



May 13, 1997

Farzie Shelton
ENVIRONMENTAL COORDINATOR, Ch E.

Clair H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 5505
Tallahassee, FL 32301

RECEIVED
MAY 13 1997
BUREAU OF
AIR REGULATION

RE: Charles Larsen Memorial Power Plant
Revised Draft Title V Permit No. 1050003-004-AV
Facility ID No. 105003; Polk County

Dear Clair:

On behalf of Lakeland Electric and Water Utilities, I want to thank you and your staff for making many of our requested changes in the revised draft Title V permit for the Charles Larsen Memorial Power Plant, which we received on April 25, 1997. We very much appreciate the cooperation we have received from you and your staff in addressing our concerns regarding the original draft permit. While a vast majority of our concerns have been alleviated, we have identified a few issues that we feel should be addressed prior to issuance of the proposed and final permits. As you may be aware, we have requested a thirty-day extension to file for a formal hearing, which should provide ample opportunity for us to resolve these relatively minor but nevertheless important issues for Lakeland. Our specific concerns are set forth in the following paragraphs.

Startup Fuels--As requested, the Department added propane and No. 2 fuel oil for Units 6 and 7 as "startup fuels." These two fuels were, however, listed as the *exclusive* startup fuels. Both No. 6 fuel oil and natural gas are also used for startup and should be included as "startup fuels" in Conditions A3 and B3.

A3/B3a. Startup: The only fuels allowed to be burned are propane, No. 2 fuel oil, natural gas, No. 6 fuel oil, or any combination of these fuels.

Averaging Periods--Based on the U.S. Environmental Protection Agency's recently issued "Any Credible Evidence" rule, Lakeland believes that it would be appropriate to specify an averaging period for the 2.75 lb/mmBtu sulfur dioxide limits for Units 6 and 7. Because the stack-test method is based on a three-hour average, Lakeland requests that a three-hour averaging period be specified for the sulfur dioxide limits in Conditions A9 and B9. In addition, a three-hour averaging period should be specified for the heat input limits in Conditions A1 and B1, consistent with the sulfur dioxide averaging times. Because the most accurate method of measuring the actual heat input is based on the heating value of the fuel used and fuel flow meter data, Lakeland again requests that this be identified in the permit conditions as the compliance method.

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A1/B1. Permitted Capacity. The maximum operation heat input rate, based on a three-hour average, is as follows: . . .

Compliance with the heat input limits shall be determined based on the heating value of the fuels used and fuel flow meter data.

A9/B9. Sulfur Dioxide. When burning liquid fuel, sulfur dioxide emissions shall not exceed 2.75 pounds per million Btu heat input, as measured by applicable compliance methods (3-hour average).

Fuel Analysis--Because the sulfur content limit for the gas turbine peaking units was voluntarily requested by Lakeland and is therefore not federally enforceable, the requirement to demonstrate compliance based on a fuel analysis should also be considered "not federally enforceable." Lakeland requests that this clarification be added to Condition C9. In addition, to clarify that not only may "vendor data" be used to determine compliance with the sulfur content limits, Lakeland's own as-received data can be used for compliance purposes, Lakeland requests that language to this effect be added to Conditions A14, B14, and C9.

A14/B14. Sulfur Dioxide. The permittee elected to demonstrate compliance by accepting a liquid fuel sulfur limit that will be verified with a fuel analysis provided by the vendor or the permittee upon each fuel delivery.

. . .

C9. Not federally enforceable. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by means of a fuel analysis provided by the vendor or the permittee upon each fuel delivery.

Heat Input/Fuel Use Restrictions--Because the heat input and fuel use restrictions are not required under Department rules or a federally enforceable construction permit, and have not otherwise been approved as part of Florida's State Implementation Plan, Lakeland requests that the heat input limits and fuel use restrictions included in Conditions A1, A2, A3, A21, B,1, B2, B3, B21, C1, C2, and C3 be designated as "not federally enforceable." (See example above.) Also, because the heat input rate correction curves for the Unit 8 combustion turbine as well as the three peaking gas turbines (EU ID No. 005, 006, 007, and 008) have previously been provided to the Department, Conditions C1, D1, C13, and D35 should be revised to reflect the appropriate curves.

