with both SO<sub>2</sub> and NO<sub>x</sub> limits and removal requirements will also be demonstrated on a 30 day rolling average basis along with the required annual compliance tests.

AAL/aal/1





# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

May 5, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton, Ch.E.  
Environmental Coordinator  
City of Lakeland  
Department of Electric & Water Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

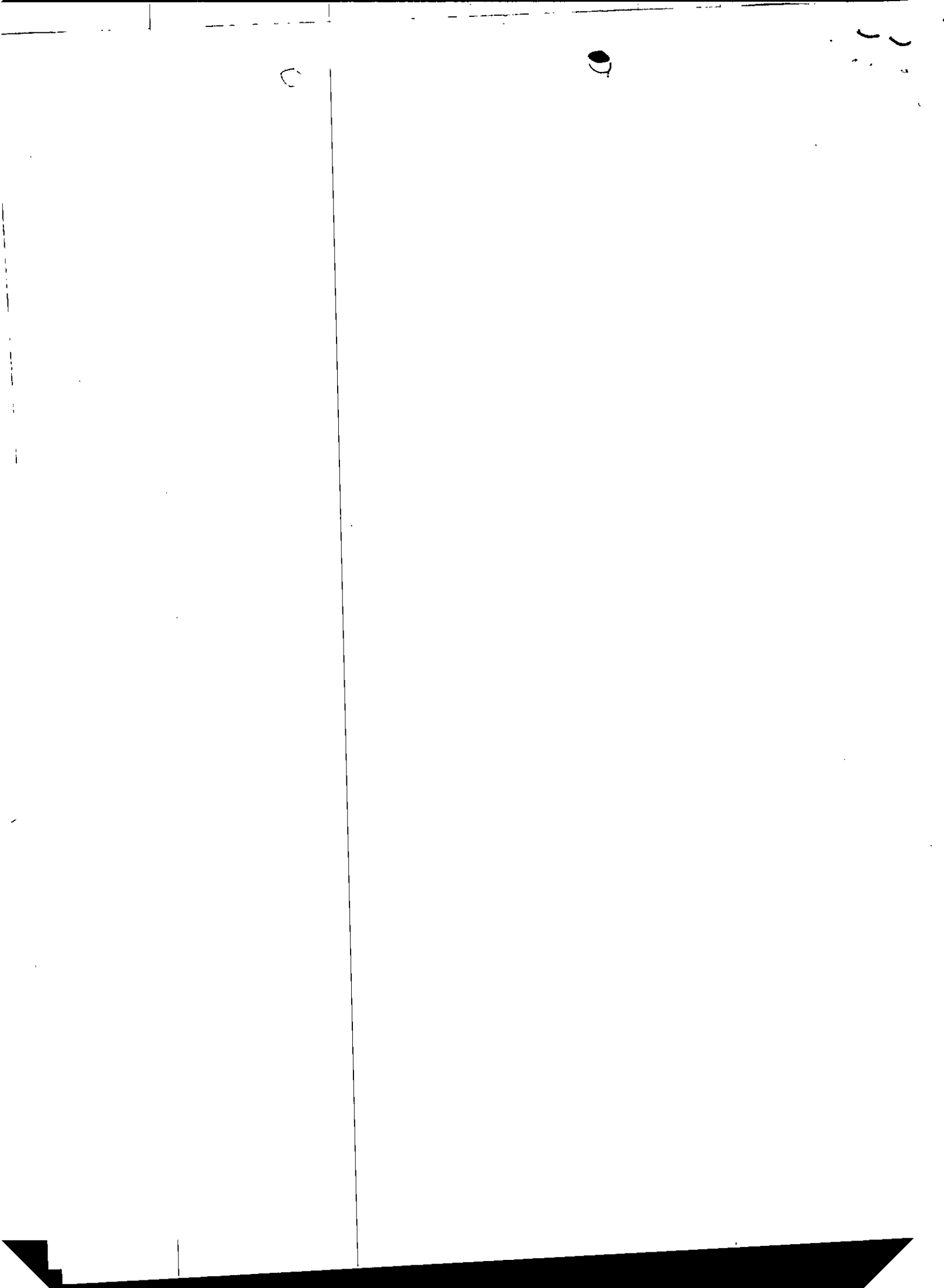
Re: Requests to Modify PA-78-06, PSD-FL-008  
City of Lakeland, McIntosh Unit No. 3

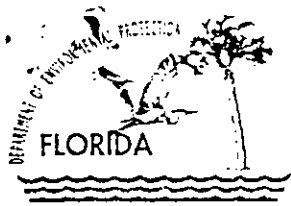
We have reviewed your letter of April 6, revising your previous modification requests of Site Certification PA-78-06 and PSD-FL-008 for C.D. McIntosh Unit 3. To finalize our review, the following information is requested.

- o Basic drawings of the scrubber serving Unit 3 along with a short process description, the name of the manufacturer, model number and serial number. The basic operating manual would suffice if it has this information.
- o Results of the three most recent annual stack tests for particulate matter, nitrogen oxides, and sulfur dioxide.
- o Rationale for Best Available Control Technology (BACT) requested by the City (0.90 lb/MMBtu, 55% minimum scrubber efficiency). This should be expressed in a manner similar to the attached "Least-Cost-Envelope." It should also include the NSPS "D" and NSPS "D(a)" cases as well as the 85% removal case. Details of credits and charges as appropriate should be included for reagents, water, energy penalties, fuel cost differentials, SO<sub>2</sub> allowances, etc. You may wish to show three curves and sample backup calculations for roughly 1.1% sulfur fuel, as well as 2.2 and 3.3% sulfur fuel.
- o A tabulation (hard copy or diskette) of the past two years worth of coal data, including sulfur content, SO<sub>2</sub> emissions, SO<sub>2</sub> removal efficiency (or sulfur reduction percentage). There is no need for the individual coal analysis sheets.

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Printed on recycled paper





# Department of Environmental Protection

Lawton Chiles  
Governor

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Virginia B. Wetherell  
Secretary

January 27, 1995

Ms. Farzie Shelton  
Environmental Division  
Department of Electric & Water Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

Re: McIntosh Power Plant Unit #3, No. PA 74-06-SR  
PETCOKE Modification Request

Dear Ms. Shelton:

The Department has reviewed the modification request that you provided on December 7, 1994. Included in this letter are comments received from the Division of Air Resources Management. Please review and respond to these comments as appropriate. Please furnish me with a copy of any response. If you wish my assistance in setting up a meeting with any members of the department's staff, I will be pleased to assist you.

The Bureau of Air Regulation's comments are as follows:  
The following information is needed to supplement the above referenced request:

- a) Please specify any operational changes associated with handling and blending the petroleum coke and coal for your application, if you are requesting this option. If there will not be any equipment and/or operational changes, please state this.
- b) Please provide the maintenance records, quality assurance records, listing of monitor downtimes (include cause and corrective actions taken for each downtime), and emissions data recorded from the scrubber inlet SO<sub>2</sub> CEMS for the years 1989 through 1994.
- c) Please provide the following test data from the trial burn test period in February: Provide all operational data collected from the ESP and wet scrubber, including power levels, scrubber liquid and air flows, and the number of scrubber modules and ESP fields online for each test. Provide boiler operational data for each test including load, excess air levels, fuel feed types and rates, and steam rates. If any of this information was provided in the trial

RECEIVED

JAN 31 1995

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burn test report, please indicate where it is located in that document. Please submit fuel analysis data for trace metals (arsenic, beryllium, and mercury) for both the coal and coke burned. Provide scrubber efficiencies for each test run. Provide CEMS data from the scrubber inlet monitor during each test; and, explain the reasons for any monitor downtimes. Submit comparisons of the stack SO<sub>2</sub> CEMS data with the Method 6C data for each test. Compute the relative accuracy based on the limited number of Method 6C tests conducted during February.

d) Please explain the cause of the sharp decrease in particulate matter emissions and opacity from the low sulfur coal/coke tests compared to both the 2.5% sulfur coal/coke and baseline coal tests. Provide a description of any changes (maintenance, adjustments to operations, liquid and exhaust flow rates, or electrical power inputs) made to the particulate matter and SO<sub>2</sub> control equipment between the test runs conducted in February, 1994.

e) Please submit a monthly summary of the coal sulfur content levels, percent by weight, burned during the previous five years.

f) Based on the test results and the approved test protocol, PSD new source review requirements pursuant to Rule 62-212.400(5), F.A.C., shall apply at least to SO<sub>2</sub>, NO<sub>x</sub>, CO, and H<sub>2</sub>SO<sub>4</sub> mist. Part of the new source review requirements includes BACT pursuant to Rule 62-212.410, F.A.C. Therefore, submit a PSD new source review application package for the requested modification.

Sincerely,

*Hamilton S. Owen*  
Hamilton S. Owen, P.E.  
Administrator, Siting  
Coordination Office

cc: Richard Donelan  
Angela Morrison  
Martin Costello

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN RE: CITY OF LAKELAND; )  
C.D. McINTOSH POWER PLANT )  
UNIT NO. 3; MODIFICATION OF ) OGC NO. 93-3123  
CONDITIONS OF CERTIFICATION )  
PA-74-06SR-E )  
\_\_\_\_\_ )

FINAL ORDER MODIFYING  
CONDITIONS OF CERTIFICATION

On December 7, 1978, the Governor and Cabinet, acting as the Siting Board, issued a final order, pursuant to Chapter 403, Part II, Florida Statutes (F.S.), approving Certification of the City of Lakeland McIntosh Power Plant Unit Number 3 ("McIntosh Unit No. 3"). The Site Certification authorized construction and operation of a coal-refuse, and oil-fired steam electric generating unit, along with various associated facilities. That Site Certification was subsequently modified in 1980, 1988, and 1993.

