

Memorandum

Florida Department of Environmental Protection

TO: Howard Rhodes

THRU: Clair Fancy
Al Linero *mc for AL*

FROM: Martin Costello *mc*

DATE: April 13, 1998

SUBJECT: Lakeland Electric and Water Utilities
Permit No. PSD-FL-166B / AC53-190437
Charles Larsen Memorial Power Plant, Unit 8

1. Attached for approval and signature is a letter that will amend the above referenced construction permit.
2. No comments were received from the applicant or other parties since the public notice. This action authorizes several changes requested by the applicant. This action also denies a request to extend the averaging period for the NOx standard to a 30 day rolling average. The Department determined that lengthening the averaging time from a 3 hour average to a 30 day rolling average was a relaxation of the BACT standard for this combustion turbine equipped with water injection for controlling NOx.
3. I recommend your approval and signature.

Attachments

AAL/mc

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit

Ms. Farzie Shelton
Lakeland Electric and Water Utilities
501 East Lemon Street
Lakeland, Florida 33801-5050

DEP File No. 1050003-005
PSD-FL-166B / AC53-190437

Enclosed is the FINAL Permit Number PSD-FL-166B / AC53-190437. This permit is re-issued for the following changes: deletion of permit requirements for mercury, lead, and beryllium, replacement of the fuel oil usage limit with a curve of fuel oil usage vs compressor inlet temperature, clarification of the type of changes at the facility that would require the company to notify the Department and apply for a permit modification, and removal of the typ limits for CO and H₂SO₄. This amendment also adds the short term limit for CO (25 ppm) that was established in the BACT but inadvertently left out of the original PSD permit. This permit is issued pursuant to Chapter 403, Florida Statutes and 62-4 through 297 F.A.C.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.



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


CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 4-17-98 to the person(s) listed:

Ms. Farzie Shelton, Lakeland Electric and Water *
Mr. Brian Beals, EPA
Mr. John Bunyak, NPS
Mr. Bill Thomas, SWD

Clerk Stamp

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

 4-17-98
(Clerk) (Date)

Florida Department of Environmental Protection

Memorandum

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Ms. Garzie Shelton
Lakeland Electric & Water
501 E. Lemon St.
Lakeland, FL

33801-5050

4a. Article Number

P 265 659 337

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

APR 20 1995

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X Yuma M. Walker

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 265 659 337

US Postal Service
Receipt for Certified Mail
 No Insurance Coverage Provided.
 Do not use for International Mail (See reverse)

Sent to	Garzie Shelton
Street & Number	Lakeland Electric & Water
Post Office, State, & ZIP Code	Lakeland, FL
Postage	
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	4-17-95

PS Form 3800, April 1995
 1050003-005-AC
 PON-FI-166B



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:

Lakeland Electric and Water
501 East Lemon Street
Lakeland, Florida 33801-5050

Permit No.	AC53-190437
PSD No.	PSD-FL-166B
File No.	1050003-005-AC
Expires	December 31, 1998
Facility	Charles Larsen Memorial Plant
Unit No.	Combined Cycle Combustion Turbine, Unit 8

Authorized Representative:
Ms. Farzie Shelton
Environmental Coordinator

LOCATED AT:

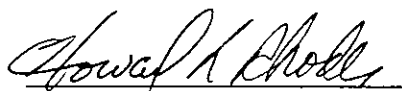
Charles Larsen Memorial Plant
Standard Industrial Classification Code (SIC): 4911
Polk County, Florida
Directions: Located on the south side of Lake Parker on US Highway 92 in Lakeland, Polk County

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached Appendices and Tables made a part of this permit:

Original construction permit: AC53-190437 / PSD-FL-166 issued 7/25/91
Modification: Dated 12/18/95, added a custom fuel monitoring schedule, clarified ISO correction, and adjusted SO₂ and H₂SO₄ limits
Table 1: Revised Emission limits
Curves: Oil Input vs Compressor Inlet Temperature


Howard L. Rhodes, Director
Division of Air Resources
Management

FINAL DETERMINATION

Lakeland Electric and Water Utilities

Permit No. PSD-FL-166B / AC53-190437

**Charles Larsen Memorial Power Plant, Unit 8
120 Megawatt Combustion Turbine and
Heat Recovery Steam Generator
Polk County**

An Intent to Issue an air construction permit for the Lakeland Electric and Water Utilities, Charles Larsen Memorial Power Plant, located on the south side of Lake Parker on US Highway 92 in Lakeland, Polk County, was distributed on February 23, 1998. The Public Notice of Intent to Issue Air Construction Permit was published in the Tampa Tribune on March 11, 1998. Comments were not submitted in response to the public notice.