C1 Permitted Capacity. The maximum operation heat input rates at an inlet temperature of 59 degrees F are as follows: . . .

D1 Permitted Capacity. The maximum process/operation rate at an inlet temperature of 59 degrees F is 1055 MMBtu per hour (lower heating value) heat input firing natural gas and 1040 MMBtu per hour (lower heating value) heat input firing No. 2 distillate oil.

C13/D35. Operating Rate during Testing.

. . .

b. . . . ~~Data, curves,~~ and calculations necessary to demonstrate the heat input rate correction at ~~both design and~~ test conditions shall be submitted to the Department with the compliance test report, consistent with the heat input curves previously submitted to the Department based on design conditions.

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Emission Limits--Lakeland notes that emission limits have been added for carbon monoxide, volatile organic compounds, mercury, lead, and beryllium emissions from Unit 8 in Conditions D13-D17, D33. While the Department has clarified that initial compliance tests for these pollutants have been satisfied and no further tests are required, Lakeland requests that these conditions be deleted. At a minimum, the short-term limit for carbon monoxide should be deleted since it was not included in the construction permit and there is no other basis upon which to establish this limit. In addition, it appears that the word "by" was inadvertently omitted from Condition D31, and it should be inserted to help avoid any confusion as to the compliance requirements for sulfuric acid mist, as follows:

D31. Sulfuric Acid Mist. Compliance with the sulfuric acid mist standard shall be demonstrated by using natural gas or 0.2 percent sulfur, by weight, No. 2 distillate oil.

ISO/Four Load Testing--Lakeland again requests that Conditions D26 and D27 be revised to clarify that the nitrogen oxides emissions are not to be corrected to "ISO," other than to determine initial compliance with the NSPS limit, and clarify that the annual nitrogen oxides testing is not required at four different loads. Similar corrections were made in 1995 and 1996 to the construction and operation permits, respectively, and should be made to the Title V permit as well to help avoid potential confusion (see Attachment 1). In addition, the changes being requested are consistent with the Department's guidance regarding compliance testing requirements for combustion turbines dated November 22, 1995.

D.26 When determining compliance with 40 CFR 60.332, Subpart GG--Standards of Performance for Stationary Gas Turbines, the monitoring device of 60.334(a) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with the ~~permitted~~ NSPS NOx standard at 30, 50, 75, and 100 percent of peak load or at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer only to determine initial compliance with the NSPS NOx standard.

D.27 The owner or operator shall determine initial compliance with the nitrogen oxides and sulfur dioxide standards in 40 CFR 60.332 as follows: c. U.S. EPA Method 20 (40 CFR 60, Appendix A) shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. The NOx emissions shall be determined at each of the load conditions specific in 40 CFR 60.335(c)(2) for the initial compliance test. Testing at four loads shall not be required for subsequent annual compliance tests.

Visible Emissions Compliance Testing--In the revised draft permit, an additional sentence was added to Conditions A5 and B5, stating that particulate matter compliance tests must be conducted "annually and as otherwise required by Chapter 62-297, F.A.C." While Lakeland understands that this is simply a quotation from Rule 62-296.406(1)(a), it should be deleted since it conflicts with Conditions A24 and B24 and the Department's March 18, 1997 Order attached to the draft permit clarifying that annual testing is not required for units operating less than 400 hours on solid or liquid fuels.

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A5/B5. Visible Emissions. Visible emissions shall not exceed 20 percent opacity, except for one two-minute period per hour during which opacity shall not exceed 40 percent. ~~Emissions units governed by this visible emissions limit shall comply with the particulate matter emissions annually and as otherwise required by Chapter 62-297, F.A.C.~~