On December 7, 1994, the City of Lakeland filed a request to modify the conditions of certification for McIntosh Unit No. 3 pursuant to Section 403.516(1)(b), F.S., and Rule 62-17.211, Florida Administrative Code (F.A.C.). On October 26, 1995, the City of Lakeland supplemented the request for modification. The City of Lakeland requested that the conditions be modified to approve use of an alternative fuel, petroleum coke. In addition, the City of Lakeland's requests included minor revisions to:

1) update regulatory references; 2) clarify that the Certification regulates only McIntosh Unit No. 3; 3) reflect the elimination of use of the artificial marsh, and 4) adjust submittal requirements for fuel usage and analysis data.

Copies of the City of Lakeland's modification request were distributed to all parties to the certification proceeding and made available for public review. On January 27, 1995, a Notice of Receipt of Proposed Modification of Power Plant Certification regarding the proposed modifications was published in the Florida Administrative Weekly. The notice specified the Department of Environmental Protection's (Department) intent to modify the conditions of certification. On March 9, 1995, the City of Lakeland responded to the Department's requests for additional information. On December 22, 1995, a Notice of Intent to Issue Proposed Modification of Power Plant Certification was published in the Florida Administrative Weekly. The notice specified that a hearing would be held if requested by the parties on or before 45 days from receipt of the notice of proposed modification or if requested within 30 days of publication of the notice by persons whose substantial interests are affected by the proposed modification. No written objection to the proposed modification was received by the Department.

Accordingly, in the absence of any timely objection, IT IS ORDERED:

The proposed changes to the Conditions of Certification for McIntosh Unit No. 3 as described in the December 7, 1994, request for modification and October 26, 1995 supplemental request, as clarified by the City of Lakeland's March 9, 1995 responses to DEP's requests for additional information are APPROVED. Pursuant to Section 403.516(1)(b), F.S., the Department hereby MODIFIES the conditions of certification for the City of Lakeland McIntosh Unit No. 3 as follows:

GENERAL

1. Change in Discharge

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any regulated pollutant not identified in the application, or any discharge more frequent than, or at a level in excess of that authorized herein, shall constitute a violation of the certification. Any proposed ~~anticipated~~ facility expansions, production increases, or process modifications which will result in new, different or increased discharges or expansion in steam generating capacity of Unit No. 3 will require a submission of a new or supplemental application pursuant to Chapter 403, Florida Statutes.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any limitation

specified in this certification, the permittee shall notify the Southwest District Manager of the Department by telephone during the working day during which said noncompliance occurs and shall confirm this situation in writing within seventy-two (72) working-day hours of first becoming aware of such conditions, supplying the following information:

- a. A description and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying event.

3. Unit No. 3 Operation Facilities

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this certification. Such systems are not to be bypassed without prior department approval.

4. Adverse Impact - no change

5. Right of Entry

The permittee shall allow the Secretary of the Florida Department of Environmental Protection Regulation and/or authorized representatives, upon the presentation of credentials: ---- no change

6. - 10. - no change

11. Review of Site Certification

The certification shall be final unless revised, revoked or suspended pursuant to law. At least every five years from the date of issuance of this certification or any National Pollutant Discharge Elimination System Permit issued pursuant to the Federal Water Pollution Control



Act Amendments of 1972, for the plant units, the Department shall review all monitoring data that has been submitted to it during the preceding five-year period, for the purposes of determining the extent of the permittee's compliance with the conditions of this certification and the environmental impact of this facility unit. The Department shall submit the results of its review and recommendations to the permittee. Such review will be repeated at least every five years thereafter.

12. Modification of Conditions

The conditions of this certification may be modified in the following manner:

- a. The Board hereby delegates to the Secretary the authority to modify, after notice and opportunity for hearing, any conditions pertaining to monitoring or sampling.
- b. This certification shall be automatically modified to conform to any subsequent amendments, modifications, or renewals made by DEP under a federally delegated or approved program to any separately issued Prevention of Significant Deterioration (PSD) permit, Title V Air Permit, or National Discharge Elimination System (NPDES) permit for the certified facility. Lakeland or Orlando Utilities Commission (OUC), as appropriate, shall send each party to the certification proceeding (at the party's last known address as shown on the record of such proceeding) copies of notice of requests submitted by Lakeland or OUC for modifications or renewals of the above listed permits if the request involves a relief mechanism (e.g., mixing zone, variance, etc.) From state

standards, a relaxation of conditions included in the permit due to state permitting requirements, or the inclusion of less restrictive air emission limitations in the air permits.

- c. All other modifications shall be made in accordance with Section 403.516, F.S.

CONDITIONS OF CERTIFICATION - SPECIAL

I. Air

The construction and operation of the Unit No. 3 at the McIntosh Plant shall be in accordance with all applicable provisions of the Chapters 62-210 - 62-297 ~~17-2, 17-5, and 17-7~~, Florida Administrative Code. The permittee shall comply with the following conditions of certification:

A. Emission Limitations

1. Stack emissions shall not exceed those specified in Chapter ~~17-2.04(6)(e)~~ 1. 62-296.405, and 62.296.800(2)(a)1., FAC.
2. ~~The permittee shall not burn a fuel oil containing more than an average of 0.7% sulfur unless it can be demonstrated that either, a) heat efficiency is such as to insure compliance with all applicable emission limitations, or b) that a flue gas desulfurization unit is installed that will insure compliance with applicable emission limitations.~~
  - a. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pounds per million BTU heat input in accordance with 40 CFR 60 Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for which Construction Started After August 17, 1971.
  - b. A flue gas desulfurization system will be

installed to treat exhaust gases and will operate such that whenever coal or blends of coal and petroleum coke or refuse are burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million BTU heat input. Compliance with the percent reduction requirement shall be determined on a 30-day rolling average. This compliance information shall be retained for a period of three years and made available by the City upon request by the Department. Whenever blends of petroleum coke are co-fired with other fuels, sulfur dioxide emissions shall not exceed 0.718 pounds per million BTU heat input based on a 30-day rolling average and shall comply with the reduction requirements given above.

c. Continuous burning of natural gas, low sulfur fuel oil (less than or equal to 0.5 percent sulfur by weight), or combinations of these two fuels with or without the use of the SO<sub>2</sub> scrubber will be allowed.

d. The burning of high sulfur oil (greater than 0.5 percent by weight) or a combination of high sulfur oil and municipal refuse as an emergency fuel without the use of the SO<sub>2</sub> scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the

atmosphere from the boiler shall not exceed 0.8 pounds per million BTU under this condition.

e. During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of high sulfur oil (greater than 0.5 percent by weight) or a combination of high sulfur oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO<sub>2</sub> scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

3. - no change

4. Particulate emissions from the coal handling facilities:

a. The applicant shall not cause to be discharged into the atmosphere from any coal processing or conveying equipment, coal storage system, or coal transfer and loading system ~~processing coal~~, visible emissions which exceed 20 percent opacity.

b. - no change

5. Particulate matter emitted into the atmosphere from the boiler shall not exceed:

<u>Mode of Firing</u>	<u>lb/10<sup>6</sup> BTU Heat Input</u>
<u>Coal</u>	<u>0.044</u>
<u>Coal/Petcoke</u>	<u>0.044</u>
<u>Coal/Refuse</u>	<u>0.050</u>
<u>Coal/Petcoke/Refuse</u>	<u>0.050</u>
<u>Oil</u>	<u>0.070</u>
<u>Oil/Refuse</u>	<u>0.075</u>

E. Air Monitoring Program:

~~1. The permittee shall install and operate continuously monitoring devices for the Unit No. 3 boiler exhaust for sulfur dioxide, nitrogen dioxide and opacity. The~~

~~monitoring devices shall meet the applicable requirements of 17-2.08, F.A.C. Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, the ASTM-certified automatic solid fossil fuel sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The solid fossil fuel analysis data shall be used in conjunction with emission factors and the continuous monitoring data to calculate SO<sub>2</sub> reduction.~~

2. - 3. - no change

4. The permittee shall provide sampling ports into the stack and shall provide access to the sampling ports, in accordance with ~~Standard Sampling Techniques and Methods of Analysis for The Determination of Air Pollutants from Point Sources, July 1975 Rule 62-297, F.A.C.~~

5. - no change

6. Emission Control Systems:

Prior to operation of the source, the owner or operator shall submit to the Department a standardized plan or procedure that will allow the company to monitor emission control equipment efficiency and enable the company to return malfunctioning equipment to proper operation as expeditiously as possible.

C. Stack Testing:

1. - no change

2. Performance tests shall be conducted and data reduced in accordance with methods and procedures in accordance with EPA or DEP-approved test methods. Standard Sampling Techniques and Methods of the Determination on Air Pollutants from Point Sources, July 1975.

3. - 4. - no change

5. Stack tests for particulates, NO<sub>x</sub> and SO<sub>2</sub> shall be performed annually in accordance with conditions 2, 3 and 4 above. CEMS and CEM's relative accuracy tests may be used to determine compliance as long as the source and test conditions are consistent with the applicable requirements.

D. Reporting

1. Stack monitoring, ~~fuel usage and fuel analysis~~ data shall be reported to the Department on a quarterly basis in accordance with 40 CFR, Part 60, Section 60.7(c), (d) and in accordance with 62-297.405(1)(g) 17-2-00, FAC. Fuel usage and fuel analysis data shall be reported to the Department on an annual basis.

2. - no change

E. - F. - no change

G. Reporting:

1. Beginning one month after certification the applicant shall submit to the Department a quarterly status report briefly outlining progress made on engineering design and purchase of major pieces of equipment (including control equipment). All reports and information required to be submitted under this condition shall be submitted to Mr. Hamilton S. Owen, Jr., the Administrator, of Power Plant Siting Coordination Office, Department of Environmental Protection Regulation, 2600 Blair Stone Road, MS 48, Tallahassee, Florida 32399-2400.