The final action of the Department will be to issue the permit as proposed.

AIR CONSTRUCTION PERMIT AC53-190437 / PSD-FL-166B
SPECIFIC CONDITIONS

Specific Condition #7:

From:

7. Any change in the method of operation, equipment or operating hours shall be submitted to the DER's Bureau of Air Regulation and Southwest District Offices.

TO:

7. The owner or operator shall submit to the Permitting Authority(s), for review any changes in, or modifications to: the method of operation; process or pollution control equipment; increased equipment capacities; or any change which would result in an increase in potential or actual emissions. Depending on the size and scope of the modification, it may be necessary to submit an application for, and obtain, an air construction permit prior to making the desired change. *Routine maintenance of equipment will not constitute a modification of this permit.* [Rule 62-4.030, 62-210.300 and 62-4.070(3), F.A.C.]

Specific Condition #19:

FROM:

This source shall comply with all applicable provisions of Chapter 403, Florida Statutes and Chapters 17-2 and 17-4, Florida Administrative Code.

TO:

This source shall comply with all applicable provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297, Florida Administrative Code. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

- a. Visible emissions, if there is an applicable standard;
- b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
- c. Each NESHAP pollutant, if there is an applicable emission standard.

AIR CONSTRUCTION PERMIT AC53-190437 / PSD-FL-166B
SPECIFIC CONDITIONS

SPECIFIC CONDITIONS:

I. This permit supersedes permit AC53-190437 / PSD-FL-166 dated July 25, 1991, as changed by amendment dated December 18, 1995.

II. The provisions of permit AC53-190437 / PSD-FL-166 are incorporated into this permit except for the following changes:

Specific Condition #1:

Table 1 referenced in this condition shall be replaced with the attached Table 1 (revised December 18, 1995 and April 13, 1998).

Specific Condition #2:

This condition is replaced with the following:

2. Emissions of mercury shall be limited by firing only natural gas or No. 2 fuel oil.

Specific Condition #6:

From:

6. The permitted materials and utilization rates for the combined cycle gas turbine shall not exceed the values as follows:

- Maximum No. 2 fuel oil consumption shall not exceed either of the following limitations: 9190 gal/hr; 23,914,800 gals/yr.
- Maximum annual firing using No. 2 fuel oil shall not exceed 1/3 of the annual capacity factor.
- Maximum sulfur (S) content in the No. 2 fuel oil shall not exceed 0.20 percent by weight.
- Maximum heat input shall not exceed 1055 MMBtu/hr (gas) or 1040 MMBtu/hr No. 2 fuel (oil).

TO:

6. The permitted materials and utilization rates for the combined cycle gas turbine shall not exceed the values as follows:

- Maximum No. 2 fuel oil consumption shall not exceed either of the following limitations: the values in the attached Oil Input VS Compressor Inlet Temperature curve and 23,914,800 gals/yr.
- Maximum annual firing using No. 2 fuel oil shall not exceed 1/3 of the annual capacity factor.
- Maximum sulfur (S) content in the No. 2 fuel oil shall not exceed 0.20 percent by weight.
- Maximum heat input shall not exceed 1055 MMBtu/hr (gas) or 1040 MMBtu/hr No. 2 fuel (oil).