Excess Emissions--Based on statements made by Department representatives at the recent "Compliance Simplification Rulemaking" workshop held on May 8, 1997, Lakeland understands that sources with emissions subject to New Source Performance Standards must comply with the excess emission provisions of 40 CFR Part 60 instead of the provisions of Rule 62-210.700(1), F.A.C. Since Unit 8's nitrogen oxide and sulfur dioxide emissions are subject to NSPS Subpart GG, which does not limit the period for excess emissions, the provisions of Condition D18, which quote Rule 62-210.700(1), F.A.C., should exclude sulfur dioxide and nitrogen oxides emissions. Lakeland therefore requests that the conditions be revised to address the excess emissions allowed for sulfur dioxide and nitrogen oxides under the applicable NSPS, as follows:

D18. Excess sulfur dioxide and nitrogen oxide emissions are allowed during periods of startup, shutdown, and malfunction. Excess emissions of all other emission-limited pollutants from this emissions unit resulting from startup, shutdown or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1); 40 CFR 60.8(c)]

Summary Tables--The summary tables should be corrected to be consistent with the permit conditions, specifically:

- Clarify that no particulate matter testing is required while firing natural gas
- Change the stack test duration from 1-hour to 3-hour average
- Change the frequency base date for Unit 7 to June instead of January and explain the purpose of the dates
- Limit the visible emission test requirements for the gas turbine units to gas instead of "all" fuels
- Limit the particulate matter testing requirements for Unit 8 to only when opacity exceeds 10 percent instead of upon "renewal"
- Remove the frequency base dates for carbon monoxide, volatile organic compounds, mercury, lead, and beryllium since no future stack tests are required

(See marked-up tables attached showing requested corrections, Attachment 2.)

General Conditions--Several conditions in TV-1 (the general conditions) should be identified as being "not federally enforceable," including Conditions 10 defining "immediately," Conditions 17 and 56 regarding the State asbestos requirements, and Conditions 54 and 57 regarding open burning. In addition, Lakeland requests that Condition 58 regarding unconfined particulate matter emissions be deleted since the facility-specific requirements were included in

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Chief, Bureau of Air Regulation
Florida Department of Environmental Protection
May 13, 1997
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the facility section of the permit. In the earlier version of the general conditions, the exemption provisions from Rule 62-4.040(1)(a), F.A.C., had been included. It is unclear why these provisions have been deleted from the revised draft permit. Because this rule applies and it clarifies that structural changes at a facility that do not affect air emissions or cause air pollution are exempted from permitting requirements, it would be helpful to include it in the list of general applicable requirements.

____. Structural changes which will not change the quality, nature, or quantity of air contaminant emissions or which will not cause pollution are exempted from the requirements of Chapter 62-4 and 62-213, F.A.C.

Construction Permit Changes--Lakeland has requested that the Department delete the fuel use limitations for Unit 8 and, based on recent Department guidance, delete the emission limits for lead, mercury, and beryllium. If the construction permit is revised as requested, Lakeland requests that the same changes be made to the Title V permit. In addition, Lakeland has requested that the construction permit be revised to specify the averaging period for the nitrogen oxide limit. Once this change is made, Lakeland requests that it also be made to Condition D2 of the Title V permit. (See request for construction permit changes included as Attachment 3.)

After you and your staff have reviewed and considered our comments, we would appreciate receiving a written response from you or your staff, such as draft "replacement" pages for the permit or a letter explaining the Department's position regarding these issues. Thank you again for your continued cooperation. We look forward to hearing from you soon and continue to feel optimistic that all of these issues can be resolved without the need for a formal hearing. If you or your staff have any questions, please contact me at 941-499-6603.

Sincerely,



Farzie Shelton
Environmental Coordinator

cc: Howard L. Rhodes, DEP
Pat Comer, DEP OGC
Scott M. Sheplak, DEP
Edward Svec, DEP
Ronald Tomlin, Lakeland
Angela 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

December 18, 1995

CERTIFIED MAIL RETURN RECEIPT REQUESTED

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

Dear Ms. Shelton:

Re: Charles Larson Power Plant Unit 8--Combustion Turbine
PSD-FL-166/AC53-190437
Request to amend permit

The Department is in receipt of your June 27, 1995 request to amend the above referenced permit. You requested a customized fuel monitoring schedule for the sulfur and nitrogen content of the natural gas fired in the turbine. You also requested that the sulfur dioxide and sulfuric acid mist permit limits be changed. In addition, you requested clarification of the nitrogen oxides compliance testing requirements, i.e. the ISO correction, specified in the above referenced permit.