2. Lakeland shall maintain and submit to the Department on an annual basis for a period of five years from the date the unit is initially in commercial operation, co-fired with petroleum coke, information demonstrating in accordance with 40 CFR 52.21 (b)(33) and 40 CFR 52.21

(b) (21) (v) that the operational changes did not result in emission increases of carbon monoxide, nitrogen oxides, or sulfuric acid mist.

H. Fuels:

The following fuels may be burned:

Coal only;

Low sulfur fuel oil only ( $\leq 0.5$  percent sulfur by weight);

Coal and up to 10 percent refuse (based on heat input)

Low sulfur fuel oil and up to 10 percent refuse (based on heat input);

Coal and up to 20 percent petroleum coke (based on weight);

Coal and up to 20 percent petroleum coke (based on weight) and 10 percent refuse (based on heat input);

High sulfur oil ( $> 0.5$  percent sulfur by weight) consistent with Conditions I.A.2.b. or I.A.2.c.;

Natural gas only or in combination with any of the other fuels or fuel combinations listed above;

II. Water Discharges

Discharges during construction and operation of the Unit No. 3 shall be in accordance with all applicable provisions of Chapter 62-302 17-3, Florida Administrative Code and 40 CFR 423, Effluent Guidelines and Standards for Steam Electric Power Generating Point Source Category. In addition, the permittee shall comply with the following conditions of certification:

A. Pretreatment Standards

Wastewater discharges from Unit No. 3 to the Lakeland wetlands treatment system shall comply with the effluent limitation guidelines contained in 40 CFR § 423.16, ~~Part 423.12~~ and amendments. The specific standards applicable to the

facilities as planned are:

1. Cooling Tower Blowdown

There shall be no detectable amounts of materials added for corrosion inhibition containing zinc and chromium in cooling tower blowdown discharged to the City of Lakeland wetland treatment system. ~~On an emergency basis the on site Marsh Treatment System may be used to treat cooling tower blowdown.~~

2. - 3. - no change

4. Chemical Wastes and Boiler Blowdown

All low volume wastes (demineralizer regeneration, cooling tower basin cleaning wastes, floor drainage, sample drains and similar wastes), metal cleaning wastes (including preheater and fireside wash) and boiler blowdown shall be treated as required for pH adjustment and removal of chemical constituents. These wastewaters will be treated in a process wastewater treatment system capable of complying with 40 CFR, § 423.16 ~~Part 423.12~~ and discharged with the cooling tower blowdown via a return pipeline to the Lakeland wetlands treatment system. The remaining sludge shall be disposed of in the on site FGD stabilized sludge landfill.

5. Sluice Pond Overflow

Sluice pond overflow (coal pile runoff from less than 10-year, 24-hour rainfall and bottom and fly ash transport water) shall be treated if necessary ~~required~~ to meet the requirements of 40 CFR, § 423.16 ~~Part 423.12~~ and discharged with the cooling tower blowdown to the Lakeland wetlands treatment system.

6. Flue Gas Desulfurization Sludge Pond Overflow

The flue gas desulfurization sludge pond overflow shall be treated if required to meet the requirements



of 40 CFR, § 423.16 ~~Part 423.12~~ in a process waste system and discharged with the cooling tower blowdown to the Lakeland wetlands treatment system.

B. In-Plant Water Monitoring Program

A monitoring program shall be undertaken by the City of Lakeland on each effluent stream within the facility to determine compliance by Unit 3 with the applicable effluent guidelines of 40 CFR, § 423.16 ~~Part 423.12~~ for those wastewaters discharged to the Lakeland wetlands treatment system. This monitoring program may be reviewed annually to determine the necessity for its continuance.

III. Groundwater

A. General

The use of groundwater shall be minimized to the greatest extent practicable.

B. Well Criteria

The well locations shall be approved by the Southwest Florida Water Management District. Design and construction of new wells shall be in accordance with the applicable rules of the Department of Environmental Protection ~~Regulation~~ and Southwest Florida Water Management District.

C. Groundwater Use Limitations - No change

IV. Leachate

A. Compliance

Leachate from coal storage piles, settling and treatment ponds, ~~artificial marsh, rapid infiltration beds,~~ secure land fills and flue gas desulfurization sludge ponds (FGD) shall not contaminate waters of the State (including both surface and groundwaters) in excess of the limitations of Chapters 62-302 and 62-520 ~~17-3~~, F.A.C.

B. Monitoring

A monitoring well system shall be used to determine

whether or not leachate from the treatment ponds, ~~artificial marsh~~, secure landfill, ash sluice ponds, and the flue gas desulfurization sludge ponds is reaching the groundwater.

1.-4. - no change

5. A quarterly summary of the results of the monitoring shall be provided by the permittee to the Southwest District of the Department of Environmental Protection Regulation and to the Southwest Florida Water Management District.

6. The permittee shall keep a monthly record of the monitoring results and shall notify the Department's Southwest District Manager and the Southwest Florida Water Management District when said measurements reach 90% of the levels permitted in the water quality standards of Rule 62-520.420 ~~17-3-101~~, F.A.C.

#### V. Control Measures During Construction

##### A. Stormwater Runoff

During construction and plant operation, necessary measures shall be used to settle, filter, treat or absorb silt containing or pollutant laden stormwater runoff to limit the suspended solids to 50 mg/l or less during rainfall periods not exceeding the 10-year, 24-hour rainfall, and to prevent an increase in turbidity to 29 NTU's ~~50 Jackson Turbidity Units~~ above background in waters of the State.

Control measures shall consist at the minimum, of filters, sediment traps, barriers, berms or vegetative planting. Exposed or disturbed soil shall be protected as soon as possible to minimize silt and sediment laden runoff. The pH shall be kept within the range of 6.0 to 8.5.

#### VI. Solid Wastes

Solid Wastes resulting from construction or operation shall be disposed of in accordance with the applicable regulations of Chapter 62-701 ~~17-7~~, FAC.

Open burning in connection with land clearing shall be in accordance with Chapter 62-256 71-5, FAC, no additional permits shall be required, but the Division of Forestry shall be notified. Open burning shall not occur if the Division of forestry has issued a ban on burning due to fire hazard conditions.

VIII. Solid Waste Utilization System - no change

The solid waste utilization facility shall be designed and operated in compliance with all applicable regulations of the Department, including but not limited to Chapter 62-701 71-7, FAC.

XIII. Transmission Lines

Directly associated transmission lines shall be constructed and maintained in a manner to minimize environmental impacts in accordance with Chapter 403, F.S., and Chapters 27F-6, 27F-7, and 62-312, 22 FAC.

A. Construction

1. Filling and construction in waters of the State shall be minimized to the extent practicable. No such activities shall take place without obtaining lease or title from the Board of Trustees of the Internal Improvement Trust Fund ~~Department of Natural Resources~~.

2.-9. - no change

10. Any archaeological sites discovered during construction of the transmission line shall be disturbed as little as possible and such discovery shall be communicated to the Department of State, Division of ~~Archive History and Records Management~~ Historical Resources.

XIV. Construction in Waters of the State

No construction in waters of the State shall commence without obtaining lease or title from the ~~Department of Natural~~

Resources Board of Trustees of the Internal Improvement Trust  
Fund.

XVI. Sanitary Waste Disposal

Sanitary waste from operating plant facilities shall be disposed of in a septic tank system, as approved by the Health Department of Health & Rehabilitative Services, as long as the average daily flow does not exceed 2,000 gallons per day. If the sanitary waste exceeds 2000 gpd, a properly designed treatment system shall be constructed upon receipt of approval by the Department.

NOTICE OF RIGHTS

Any party to this Order has the right to seek judicial review of this Order pursuant to Section 120.68, Florida Statutes, by filing a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection in the Office of the General Counsel, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the appropriate filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department of Environmental Protection.

DONE AND ORDERED this 13<sup>th</sup> day of February, 1996, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to S120.52  
Florida Statutes, with the designated  
Department Clerk, receipt of which  
is hereby acknowledged.

ROBERTA B. [Signature]      2/14/96  
Clerk                                      Date

[Signature]  
for VIRGINIA B. WETHERELL  
SECRETARY

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that copies of the foregoing has been furnished by regular U. S. Mail to the following this 14<sup>th</sup> day of February, 1996:

James S. Alves, Esquire  
Hopping Green Sams & Smith  
P.O. Box 6526  
Tallahassee, FL 32314-6526

City of Lakeland  
2379 Broad Street  
Lakeland, FL 33802

Mark Carpanini, Esquire  
Office of County Attorney  
P.O. Box 60  
Bartow, FL 33830-0060

Richard Tschantz, Esquire  
Southwest Fla. Water Mgmt. Dist.  
2379 Broad Street  
Brooksville, FL 34609-6899

Robert V. Elias, Esquire  
Division of Legal Services  
Florida Public Service Comm.  
2540 Shumard Oak Blvd.  
Tallahassee, FL 32399-0850

Andrew R. Reilly  
East Lake Parker Residents  
P.O. Box 2039  
Haines City, FL 33844

Tom Tart  
Greg DeMuth  
Orlando Utilities Commission  
500 South Orange Street  
Orlando, FL 32801

Farzie Shelton  
Dept of Water and Electric  
Utilities  
501 East Lemon Street  
Lakeland, FL 33801-5050

Karen Brodeen, Esquire  
Dept. of Community Affairs  
2740 Centerview Drive  
Tallahassee, FL 32399-2100



CHARLES T. "CHIP" COLLETTE,  
Assistant General Counsel  
Florida Department of  
Environmental Protection  
2600 Blair Stone Road  
MS 35  
Tallahassee, FL 32399-2400



● Department of ●  
**Environmental Protection**

UK  
cc to files  
Buck  
Kead

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

December 28, 1995

James S. Alves, Esq.  
Hopping Green Sams & Smith  
P.O. Box 6526  
Tallahassee, FL 32314-6526

**RECEIVED**

JAN 02 1996

BUREAU OF  
AIR REGULATION

Re: Lakeland McIntosh Unit 3, PA 74-06SR

Dear Mr. Alves:

Enclosed please find a draft Modification Order for the above referenced unit. Please review and comment. By copy of this letter, I am asking DEP personnel to also comment on the draft. Please return your comments by January 16, 1996.