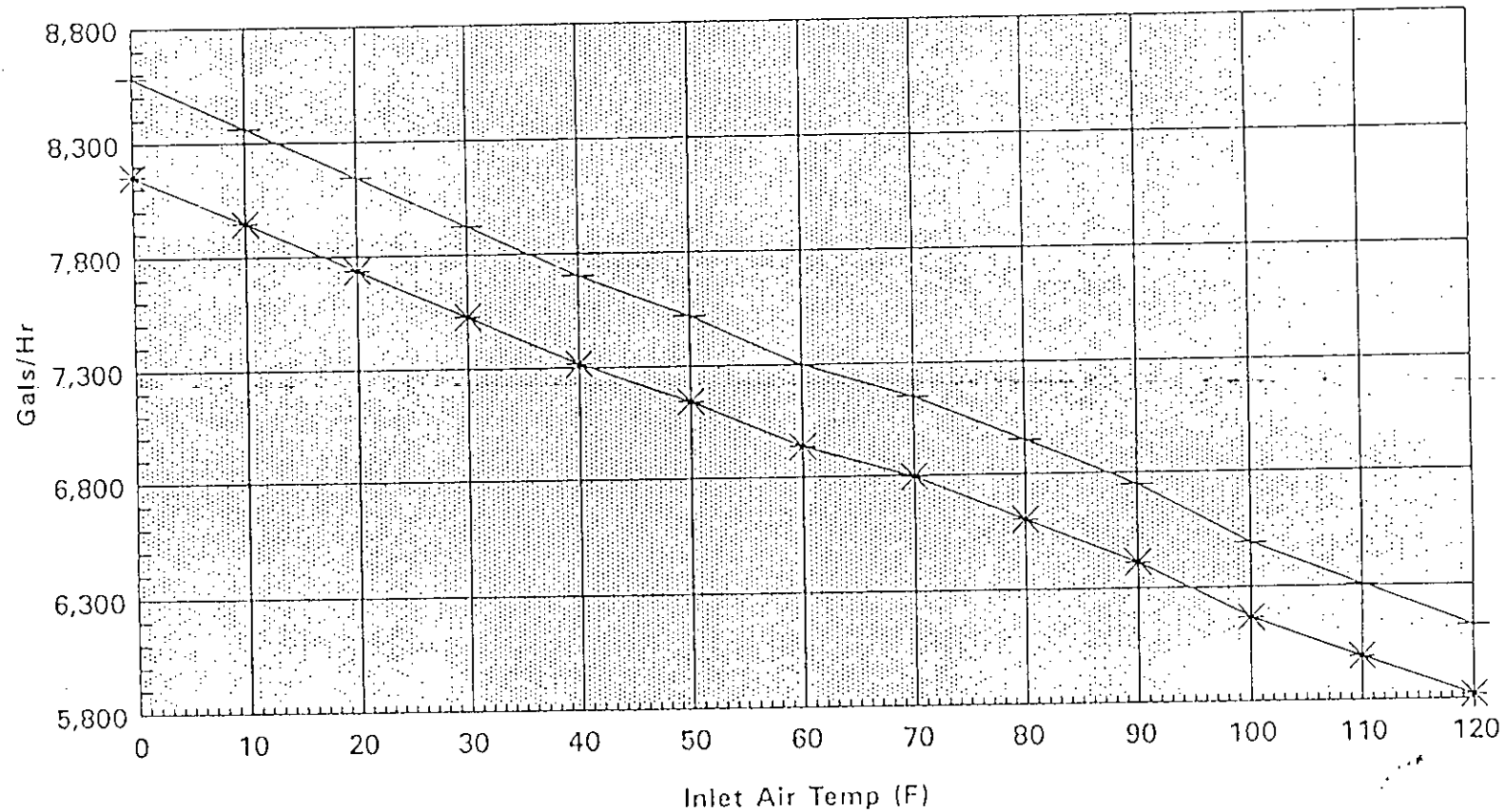
TABLE 1
ALLOWABLE EMISSION LIMITS
Combined Cycle Combustion Turbine
(Revised 12/18/95 and 4/13/98)

Pollutant	Gas Firing	<u>Standards</u>	<u>Gas Turbine and HRSG ^(a)</u>		Basis
			Gas	Tons Per Year Oil	
NO _x	25 PPM at 15% oxygen on a dry basis	42 ppmv at 15 percent oxygen on a dry basis	425	244	BACT
SO ₂	Natural gas a fuel	0.20 percent S by weight	8.6	307	BACT
PM/PM ₁₀	0.006 lb/MMBtu	0.025 lb/MMBtu	22	22	BACT
VOC	-	-	9	6.7	BACT
CO	25 ppmv at 15 percent oxygen on a dry basis	25 ppmv at 15 percent oxygen on a dry basis			BACT
Sulfuric Acid Mist	Natural gas as fuel	Low sulfur content oil			BACT

(a) Emissions rates based on 100 percent capacity factor for natural gas and 1/3 capacity factor for oil firing.

Unit 8

Oil Input vs Compressor Inlet Temperature



+ Design Input #2 Oil * 95% Design Input #2 Oil

Peak Mode

Using LHV of #2 Oil

2/25/97