The Department acknowledges your oversight in neglecting the sulfur from mercaptans (which are added to the natural gas for safety reasons) in your estimate of annual SO₂ emissions. The Department also agrees that a typographical error was apparently made in the annual emission limits for sulfuric acid mist, both for natural gas and oil.

The Department hereby incorporates each of the following amendments to the above referenced permit:

Custom Fuel Monitoring Schedule

The proposed custom fuel monitoring schedule (attached) has been approved by EPA and is included as an attachment to the above referenced permit. This fuel monitoring schedule supersedes AC53-190437 / PSD-FL-166 condition 23 which

Ms. Farzie Shelton
December 18, 1995
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requires annual reports for nitrogen content of the fuel being fired, as this condition applies to the firing of natural gas.

Annual Sulfur Dioxide And Sulfuric Acid Mist Limits

The annual sulfur dioxide and sulfuric acid mist limits is changed as follows:

TABLE 1

FROM:

SO₂..... 2.6 (tpy on gas)

Sulfuric Acid Mist..... - (tpy on gas)... 3.3×10^{-3} (tpy on oil)

TO:

SO₂..... 8.6 (tpy on gas)

Sulfuric Acid Mist..... 0.8 (tpy on gas)... 9.13 (tpy on oil)

Correction of NO_x Emissions to ISO Conditions

Based on the recent guidance memorandum on combustion turbines the Department hereby removes the requirement to correct the test data to ISO conditions for comparison with the NO_x emission limits established pursuant to the BACT determination for gas and oil firing. To institute this change, Permit PSD-FL-166/AC53-190437 Specific Condition 13 is amended as follows:

During the initial performance tests, to determine compliance with the proposed NSPS NO_x standard, measured NO_x emission at 15 percent oxygen will be adjusted to ISO

A copy of this amendment letter shall be attached to and

*

Ms. Farzie Shelton
December 18, 1995
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shall become a part of Air Construction Permit PSD-FL-166 /
AC53-190437.

Sincerely,



for Howard L. Rhodes, Director
Division of Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies
that this PERMIT AMENDMENT and all copies were mailed by
certified mail before the close of business on 12-22-95 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.

Jerry Kissel 12-22-95
Clerk Date

Copies to be furnished to:

Jerry Kissel, SWD
Jewell Harper, EPA
Roy Harwood, Polk Co.

CUSTOMED FUEL MONITORING SCHEDULE

1. Monitoring of natural gas nitrogen content shall not be required in accordance with page 2 of the EPA guidance memorandum, attached.
2. Sulfur Monitoring
 - a. Analysis for sulfur content of the natural gas shall be conducted using one of the EPA-approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternate method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR § 60.335(b)(2).
 - b. Effective on the approval date of the customized fuel monitoring schedule, sulfur monitoring shall be conducted twice a month for six months. If this monitoring shows little variability in the sulfur content and indicates consistent compliance with 40 CFR § 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
 - c. If the sulfur content monitoring required for natural gas by 2(b) above shows little variability and the calculated sulfur dioxide emissions represent consistent compliance with the sulfur dioxide emission limits specified under 40 CFR § 60.333, sample analysis shall be conducted twice per year. This monitoring shall be conducted during the first and third quarters of each calendar year.
 - d. Should any sulfur analysis as required by items 2(b) or 2(c) above indicate noncompliance with 40 CFR § 60.333, the City will notify the Department of Environmental Protection of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while this monitoring schedule is being reexamined.
3. The City will notify the Department of Environmental Protection of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e., sulfur content varying greater than 10 grains/1000 cf gas) shall be considered as a change in natural gas supply. Sulfur content of the natural gas will be monitored weekly during the interim period when this monitoring schedule is being reexamined.
4. Records of sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by the City for a period of three years, and shall be available for inspection by appropriate regulatory personnel.
5. The City will obtain the sulfur content of the natural gas from Florida Gas Transmission Company. (The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.)