If I or my staff can be further assistance in this matter, we can be contacted at (904) 487-0472, or via Suncom at 277-0472.

Sincerely,

*Hamilton S. Oven*

Hamilton S. Oven, P.E.  
Administrator, Siting  
Coordination Section

cc: Chip Collette  
Clair Fancy  
Phil Coram

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permits if the request involves a relief mechanism (e.g., mixing zone, variance, etc.) From state standards, a relaxation of conditions included in the permit due to state permitting requirements, or the inclusion of less restrictive air emission limitations in the air permits.

c. All other modifications shall be made in accordance with Section 403.516, F.S.

CONDITIONS OF CERTIFICATION - SPECIAL

I. Air

The construction and operation of the Unit No. 3 at the McIntosh Plant shall be in accordance with all applicable provisions of the Chapters ~~17-2, 17-5, and 17-7~~ 62-210 -62-297, Florida Administrative Code. The permittee shall comply with the following conditions of certification:

A. Emission Limitations

1. Stack emissions shall not exceed those specified in Chapter ~~17-2.04(6)(e)~~ <sup>and 62-296.405(2)(d) i.</sup> ~~1. 62-296.405~~ FAC.
2. ~~The permittee shall not burn a fuel oil containing more than an average of 0.7% sulfur unless it can be demonstrated that either, a) heat efficiency is such as to insure compliance with all applicable emission limitations, or b) that a flue gas desulfurization unit is installed that will insure compliance with applicable emission limitations.~~
  - a. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pounds per million Btu heat input in accordance with 40 CFR 60 Subpart D, Standards of Performance for Fossil-



**DRAFT**

Fuel-Fired Steam Generators for which Construction Started After August 17, 1971.

b. A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal or blends of coal and petroleum coke or refuse are burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the percent reduction requirement shall be determined on a 30-day rolling average. This compliance information shall be retained for a period of three years and made available by the City upon request by the Department. Whenever blends of petroleum coke and with other fuels are co-fired, sulfur dioxide emissions shall not exceed 0.718 pound per million Btu heat input based on a 30-day rolling average and shall comply with the reduction requirements given above.

c. Continuous burning of natural gas, low sulfur fuel oil (less than or equal to 0.5 percent sulfur by weight), or combinations of these two fuels with or without the use of SO<sub>2</sub> scrubber will be allowed.

d. The burning of high sulfur oil (greater than 0.5 percent by weight) or a combination of high sulfur oil and municipal refuse as an emergency

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operation as expeditiously as possible.

C. Stack Testing:

1. - no change
2. Performance tests shall be conducted and data reduced in accordance with methods and procedures in accordance with EPA or DEP-approved test methods. Standard Sampling Techniques and Methods of the Determination on Air Pollutants from Point Sources, July 1975.

3. - 4. - no change

5. Stack tests for particulates ~~PM<sub>10</sub>~~ <sup>and SO<sub>2</sub></sup> ~~and SO<sub>2</sub>~~ shall be performed annually in accordance with conditions 2, 3 and 4 above. <sup>CEMS and</sup> *CEMS Relative Accuracy tests may be used to determine compliance as long as the source and test conditions are consistent with the applicable requirements.*

D. Reporting

1. Stack monitoring, ~~fuel usage and fuel analysis~~ data shall be reported to the Department on a quarterly basis in accordance with 40 CFR, Part 60, Section 60.7(c), (d) and in accordance with ~~17-2.00~~ 62-297.405(1)(g), FAC. Fuel usage and fuel analysis data shall be reported to the Department on an annual basis.

2. - no change

E. - F. - no change

G. Reporting:

1. Beginning one month after certification the applicant shall submit to the Department a quarterly status report briefly outlining progress made on engineering design and purchase of major pieces of equipment (including control equipment). All reports and information required to be submitted under this condition shall be submitted to ~~Mr. Hamilton S. Owen, Sr., the Administrator, of Power Plant Siting~~

DRAFT

Coordination Office, Department of Environmental  
Regulation Protection, 2600 Blair Stone Road,  
Tallahassee, Florida 32399-2400.

2. Lakeland shall maintain and submit to the  
Department on an annual basis for a period of five  
years from the date the unit is initially, in  
commercial operation, co-fired with petroleum coke,  
information demonstrating in accordance with 40 CFR  
52.21 (b) (33) and 40 CFR 52.21 (b) (21) (v) that the  
operational changes did not result in emission  
increases of carbon monoxide, nitrogen oxides, or  
sulfuric acid mist.

H. Fuels:

The following fuels may be burned:

- Coal only.
- Low sulfur fuel oil only ( $\leq 0.5$  percent sulfur by  
weight),
- Coal and up to 10 percent refuse (based on heat input).
- Low sulfur fuel oil and up to 10 percent refuse (based  
on heat input).
- Coal and up to 20 percent petroleum coke (based on  
weight).
- Coal and up to 20 percent petroleum coke (based on  
weight) and 10 percent refuse (based on heat input).
- High sulfur oil ( $> 0.5$  percent sulfur by weight)  
consistent with Conditions I.A.2.b. or I.A.2.c.
- Natural gas only or in combination with any of the  
other fuels or fuel combinations listed above.

*you could write out less than or equal to if problem with symbol*

*comment specifying between fuel types, or ending each fuel type with a period.*

II. Water Discharges

Discharges during construction and operation of the Unit No. 3 shall be in accordance with all applicable

FINAL DETERMINATION

Review of a Proposed Air Pollution Source Pursuant to  
Environmental Protection Agency Rules for the Prevention of  
Significant Deterioration (PSD)

40 CFR 52.21

McIntosh Unit 3

City of Lakeland, Florida

Roger O. Pfaff

U.S. Environmental Protection Agency  
345 Courtland Street, N.E.  
Atlanta, Georgia 30308

December 27, 1978

Proposed to be Revised 4/6/95

Exhibit A

## Conditions of Approval

1. For Particulate Emissions from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. Particulate matter emitted to the atmosphere from the boiler shall not exceed:

<u>Mode of Firing</u>	<u>lb/10<sup>6</sup> Btu Heat Input</u>
Coal	0.044
Coal/Refuse:	0.050
Oil	0.070
Oil/Refuse:	0.075

2. For Sulfur Dioxide from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input derived from solid fossil fuel.

B. A flue gas desulfurization system will be <sup>installed</sup> ~~designed~~ to treat all exhaust gases and will operate at a minimum SO<sub>2</sub> removal efficiency of 85 percent whenever sulfur coal is burned.

- i. Sampling ports adequate for test methods applicable to the facility.
- ii. Safe sampling platform(s).
- iii. Safe access to sampling platform(s).
- iv. Utilities for sampling and testing equipment.

E. Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified by EPA. For the purpose of determining compliance with an emission limitation, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the approval of EPA, be determined by using the arithmetic mean of the other two runs.

6. Continuous Monitoring Requirements

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, a continuous SO<sub>2</sub> monitor shall be installed prior to the flue gas desulfurization system for purposes of calculating SO<sub>2</sub> removal efficiencies.

7. Excess Emission Reporting Requirements

In addition to the requirements of 40 CFR 60.7, each excess emission report shall include the periods of oil consumption due to flue gas desulfurization system malfunction.

49155.02

407PAS30004

PSD-FL-0008  
MCINTOSH #3  
LAKELAND

-06 Unit #3

copy:  
SWD  
pmb/caprice

Final Determination

Used Air Pollution Source Pursuant to Environmental  
Rules for the Prevention of Significant Deterioration (PSD)

40 CFR 52.21

McIntosh Unit 3

City of Lakeland, Florida

Roger O. Pfaff

U.S. Environmental Protection Agency  
345 Courtland Street, N.E.  
Atlanta, Georgia 30308

December 27, 1978



On November 26, 1978, EPA issued a Preliminary Determination that McIntosh Unit 3 could be approved with conditions under EPA Regulations for Prevention of Significant Deterioration, 40 CFR 52.21. During the 30 day public comment period, ending December 26, 1978, only the City of Lakeland commented on the determination. The City asked that a condition be added to the determination allowing the use of oil as a fuel during periods when the coal feed is lost due to equipment malfunctions.

EPA agreed to allow this request, but only if the flue gases are scrubbed by the SO<sub>2</sub> scrubber. The final conditions are the same as those in the Preliminary Determination except for this extra condition. The full list of conditions of approval follows:

## Conditions of Approval

### 1. For Particulate Emissions from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

- A. Particulate matter emitted to the atmosphere from the boiler shall not exceed:

<u>Mode of Firing</u>	<u>lb/10<sup>6</sup> Btu Heat Input</u>
Coal	0.044
Coal/Refuse	0.050
Oil	0.070
Oil/Refuse	0.075

### 2. For Sulfur Dioxide from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

- A. Sulfur dioxide emitted to the atmosphere from the boiler shall

not exceed 1.2 pound per million Btu heat input derived from solid fossil fuel.

- B. A flue gas desulfurization system will be installed to treat all exhaust gases and will operate at a minimum SO<sub>2</sub> removal efficiency of 85 percent whenever coal is burned.
- C. The burning of oil or a combination of oil and municipal refuse as an emergency fuel without the use of the SO<sub>2</sub> scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.
- D. During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of oil or a combination of oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO<sub>2</sub> scrubber. Sulfur dioxide emitted to the atmosphere from the boiler

shall not exceed 0.8 pound per million Btu under this condition.