Table 2-1, Summary of Compliance Requirements

Lakeland Electric & Water Utilities
Charles Larsen Memorial Power Plant

DRAFT Permit No.: 1050003-004-AV
Facility ID No.: 1050003

E.U. ID No. Brief Description
-003 Fossil Fuel Fired Steam Generator #6

This table summarizes information for convenience purposes only.
This table does not supersede any of the terms or conditions of this permit.

Pollutant Name or parameter	Fuel(s)	Compliance Method	Testing Time Frequency	Frequency Base Date *	Min. Compliance		See Permit Condition(s)
					Test Duration	CMS **	
PM	Oil	EPA Method 17, 5, 5B, or 5F	Annual	30-May	1 hour ***		III.A.18.
PM	Gas	EPA Method 17, 5, 5B, or 5F	Annual	30-May	1 hour ***		III.A.18. & 24.
SO ₂	Oil	EPA Method 6, 6A, 6B, 6C, or Sulfur Fuel Limit	Annual	30-May	1 hour ***		III.A.19.
VE	Oil oil	DEP Method 9	Annual	30-May	60 minutes		III.A.17. & 23.

Notes:

*Frequency base date established for planning purposes only; see Rule 62-297.310. F.A.C.

**CMS [=] continuous monitoring system

*** Three-hour average / three one-hour runs averaged.
(electronic file name: 10500032.xls)

Table 2-1, Summary of Compliance Requirements

Lakeland Electric & Water Utilities
Charles Larsen Memorial Power Plant

DRAFT Permit No.: 1050003-004-AV
Facility ID No.: 1050003

E.U. ID No.	Brief Description
-004	Fossil Fuel Fired Steam Generator #7

This table summarizes information for convenience purposes only.
This table does not supersede any of the terms or conditions of this permit.

Pollutant Name or parameter	Fuel(s)	Compliance Method	Testing Time Frequency	Frequency Base Date *	Min. Compliance Test Duration	CMS **	See Permit Condition(s)
PM	Oil	EPA Method 17, 5, 5B, or 5F	Annual	30-Jan June	1 Hour ***		III.B.18.
PM	Gas	EPA Method 17, 5, 5B, or 5F	ASP No. 97-B-01	30-Jan June	1 Hour ***		III.B.18. & 24.
SO ₂	Oil	EPA Method 6, 6A, 6B, 6C, or Sulfur Fuel Limit	Annual	30-Jan June	1 Hour ***		III.B.19.
VE	All Oil	DEP Method 9	Annual	30-Jan	60 Minutes		III.B.17. & 23.

Notes:

* Frequency base date established for planning purposes only; see Rule 62-297.310. F.A.C.

**CMS | = | continuous monitoring system

*** Three-hour average / three one-hour runs averaged
[electronic file name: 10500032.xls]

Table 2-1, Summary of Compliance Requirements

Lakeland Electric & Water Utilities
Charles Larsen Memorial Power Plant

DRAFT Permit No.: 1050003-004-AV
Facility ID No.: 1050003

E.U. ID No.	Brief Description
-005	Peaking Gas Turbine #3
-006	Peaking Gas Turbine #2
-007	Peaking Gas Turbine #1

This table summarizes information for convenience purposes only.
This table does not supersede any of the terms or conditions of this permit.

Pollutant Name or parameter	Fuel(s)	Compliance Method	Testing Time Frequency	Frequency Base Date *	Min. Compliance Test Duration	CMS **	See Permit Condition(s)
Sulfur	Oil	Fuel Sampling and Analysis					III.C.9. & 12.
VE	Oil (Gas if oil not fired)	EPA Method 9	Annual if > 400 hrs; otherwise upon renewal	5-Mar	30 Minutes		III.C.11. & 16.

Notes:

* Frequency base date established for planning purposes only; see Rule 62-297.310, F.A.C.

**CMS [=] continuous monitoring system

[electronic file name: 10500032.xls]

Table 2-1, Summary of Compliance Requirements

Lakeland Electric & Water Utilities
Charles Larsen Memorial Power Plant

DRAFT Permit No.: 1050003-004-AV
Facility ID No.: 1050003

E.U. ID No. Brief Description
-008 Combined Cycle Combustion Turbine

This table summarizes information for convenience purposes only.
This table does not supersede any of the terms or conditions of this permit.

Pollutant Name or parameter	Fuel(s)	Compliance Method	Testing Time Frequency	Frequency Base Date *	Min. Compliance Test Duration	CMS **	See Permit Condition(s)
NO _x	All	EPA Method 20	Annual	30-Dec	1 Hour ***		III.D.27.
PM/PM ₁₀	Oil	EPA Method 5, 5B or 17	Renewal	30-Dec	1 Hour ***		III.D.30.
SAM	All	Low Sulfur Fuel	<i>If > 10% opacity</i>				III.D.31.
VE	All	EPA Method 9	Annual	30-Dec	30 Minutes		III.D.32.
Water to Fuel	All	(2045) (fuel heat rate)	<i>> 400 hours, otherwise upon renewal</i>			yes	III.D.21.
VOC	All	Compliance with CO	Initial	30-Dec			III.D.33.
CO	All	EPA Method 10	Initial	30-Dec			III.D.33.
Hg	Oil	EPA Method 101 or Fuel Analysis	Initial	30-Dec			III.D.33.
Pb	Oil		Initial	30-Dec			III.D.33.
Be	Oil	EPA Method 104 or Fuel Analysis	Initial	30-Dec			III.D.33.

Notes:

* Frequency base date established for planning purposes only; see Rule 62-297.310. F.A.C.

** CMS | = | continuous monitoring system

*** Three-hour average / three one-hour runs averaged
[electronic file name: 10500032.xls]



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

NOTICE OF PERMIT AMENDMENT

CERTIFIED MAIL

February 1, 1996

Mr. Charles D. Garing, Manager
Charles Larsen Power Plant
City of Lakeland
Department of Electric & Water
501 East Lemon Street
Lakeland, FL 33801-5050

RECEIVED
FEB 14 1996

Dear Mr. Garing:

Re: Polk County - Air Permit
DEP File No. 1050003-003-A0
Permit A053-219296
(Larsen Unit No. 8)

T.C. Bales, McIntosh Plant Manager
Dept. of Electric & Water Utilities
City of Lakeland
Lakeland, Florida

Enclosed is an amendment to A053-219296, for the combined-cycle combustion turbine designated Charles Larsen Power Plant Unit No. 8, located at 2002 E. U.S. Hwy 92, Lakeland, Polk County. The Department, pursuant to Florida Administrative Code Rule 62-4.070, hereby amends the permit as follows:

CHANGE SPECIFIC CONDITION NO. 5 FROM:

5. The maximum allowable emissions from this source shall not exceed the emission rates shown in the table below:

Pollutant	Standards		Tons/year	
	Natural Gas	No. 2 Oil	Gas	Oil
NOx	25 ppm (a)	42 ppm (a)	425	244
SO2	-	-	2.6	307
PM/PM10	0.006 lb/MMBtu	0.025 lb/MMBtu	22	22
VOC	-	-	9	6.7
CO	-	-	232	79
Mercury (Hg)	-	0.000003 (b)	-	0.003
Lead (Pb)	-	0.000028 (b)	-	0.03
Beryllium	-	0.0000025 (b)	-	0.003
S.Acid Mist	-	-	-	0.0032

"Protect, Conserve and Manage Florida's Environment and Natural Resources."

City of Lakeland
A053-219296

Specific Condition No. 5 - continued:

Notes: (a) @ 15% oxygen on a dry basis (b) lbs/MMBtu
[Const. Permit No. AC53-190437 and BACT Determination of 7/26/91].