3. For Particulate Emissions from Materials Handling Operations:

The applicant shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, coal transfer and loading system, limestone handling or storage operation, or flyash handling or storage operation, gases which exhibit 20 percent opacity or greater.

4. For  $NO_x$  Emissions from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

- A.  $NO_x$  emitted to the atmosphere from the boiler shall not exceed 0.7 pound per million Btu heat input when firing coal or coal/refuse.
- B.  $NO_x$  emitted to the atmosphere from the boiler shall not

exceed 0.3 pound per million Btu heat input when firing oil or oil/refuse.

6. Stack Testing:

1. Within 60 days after achieving the maximum production rate at which the facility will be operated, but no later than 180 days after initial startup, the owner or operator shall conduct performance tests and furnish EPA a written report of the results of such performance tests. Performance tests shall be conducted for the 4 modes of boiler operation (i.e., coal, coal/refuse, oil, oil/refuse).
2. Performance tests shall be conducted and data reduced in accordance with methods and procedures specified by EPA. Reference Methods 1 through 5 as published in Appendix A of 40 CFR 60 will be used for particulate tests. Reference Method 6 will be used for SO<sub>2</sub> tests. Reference Method 7 will be used for NO<sub>x</sub> tests.
3. Performance tests shall be conducted under such conditions as

EPA shall specify based on representative performance of the facility. The owner or operator shall make available to EPA such records as may be necessary to determine the conditions of the performance tests.

3. The owner or operator shall provide EPA 30 days prior notice of the performance test to afford the opportunity to have an observer present.

4. The owner or operator shall provide or cause to be provided, performance testing facilities as follows:

i. Sampling ports adequate for test methods applicable to the facility.

ii. Safe sampling platform(s).

iii. Safe access to sampling platform(s).

iv. Utilities for sampling and testing equipment.

F. Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified by EPA. For the purpose of determining compliance with an emission limitation, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the approval of EPA, be determined by using the arithmetic mean of the other two runs.

G. Continuous Monitoring Requirements

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.10 and 60.12. In addition, a continuous SO<sub>2</sub> monitor shall be installed prior to the flue gas desulfurization system for purposes of calculating SO<sub>2</sub> removal efficiencies.

7. Excess Emission Reporting Requirements

In addition to the requirements of 40 CFR 60.7, each excess emission report shall include the periods of oil consumption due to flue gas desulfurization system malfunction.



State of Florida Department of Environmental Regulation  
City of Lakeland  
Power Plant No. 3 - Unit No. 3  
Case No. PA 74-06-SR  
CONDITIONS OF CERTIFICATION

SPECIAL

I.B.1 Consigned:  
SO<sub>2</sub> NOX VE

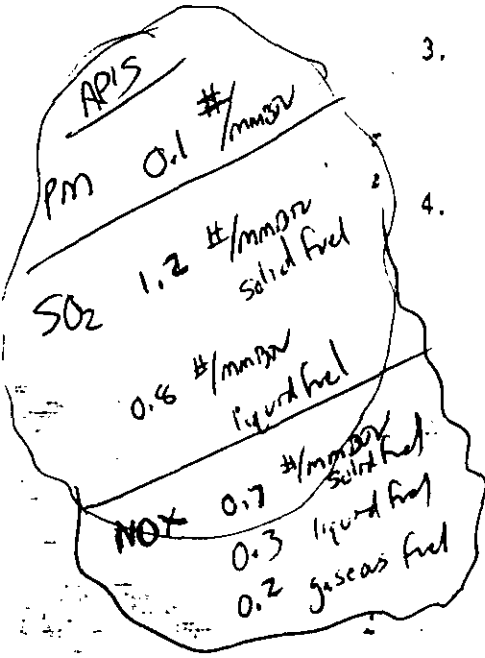
I.A. 1. Air

The construction and operation of the Unit No. 3 at the McIntosh Plant shall be in accordance with all applicable provisions of Chapters 17-2, 17-5, and 17-7, Florida Administrative Code. The permittee shall comply with the following conditions of certification:

A. Emission Limitations

1. Stack emissions shall not exceed those specified in Chapter 17-2.04(6)(e) 1., FAC.
2. The permittee shall not burn a fuel oil containing more than an average of 0.7% sulfur unless it can be demonstrated that either, a) heat efficiency is such as to insure compliance with all applicable emission limitations, or b) that a flue gas desulfurization unit is installed that will insure compliance with applicable emission limitations.
3. The height of the boiler exhaust stack for Unit 3 shall be not less than 250 feet above grade. The height of stacks for future units shall be determined after review of supplemental applications.
4. Particulate emissions from the coal handling facilities:
  - a. The applicant shall not cause to be discharged into the atmosphere from any coal processing or conveying equipment, coal storage system or coal transfer and loading system processing coal, visible emissions which exceed 20 percent opacity.
  - b. The applicant must submit to the Department within five (5) working days after it becomes available, copies of technical data pertaining to the selected particulate emissions control for the coal handling facility. These data should include, but not be limited to, a copy of the formal bid from the successful bidder, guaranteed efficiency and emission rates, and major design parameters such as air/cloth ratio and flow rate. The Department may, upon review of these data, disapprove the use of such device if the Department determines the selected control device to be inadequate to meet the visible emission limit specified in 5 (a) above.

Subject A  
Based on allowable  
PM<sub>10</sub> particulate  
0.1 #/mm<sup>3</sup>



1/27/49  
cc: Bob Soich, SW District for files.

## RULES

## OF

## THE STATE OF FLORIDA

## DEPARTMENT OF POLLUTION CONTROL

## CHAPTER 17-2

## AIR POLLUTION

- 17-2.01 Declaration and Intent
- 17-2.02 Definitions
- 17-2.03 General Restrictions
- 17-2.04 Prohibitive Acts
- 17-2.05 Ambient Air Quality Standards
- 17-2.06 Air Pollution Episode
- 17-2.07 Sampling and Testing
- 17-2.08 Local Regulations
- 17-2.09 Public Comment
- 17-2.10 Local Government
- 17-2.11 Low Sulfur Fuel Shortages
- 17-2.12 Source Testing Method

17-2.01 Declaration and Intent. The State of Florida Department of Pollution Control promulgates this chapter to eliminate, prevent, and control air pollution. This chapter shall apply to all sources of air pollution except open burning or the use of outdoor heating devices allowed by chapter 17-5, Florida Administrative Code, unless otherwise provided in this chapter.

To protect and enhance the air quality of Florida, this chapter furthers the Department's nondegradation policy and establishes ambient air quality standards and emission standards. The policy inherent in the standards shall be to protect the air quality existing at the time the air quality standards were adopted or to upgrade or enhance the quality of the air of the State. In any event, where a new or increased source of air pollution poses a possibility of degrading existing high air quality or ambient air quality established by this chapter, such source or proposed source shall not be issued a Department permit until the Department has reasonable assurance that such source construction or development will not violate this chapter.

This chapter is adopted to achieve and maintain such levels of air quality as will protect human health and safety, prevent injury to plant and animal life and property, foster the comfort and convenience of people, promote the economic and social development of this State and facilitate the enjoyment of the natural attractions of this State.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061 FS. History—Revised 1-18-72.

17-2.02 Definitions. The following words and phrases when used in this chapter shall, unless context clearly indicates otherwise, have the following meanings:

(1) "Air pollutant" — Any matter found in the atmosphere other than oxygen, nitrogen, water vapor, carbon dioxide and the inert gases in natural concentrations.

(2) "Air Pollutant source" or "source" — Any source at, from, or by means of which there is emitted into the atmosphere any air pollutant(s).

(3) "Process weight" — The total weight of all materials introduced into any process. Solid fuels and recycled materials are included in the determination of process weights; but uncombined water, liquid and gaseous fuels, combustion air or excess air are not included.

(4) "Standard conditions" — A gas temperature of 70 degrees fahrenheit and a gas pressure of 14.7 psia.

(5) "Existing source" — A source which is in existence, (except for reactivation of older plants) operating or under construction or has received a permit to construct prior to the effective date of this chapter.

(6) "New Source" — Any source other than an existing source. New source includes reactivating existing or older plants which have been shutdown for a period of more than one year.

(7) "Particulate matter" — Means any material, other than uncombined water, which exists in a finely divided form as a liquid or solid, as measured by the sampling methods approved by the Board.

(8) "Sulfuric Acid Plant" — Means any installation producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfides, organic sulfides and mercaptans, or acid sludge.

(9) "Acid mist" — Means any size liquid drops of any acid including but not limited to sulfuric acid and sulfur trioxide, hydrochloric acid and nitric acid as measured by test methods approved by the Board.

(10) "Visible emission" — Means an emission greater than 5 percent opacity or 1/4 Ringelmann measured by standard methods.

(11) "Fugitive particulate" — Particulate matter which escapes and becomes airborne from unenclosed operations or which is emitted into the atmosphere without passing or being conducted through a flue pipe, stack or other structure designed for the purpose of emitting air pollutants into the atmosphere.

(12) "Air Pollution Episode" — An occurrence of elevated levels of pollutants in the atmosphere which require hasty and unusual abatement action.

(13) "Odor" — Means a sensation resulting from stimulation of the human olfactory organ.

(14) "Objectionable Odor" — 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.

(15) "Fossil fuel steam generators" — Furnaces and boilers which produce steam by combustion of oil, coal or gas of fossil origin.

(16) "Plant section" — A part of a plant

i. Granular triple super phosphate made by granulating run-of-pile triple super phosphate — 0.06 pounds of F per ton of  $P_2O_5$ .

ii. Granular triple super phosphate made from phosphoric acid and phosphate rock slurry — 0.15 pounds of F per ton of  $P_2O_5$ .

a5. Granular triple super phosphate storage, and auxiliary equipment — 0.05 pounds of F per ton  $P_2O_5$ .

a6. Diammonium phosphate production and auxiliary equipment — 0.06 pounds of F per ton of  $P_2O_5$ .

a7. Calcining or other thermal phosphate rock processing and auxiliary equipment excepting phosphate rock drying and defluorinating — 0.05 pounds of F per ton of  $P_2O_5$ .

a8. Defluorinating phosphate rock by thermal processing and auxiliary equipment — 0.37 pounds of F per ton of  $P_2O_5$ .

a9. All plants, plant sections or unit operations and auxiliary equipment not listed in a1 to a8 will comply with best technology pursuant to Section 2.03(1) of this rule.

b. Existing plants or plant sections. Emissions shall comply with above section, 17-2.04 (6)(c) 1.a., for existing plants as expeditiously as possible but not later than July 1, 1975 or

b1. Where a plant complex exists with an operating wet process phosphoric acid section (including any items 17-2.04(6)(c) 1., a., a.1. through a.6. above) and other plant sections processing or handling phosphoric acid or products or phosphoric acid processing, the total emission of the entire complex may not exceed 0.4 pounds of F per ton of  $P_2O_5$  input to the wet process phosphoric acid section.

b2. For the individual plant sections included in 17-2.04(6)(c) 1., a., a.1., through a.6. above but not included as a part as defined in 17-2.04(6)(c) 1., b., b.1. above, if it can be shown by comprehensive engineering study and report to the Department that the existing plant sections are not suitable for the application of existing technology, which may include major rebuilding or repairs and scrubber installations, the emission limiting standard to apply will be the lowest obtained by any similar plant section existing and operating.

(d) Kraft (sulfate liquor) Pulp Mills

1. Black liquor recovery furnace. The emission limiting standards are:

a. Particulate matter — existing sources as expeditiously as possible, but not later than July 1, 1975, no greater than three pounds particulate per each 3,000 pounds black liquor solids fed. For new sources the same emission limiting standards apply.

b. Total Reduced Sulfur — existing plants as expeditiously as possible, but not later than July 1, 1975 — 17.5 ppm expressed as  $H_2S$  on a dry gas basis, or one-half (0.5) pounds per 3,000 pounds of black liquor solids fed, whichever is more restrictive. For new plants no greater than 1 ppm expressed as  $H_2S$  on the dry basis, or 0.03 pounds per 3,000 pounds of black liquor solids fed, whichever is the more restrictive.

(e) Fossil Fuel Steam Generators — The emission limiting standards for Fossil Fuel Steam Generators are:

1. New Sources — plants with more than 250 million BTU per hour heat input.

a. Particulate matter — 0.1 pounds per million BTU heat input, maximum 2 hour average.

b. Visible emissions — the density of which is equal to or greater than Number 1 of the Ringelmann Chart (20 percent opacity) except that a shade as dark as Number 2 of the Ringelmann Chart (40 percent opacity) shall be permissible for not more than 2 minutes in any hour.

c. Sulfur dioxide — 0.8 pounds per million BTU heat input, maximum 2 hour average, when liquid fuel is burned.

d. Sulfur dioxide — 1.2 pounds per million BTU heat input, maximum 2 hour average, when solid fuel is burned.

e. Nitrogen oxides — 0.20 pounds per million BTU heat input maximum 2 hour average, expressed as  $NO_2$  when gaseous fuel is burned.

f. Nitrogen oxides — 0.30 pounds per million BTU heat input, maximum 2 hour average, expressed as  $NO_2$  when liquid fuel is burned.

g. Nitrogen oxides — 0.70 pounds per million BTU heat input, maximum 2 hour average, expressed as  $NO_2$  when solid fuel is burned.

2. Existing Sources — plants with more than 250 million BTU per hour heat input.

a. Particulate no greater than the standard for new sources.

b. Visible emissions — no greater than the standard for new sources.

c. Sulfur dioxide — of 1.1 pounds per million BTU heat input when liquid fuel is burned, as expeditiously as possible but not later than July 1, 1975.

d. Sulfur dioxide of 1.5 pounds per million BTU heat input when solid fuel is burned as expeditiously as possible but no later than July 1, 1975.

e. A rule for limiting nitrogen oxides emission from existing fossil fuel steam generators will be developed by July 1, 1975.

3. New and existing plants with 250 million or less BTU per hour heat input.

a. Visible emissions standards as set forth in item 17-2.04(6)(e) 1.b. of this section.

b. Particulate matter, sulfur dioxide and nitrogen oxides apply 17-2.03(1) latest technology.

4. All existing fossil fuel steam generators which on the effective date of this paragraph (17-2.04(6)(e) 4) are not in compliance with above sulfur dioxide emission limiting standards and for which a compliance schedule has been established pursuant to 40 Code of Federal Regulation 51.15, need not comply with any increments of progress of existing compliance schedules and revised compliance schedules shall be submitted by July 1, 1974.

5. Paragraph 17-2.04(6)(e) 4, does not apply to fossil fuel steam generators located in Hillsborough County, Florida, which shall comply with the compliance schedules approved by 40 C.F.R. Part 52.

(f) Portland Cement Plants — the emission limiting standards for Portland Cement Plants are:

1. Existing and new sources.

a. For Kilns — particulate shall be not greater than allowed by the Process Weight Table, Table I, set forth in 17-2.04(2). The table shall be applied to each individual source rather than being applied on the basis of mass emission limitations.

b. For clinker-coolers the emission limiting standard of 17-2.04(6)(f) 1.a. above apply.

.1 ppm

201.6 FT

1.2 50-

17 110Y

17-2.04(6)  
(e) 1.1  
FAC

any modification which will increase a multi-level unenclosed facility to a design or use capacity of 750 cars or more.

3. Any new road designed to accommodate 2000 vehicles per hour or more at peak traffic flow rates, or a modification of an existing road the result of which is designed to accommodate 2000 vehicles or more at peak traffic flow rates.

4. Any new road or modification to accommodate 1000 vehicles per hour or more of peak traffic flow rates or a modification which results in a design capacity for accommodation of 1000 vehicles per hour or more of peak traffic flow rates in the following urban counties: Dade, Broward, Palm Beach, Brevard, Hillsborough, Pinellas, Orange, Duval, Escambia, Polk, Leon, Sarasota, Volusia, Alachua, Pasco and Lee.

5. All major tollways or interstate highways or other major roads of more than two lanes of traffic outside of the urban areas named in paragraph 4 above.

6. Any new airport which is designed or may be used to serve commercial airlines regularly scheduled or otherwise or any modification of a parking facility at such an airport which results in a ten per cent increase in capacity.

7. If the Department finds after notice, and hearing, if requested, that projected emissions associated with any proposed complex source not listed above may result in the failure of the Ambient Air Quality Standards being achieved and maintained, the Department may require an application to be submitted and a permit required prior to construction.

(d) Any person seeking a permit shall submit such information that is necessary for the Department to make a determination that is necessary for the Department to make a determination that the complex source will not cause a violation of Ambient Air Quality Standards. Such information shall include, but not be limited to:

1. The nature and amounts of pollutants to be emitted or caused to be emitted by the complex source, or by associated mobile sources, and an air quality impact statement.

2. The location, design, construction and operation of such facility.

(e) No such permit shall be issued without an opportunity for public comment in accordance with Section 17-2.09, F.A.C.

(f) This subsection 17-2.04 (8), Florida Administrative Code shall not apply to air pollution sources for which a permit is required by Chapter 17-4, Florida Administrative Code, and shall not apply to sources for which the commencement of construction was prior to December 15, 1973, unless construction is, or has been, discontinued for more than ninety days.

(g) Public highway projects which would otherwise be covered by this section (17-2.08 (8)) and for which bid letting has been advertised prior to April 1, 1974, are exempted from the formal permitting requirements of this section provided, however, that the staffs of the State of Florida Department of Transportation and Department of Pollution Control will re-examine the environmental assessments for each project to identify those projects which will violate State Ambient Air Quality Standards. Those projects so identified will not be exempted from the permitting requirements of this section.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087 FS. History—Revised 1-18-72, Amended 11-21-73, 2-8-74, 4-9-74, 12-28-74.

#### 17-2.05 Ambient Air Quality Standards.

(1) The air quality of the State's atmosphere is determined by the presence of specific pollutants in certain concentrations. Human health and welfare is affected and known or anticipated adverse results are produced by the presence of pollutants in excess of the certain concentrations. It is, therefore, established that maximum limiting levels, Ambient Air Quality Standards, of pollutants existing in the ambient air are necessary to protect human health and public welfare. The following statewide Ambient Air Quality Standards are established for Florida:

##### (a) Sulfur Dioxide

1. 60 micrograms per cubic meter (0.02 ppm) — annual arithmetic mean.

2. 260 micrograms per cubic meter (0.1 ppm) maximum 24 hour concentration, not to be exceeded more than once per year.

3. 1300 micrograms per cubic meter (0.5 ppm) maximum 3 hour concentration, not to be exceeded more than once per year.

##### (b) Particulate Matter

1. 60 micrograms per cubic meter — annual geometric mean.

2. 150 micrograms per cubic meter — maximum 24 hour concentration, not to be exceeded more than once per year.

##### (c) Carbon Monoxide

1. 10 milligrams per cubic meter (9 ppm) — maximum 8 hour concentration, not to be exceeded more than once per year.

2. 40 milligrams per cubic meter (35 ppm) — maximum 1 hour concentration, not to be exceeded more than once per year.

(d) Photochemical Oxidants — measured and corrected for interference due to nitrogen oxides and sulfur dioxide.

1. 160 micrograms per cubic meter (0.08 ppm) — maximum 1 hour concentration, not to be exceeded more than once per year.

(e) Hydrocarbons — For use as a guide in devising implementation plans to achieve oxidant standards. To be measured and corrected for methane.