CHANGE SPECIFIC CONDITION NO. 5 TO:

5. The maximum allowable emissions from this source shall not exceed the emission rates shown in the table below:

Pollutant	Standards		Tons/year	
	Natural Gas	No. 2 Oil	Gas	Oil
NOx	25 ppm (a)	42 ppm (a)	425	244
SO2	0.009 lb/MMBtu	-	8.6	307
PM/PM10	0.006 lb/MMBtu	0.025 lb/MMBtu	22	22
VOC	-	-	9	6.7
CO	-	-	232	79
Mercury (Hg)	-	0.000003 (b)	-	0.003
Lead (Pb)	-	0.000028 (b)	-	0.03
Beryllium	-	0.0000025 (b)	-	0.003
S. Acid Mist	0.0017 lb/MMBtu	0.002 lb/MMBtu	0.8	9.13

Notes: (a) @ 15% oxygen on a dry basis (b) lbs/MMBtu

[Const. Permit No. AC53-190437, BACT Determination of 7/26/91, and amendment request dated October 19, 1995].

CHANGE SPECIFIC CONDITION NO. 13 FROM:

13. Test the gas turbine exhaust stack for emissions of the following annually on or during the 60 day period prior to August 6. Copies of the test data shall be submitted to the Air Program of the SW District Office of the Department within 45 days of such testing:

- (X) Visible Emissions (VE) (See also Specific Condition No. 21)
(this also serves as demonstration of compliance with the particulate emission limit)
- (X) Nitrogen Oxides (NOx)

[Construction Permit No. AC53-190437 and Rules 17-297.340 and 17-297.570, F.A.C.].

City of Lakeland
A053-219296

CHANGE SPECIFIC CONDITION NO. 13 TO:

13. Test the gas turbine exhaust stack for emissions of the following annually on or during the 60 day period prior to December 31st. The initial compliance test using this new anniversary date shall be conducted beginning in 1996. Copies of the test data shall be submitted to the Air Program of the SW District Office of the Department within 45 days of such testing:

- (X) Visible Emissions (VE) (See also Specific Condition No. 21)
(this also serves as demonstration of compliance with the particulate emission limit)
- (X) Nitrogen Oxides (NOx)

[Rules 62-297.340 and 62-297.570, F.A.C.].

CHANGE SPECIFIC CONDITION NO. 19 FROM:

19. For purposes of documenting compliance with the NOx limitation of Specific Condition No. 5 based on the results of the Method 20 stack test results, the NOx emission rate shall be computed for each run in accordance with 40 CFR 60.335(c)(1) (or 60.335(f)(1) if appropriate approvals are obtained).

[Rule 17-296.800, F.A.C., and 40 CFR 60.335].

CHANGE SPECIFIC CONDITION NO. 19 TO:

19. For purposes of documenting compliance with the NOx limitation of Specific Condition No. 5 based on the results of the Method 20 stack test results, the NOx emission rate shall be computed for each run in accordance with the requirements of the Method. ISO correction is not required.

[Rule 62-296.800, F.A.C., 40 CFR 60.335, and H. Rhodes memorandum dated November 22, 1995].

A person whose substantial interests are affected by this permit amendment 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 receipt of these Permits. 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.

City of Lakeland
A053-219296

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
- (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 these permits. 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 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.

This Permit Amendment is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 62-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this Permit Amendment will not be effective until further Order of the Department.

When the Order (Permit Amendment) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate procedure, with the Clerk of the

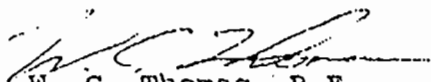
City of Lakeland
A053-219296

Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; 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 days from the date the Final Order is filed with the Clerk of the Department.

This Permit Amendment replaces the amendment dated January 18, 1996. This letter must be attached to and becomes a part of Permit No. A053-219296. If you should have any questions, please call Bill Schroeder of my staff at (813) 744-6100 extension 104.

Executed in Tampa, Florida.

Sincerely,



W. C. Thomas, P.E.
District Air Program Administrator

WCT/WES

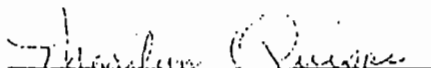
cc: Farzie Shelton, City of Lakeland
Martin Costello, DARM

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT AMENDMENT and all copies were mailed by certified mail before the close of business on
FEB 13 1996 to the listed persons.

Clerk Stamp

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


(Clerk)

FEB 13 1996
(Date)



Excellence Is Our Goal, Service Is Our Job
March 14, 1997

Farzie Shelton
ENVIRONMENTAL COORDINATOR, Ch E.