1. 160 micrograms per cubic meter (0.24 ppm) maximum 3 hour concentration (6 to 9 a.m.) not to be exceeded more than once per year.

##### (f) Nitrogen Dioxide

1. 100 micrograms per cubic meter (0.05 ppm) annual arithmetic mean.

(2) Exception — in Dade, Broward, and Palm Beach County, the above Ambient Air Quality Standards apply except as provided differently below:

##### (a) Sulfur Dioxide

1. 8.6 micrograms per cubic meter (0.003 ppm) — annual arithmetic mean.

2. 28.6 micrograms per cubic meter (0.010 ppm) — 24 hour concentration.

3. 57.2 micrograms per cubic meter (0.020 ppm) — maximum four hour concentration.

4. 286 micrograms per cubic meter (0.100 ppm) — maximum one hour concentration.

##### (b) Suspended Particulates

1. 50 micrograms per cubic meter — annual geometric mean.

State of Florida Department of Environmental Regulation  
City of Lakeland  
C.D. McIntosh, Jr. Power Plant - Unit No. 3  
Case No. PA 74-06-SR  
CONDITIONS OF CERTIFICATION

GENERAL

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Appendix A

GENERAL

1. Change in Discharge

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any pollutant not identified in the application, or any discharge more frequent than, or at a level in excess of that authorized herein, shall constitute a violation of the certification. Any anticipated facility expansions, production increases, or process modifications which will result in new, different or increased discharges or expansion in steam generating capacity will require a submission of a new or supplemental application pursuant to Chapter 402, Florida Statutes.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any limitation specified in this certification, the permittee shall notify the Southwest District Manager of the Department by telephone during the working day during which said noncompliance occurs and shall confirm this situation in writing within seventy-two (72) hours of first becoming aware of such conditions, supplying the following information:

- a. A description and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying event.

3. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this certification. Such systems are not to be bypassed without prior department approval.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact resulting from noncompliance with any limitation specified in this certification, including but not limited to such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying event.

5. Right of Entry

The permittee shall allow the Secretary of the Florida Department of Environmental Regulation and/or authorized representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises where an effluent source is located or in which records are required to be kept under the terms and conditions of this permit; and
- b. To have access to and copy all records required to be kept under the conditions of this certification; and
- c. To inspect and test any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants, and
- d. To assess any damage to the environment or violation of ambient standards.

6. Revocation or Suspension

This certification may be suspended or revoked pursuant to Section 403.512, Florida Statutes, or for violations of any General or Special Condition.

7. Civil and Criminal Liability

This certification does not relieve the permittee from civil or criminal responsibility or liability for noncompliance with any conditions of this certification, applicable rules or regulations of the Department, or Chapter 403, Florida Statutes, or regulations thereunder.

Subject to Section 403.511, Florida Statutes, this certification shall not preclude the institution of any legal action or relieve the permittee from any responsibilities or penalties established pursuant to any other applicable State Statutes or regulations.

8. Property Rights

The issuance of this certification does not convey any property rights in either real or personal property tangible or intangible, nor any exclusive privileges, nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. The applicant will obtain title, lease or right of use from the State of Florida, to any sovereign submerged lands occupied by plant, transmission line structures, or appurtenant facilities.

9. Severability

The provisions of this certification are severable, and if any provision of this certification, or the application of any provision of this certification to any circumstances, is held invalid, the application of such provision to other circumstances and the remainder of the certification shall not be affected thereby.

10. Definitions

The meaning of terms used herein shall be governed by the definitions contained in Chapter 403, Florida Statutes, and any regulation adopted pursuant thereto. In the event of any dispute over the meaning of a term used in these general or special conditions which is not defined in such statutes or regulations, such dispute shall be resolved by reference to the most relevant definitions contained in any other state or federal statute or regulation or, in the alternative by the use of the commonly accepted meaning as determined by the Department.

11. Review of Site Certification

The certification shall be final unless revised, revoked or suspended pursuant to law. At least every five years from the date of issuance of this certification or any National Pollutant Discharge Elimination System Permit issued pursuant to the Federal Water Pollution Control Act Amendments of 1972, for the plant units, the Department shall review all monitoring data that has been submitted to it during the preceding five-year period, for the purposes of determining the extent of the permittee's compliance with the conditions of this certification and the environmental impact of this facility. The Department shall submit the results of its review and recommendations to the permittee. Such review will be repeated at least every five years thereafter.



12. Modification of Conditions

The conditions of this certification may be modified in the following manner:

- a. The Board hereby delegates to the Secretary the authority to modify, after notice and opportunity for hearing, any conditions pertaining to monitoring or sampling.
- b. All other modifications shall be made in accordance with Section 403.516, F.S.

State of Florida Department of Environmental Regulation  
 City of Lakeland  
 C. D. McIntosh, Jr. Power Plant Unit No. 3  
 Case No. PA 74-06-SR  
 CONDITIONS OF CERTIFICATION

SPECIAL

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State of Florida Department of Environmental Regulation  
City of Lakeland  
Power Plant No. 3 - Unit No. 3  
Case No. PA 74-06  
CONDITIONS OF CERTIFICATION

SPECIAL

I. Air

The construction and operation of the Unit No. 3 at the McIntosh Plant shall be in accordance with all applicable provisions of Chapters 17-2, 17-5, and 17-7, Florida Administrative Code. The permittee shall comply with the following conditions of certification:

A. Emission Limitations

1. Stack emissions shall not exceed those specified in Chapter 17-2.04(6)(e) 1., FAC.
2. The permittee shall not burn a fuel oil containing more than an average of 0.7% sulfur unless it can be demonstrated that either, a) heat efficiency is such as to insure compliance with all applicable emission limitations, or b) that a flue gas desulfurization unit is installed that will insure compliance with applicable emission limitations.
3. The height of the boiler exhaust stack for Unit 3 shall be not less than 250 feet above grade. The height of stacks for future units shall be determined after review of supplemental applications.
4. Particulate emissions from the coal handling facilities:
  - a. The applicant shall not cause to be discharged into the atmosphere from any coal processing or conveying equipment, coal storage system or coal transfer and loading system processing coal, visible emissions which exceed 20 percent opacity.
  - b. The applicant must submit to the Department within five (5) working days after it becomes available, copies of technical data pertaining to the selected particulate emissions control for the coal handling facility. These data should include, but not be limited to, a copy of the formal bid from the successful bidder, guaranteed efficiency and emission rates, and major design parameters such as air/cloth ratio and flow rate. The Department may, upon review of these data, disapprove the use of such device if the Department determines the selected control device to be inadequate to meet the visible emission limit specified in 5 (a) above.

B. Air Monitoring Program

1. The permittee shall install and operate continuously monitoring devices for the Unit No. 3 boiler exhaust for sulfur dioxide, nitrogen dioxide and opacity. The monitoring devices shall meet the applicable requirements of 17-2.06, FAC.
2. The permittee shall operate two ambient monitoring device for sulfur dioxide in accordance with EPA reference methods in 40 CFR, Part 53 and two ambient monitoring device for suspended particulates. New and existing monitoring devices shall be located as designated by the Department. The frequency of operation shall be every six days or as specified by the Department.
3. The permittee shall maintain a daily log of fuels used and copies of fuel analyses containing information on sulfur content, ash content and heating values to facilitate calculations of emissions.
4. The permittee shall provide sampling ports into the stack and shall provide access to the sampling ports, in accordance with Standard Sampling Techniques and Methods of Analysis for The Determination of Air Pollutants from Point Sources, July 1975.
5. The ambient monitoring program may be reviewed annually beginning two years after start-up of Unit No. 2 by the Department and the permittee.
6. Emission Control Systems:  
Prior to operation of the source, the owner or operator shall submit to the Department a standardized plan or procedure that will allow the company to monitor emission control equipment efficiency and enable the company to return malfunctioning equipment to proper operation as expeditiously as possible.

C. Stack Testing:

1. Within 60 days after achieving the maximum capacity at which the facility will be operated, but no later than 180 days after initial startup, the owner or operator shall conduct performance tests for particulates and SO<sub>2</sub> and promptly furnish the Department a written report of the results of such performance tests.

2. Performance tests shall be conducted and data reduced in accordance with methods and procedures in accordance with Standard Sampling Techniques and Methods of the Determination on Air Pollutants from Point Sources, July 1975.
3. Performance tests shall be conducted under such conditions as the Department shall specify based on representative performance of the facility. The owner or operator shall make available to the Department such records as may be necessary to determine the conditions of the performance tests.
4. The owner or operator shall provide the Department with 30 days prior notice of the performance tests and afford the Department the opportunity to have an observer present.
5. Stack tests for particulates, NO<sub>x</sub> and SO<sub>2</sub> shall be performed annually in accordance with conditions 2, 3 and 4 above.

D. Reporting

1. Stack monitoring, fuel usage and fuel analysis data shall be reported to the Department on a quarterly basis in accordance with 40 CFR, Part 60, Section 60.7 and in accordance with 17-2.08, FAC.
2. Ambient air monitoring data shall be reported to the Department quarterly by the last day of the month following the quarterly reporting period utilizing the SAROAD or other format approved by the Department in writing.

E. Coal Characteristics and Contracts

Before approval can be granted by the Department for use of control devices, characteristics of the coal to be fired must be known. Therefore, before these approvals are granted, the applicant must submit to the Department copies of coal contracts which should include the expected sulfur content, ash content, and heat content of the coal to be fired. These data will be used by the Department in its evaluation of the adequacy of the control devices.

F. Coal Information

As an alternative to the <sup>E</sup>submittal of contracts for purchase of coal under condition ~~A~~ above, the applicant may submit the following information:

1. The name of the coal supplier;
2. The sulfur content, ash content, and heat content of the coal as specified in the purchase contracts;
3. The location of the coal deposits covered by the contract (including mine name and seam);
4. The date by which the first delivery of coal will be made;

5. The duration of the contract; and
6. An opinion of counsel for the applicant that the contract(s) are legally binding enforceable.

G. Reporting:

Beginning one month after certification the applicant shall submit to the Department a quarterly status report briefly outlining progress made on engineering design and purchase of major pieces of equipment (including control equipment). All reports and information required to be submitted under this condition shall be submitted to Mr. Hamilton S. Owen, Jr., Administrator of Power Plant Siting, Department of Environmental Regulation, 2500 Blair Stone Road, Tallahassee, Florida 32301.

II. Water Discharges

Discharges during construction and operation of the Unit No. 3 shall be in accordance with all applicable provisions of Chapter 17-0, Florida Administrative Code and 40 CFR 423, Effluent Guidelines and Standards for Steam Electric Power Generating Point Source Category. In addition, the permittee shall comply with the following conditions of certification:

A. Pretreatment Standards

Wastewater discharged from Unit No. 3 to the Lakeland municipal sewerage system shall comply with the pretreatment standards for new sources as contained in 40 CFR, Part 423.15 and amendments. The specific standards applicable to the facilities as planned are:

1. Cooling Tower Blowdown

There shall be no detectable amounts of materials added for corrosion inhibition, including but not limited to zinc and chromium in cooling tower blowdown discharged to the sewer system.

2. pH

The pH of all discharges shall be within the range of 6.0 to 9.0.

3. Polychlorinated Biphenyl Compounds

There shall be no release to the environment of polychlorinated biphenyl compounds.

4. Chemical Wastes and Boiler Blowdown

All low volume wastes (demineralizer regeneration, cooling tower basin cleaning wastes, floor drainage, sump drains and similar wastes), metal cleaning wastes (including preheater and fireside wash) and boiler blowdown shall be treated as required for pH adjustment and removal of chemical constituents. These wastewaters will be discharged to an adequately sized and constructed spray evaporation basin.

5. Sluice Pond Overflow

Sluice pond overflow (coal pile runoff from less than 10-year, 24-hour rainfall and bottom and fly ash transport water) shall be treated if required (detention basin) and discharged to an adequately sized and constructed spray evaporation pond.

6. Flue Gas Desulfurization Sludge Pond Overflow

The flue gas desulfurization sludge pond overflow shall be discharged to an adequately sized and constructed spray evaporation pond.

B. In-Plant Water Monitoring Program

A monitoring program shall be undertaken by the City of Lakeland on the effluent streams within the facility to determine compliance by Unit 3 with the applicable pretreatment standards for those wastes discharged to the Lakeland municipal sewerage system.

III. Groundwater

A. General

The use of groundwater shall be minimized to the greatest extent practicable.

B. Well Criteria

The well locations shall be approved by the Southwest Florida Water Management District. Design and construction of new wells shall be in accordance with the applicable rules of the Department of Environmental Regulation and Southwest Florida Water Management District.

C. Groundwater Use Limitations

1. Groundwater used for makeup for the cooling tower for Unit No. 3 shall be limited to emergency use only, not to exceed 0.2166 million gallons per day on an average annual basis or 5.271 mgd on a maximum daily basis from 3 new wells.

2. Daily water use from the new wells shall be reported quarterly to the Southwest Florida Water Management District.

#### IV. Leachate

##### A. Compliance

Leachate from coal storage piles, settling and spray ponds and flue gas desulfurization sludge ponds (FGD) shall not contaminate waters of the State (including both surface and groundwaters) in excess of the limitations of Chapter 17-3, FAC.

##### B. Monitoring

A monitoring well system shall be used to determine whether or not leachate from the spray evaporation pond, as sludge ponds, and the flue gas desulfurization sludge ponds is reaching the groundwater. The permittee shall keep a monthly record of the monitoring results and shall notify the Central Subdistrict Office of the Department and the Southwest Florida Water Management District when said measurements become abnormal or excessive. A quarterly summary of the results of monitoring shall be provided to the Central Subdistrict Manager.

##### C. Corrective Action

When the leachate monitoring system indicates significant leakage to the groundwater in the shallow aquifer, the appropriate ponds (settling spray or sludge) shall be sealed, relocated or closed, or the operation of the affected pond shall be altered in such a manner as to assure the Department that no significant contamination of the groundwater will occur.

#### V. Control Measures During Construction

##### A. Stormwater Runoff

During construction and plant operation, necessary measures shall be used to settle, filter, treat or absorb silt containing or pollutant laden stormwater runoff to limit the suspended solids to 50 mg/l or less during rainfall periods not exceeding the 10-year, 24-hour rainfall, and to prevent an increase in turbidity to more than 50 Jackson Turbidity Units above background in waters of the State.

Control measures shall consist at the minimum, of filters, sediment traps, barriers, berms or vegetative planting. Exposed or disturbed soil shall be protected as soon as possible to minimize silt and sediment laden runoff. The pH shall be kept within the range of 6.0 to 8.5.



B. Sanitary Wastes

Disposal of sanitary wastes from construction toilet facilities shall be in accordance with applicable regulations of the Department and appropriate local health agency.

C. Environmental Control Program

An environmental control program shall be established under the supervision of a qualified person to assure that all construction activities conform to good environmental practices and the applicable conditions of certification.

The permittee shall notify the Department if unexpected harmful effects or evidence of irreversible environmental damage are detected during construction, shall immediately cease work and shall provide an analysis of the problem and a plan to eliminate or significantly reduce the harmful effects or damage, and to prevent reoccurrence.

VI. Solid Wastes

Solid Wastes resulting from construction or operation shall be disposed of in accordance with the applicable regulations of Chapter 17-7, FAC.

Open burning in connection with land clearing shall be in accordance with Chapter 17-5, FAC, no additional permits shall be required, but the Division of Forestry shall be notified. Open burning shall not occur if the Division of Forestry has issued a ban on burning due to fire hazard conditions.

VII. Operation Safeguards

The overall design and layout of the facilities shall be such as to minimize hazards to humans and the environment. Security control measures shall be utilized to prevent exposure of the public to hazardous conditions.

VIII. Solid Waste Utilization System

The solid waste utilization facility shall be designed and operated in compliance with all applicable regulations of the Department, including but not limited to Chapter 17-7, FAC.

IX. Screening

The permittee shall provide screening of the site through the use of aesthetically acceptable structures, vegetated earthen walls and/or existing or planted vegetation.

X. Potable Water Supply System

The potable water supply system shall be designed and operated in conformance with Chapter 17-22, FAC. Information as required in 17-22.05 shall be submitted to the Department prior to construction and operation. The operator of the potable water supply system shall be certified in accordance with Chapter 17-23, FAC.

Transformer and Electric Switching Gear

The foundations for transformers, capacitors, and switching gear necessary for McIntosh Unit 3 to the existing distribution system shall be constructed of an impervious material and shall be constructed in such a manner to allow complete collection and recovery of any spills or leakage of oily, toxic, or hazardous substances.

XII. Toxic, Deleterious, or Hazardous Materials

The spill of any toxic, deleterious, or hazardous materials shall be reported in the manner specified by General Condition 2.

XIII. Transmission Line

Directly associated transmission lines shall be constructed and maintained in a manner to minimize environmental impacts in accordance with Chapter 403, F.S., and Chapter 22F-6, FAC.

A. Construction

1. Filling and construction in waters of the State shall be minimized to the extent practicable. No such activities shall take place without obtaining lease or title from the Department of Natural Resources.
2. Placement of fill in wetland areas shall be minimized by spanning such areas with the maximum transmission lines span practicable. Such areas should be bridged by maintenance or access roads.
3. Construction and access roads should avoid wetlands and be located in surrounding uplands. Any fill required in wetlands for construction but not required for maintenance purposes shall be removed and the ground restored to its original contours after transmission line placement.
4. Keyhole fills from upland areas are preferable to a single road and should be oriented as nearly parallel to surface water flow lines as possible.
5. Sufficient culverts shall be placed through fill causeways to maintain sheet flow. The number and locations of such culverts will be determined in the field by consultation with DER field inspectors.

6. Maintenance roads shall be planted with native species to prevent erosion and subsequent water quality degradation.
7. Construction activities should proceed as much as possible during the dry season.
8. Turbidity control measures, where needed, shall be employed to prevent violation of water quality standards.
9. Good environmental practices as described in Environmental Criteria for Electric Transmission Systems or published by the U.S. Department of Interior and the U.S. Department of Agriculture should be followed.
10. Any archaeological sites discovered during construction of the transmission line shall be disturbed as little as possible and such discovery shall be communicated to the Department of State, Division of Archive History and Records Management.

#### 9. Maintenance

1. Vegetative removal for maintenance should be carried out in the following manner:

Vegetative clearing operations to be carried out within the corridor should follow the general standards for clearing rights-of-way for overhead transmission lines, thus preserving immature tree species along the peripheries of the right-of-way. These standards define the zone that shall be cleared of all tree growth as the area between structures 10 ft. to either side of the outside conductor. The remainder of the right-of-way from the cleared area to the right-of-way limit shall be screened. This translates to mean that only trees in excess of 10 ft. in height would be removed from the outer zone.

2. Herbicides shall not be used for vegetation control along the transmission line without prior approval of the Department.

#### XIV. Construction in Waters of the State

No construction in waters of the State shall commence without obtaining lease or title from the Department of Natural Resources.

#### XV. Cooling Water Treatment

A study to determine the presence of pathogenic organisms in the sewage treatment plant effluent shall be performed to determine the degree of treatment required prior to use in cooling towers. A plan or study will be developed by the Department and the Department of Health & Rehabilitative Services. Based on the number of pathogenic organisms detected, the final degree of treatment and amount of chlorination to be required will be determined by the Department.