Clair H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 5505
Tallahassee, FL 32301

RE: Lakeland Electric and Water Utilities
Charles Larsen Memorial Power Plant
Unit No. 8--Combined Cycle Gas Turbine System
Permit Nos. PSD-FL-166 and AC53-190437
Request for Permit Revision

Dear Mr. Fancy:

During the Title V permitting process for the Charles Larsen Memorial Power Plant, Lakeland Electric and Water Utilities has identified several construction permit conditions for Unit No. 8 that should be revised. While some of these changes have been incorporated into the draft Title V permit that was issued for the facility on October 23, 1996, Department representatives have indicated that other changes that were requested as part of the Title V process must first be made in the construction permit. Lakeland believes that the changes being requested are appropriate and supported by the Department's air regulations. The specific changes requested are as follows:

A. **Limits Based on Draft Ambient Reference Concentrations.** Specific Condition 2 of the construction permit for Unit No. 8 establishes emission limits for lead, mercury, and beryllium based on Florida's draft Ambient Reference Concentrations. Lakeland requests that this condition be deleted in its entirety because there is no basis under state or federal law for this requirement. The draft Ambient Reference Concentrations are established only in an unpromulgated rule, which has not been properly adopted under Chapter 120, Florida Statutes. As an unpromulgated rule, the policy should not be used as the basis to establish permit limits. Further, any concern regarding the ambient concentrations of these pollutants should have been adequately addressed during the construction permitting process and by the modeling that was submitted with the PSD permit application. Deletion of these limits would also be consistent with recent Department guidance. Unit No. 8 is permitted to burn primarily natural gas with low sulfur No. 2 distillate fuel oil (sulfur content not to exceed 0.20 percent) as a backup, and a Department guidance memorandum dated May 19, 1995, indicates that concentrations of metals such as lead, mercury, and beryllium in low sulfur distillate oil and natural gas are so low as to be non-detectable. The guidance also states that emission limits for these metals are unnecessary. (Department Guidance Memorandum DARM-PER/GEN-18.) Because the quantities of these pollutants are so low and ambient modeling has already been performed indicating that the emissions from Unit No. 8 would not exceed any of the Department's draft Ambient Reference Concentrations, Lakeland requests that Specific Condition 2 (and corresponding Condition 18) be deleted.

B. Mercury, Lead, and Beryllium Mass Emission Limits. Lakeland also requests deletion of the mercury, lead, and beryllium mass emission limits established in Table 1. The Department's May 19, 1995 guidance referenced above regarding metal concentrations in low sulfur distillate fuel oil and natural gas states that concentrations of metals such as lead, mercury, and beryllium are so low as to be non-detectable, and states that emission limits for metals such as these are unnecessary. (Department Guidance Memorandum DARM-PER/GEN-18.) In addition, the Department's Best Available Control Technology determination for beryllium emissions from Unit No. 8 did not include a numeric emission limit; rather, it stated only that emissions were limited by natural gas and No. 2 fuel oil firing. Best Available Control Technology determinations were apparently not required for lead or mercury emissions. The Department's guidance clearly indicates that mass emission limitations for these metals are unnecessary and further indicates that, to the extent the guidance conflicts with an existing permit, the existing permit should be revised. The Department did not include the lead, mercury, or beryllium emission limits from Table 1 in the draft Title V permit issued on October 23, 1996, and Lakeland requests that the construction permit for Unit No. 8 be revised to be consistent with the Title V permit by deleting these unnecessary emission limits.

C. Limitations on Fuel Oil Quantity. Lakeland requests revision of the specific limitations on the total quantities of fuel oil that may be fired under Condition No. 6. These quantity limitations for fuel oil are based on the *average* heating value of distillate oil, and the actual fuel oil used in this unit would likely vary from the average, especially on a short-term basis. As the heat input into this unit is based on a curve of temperature versus heat input, it would be neither practical nor correct to use an average fuel oil quantity limitation. Furthermore, it is more limiting than necessary to subject this Unit to an annual maximum fuel oil limitation usage based on that average. As demonstrated in the attached curve, different quantities of fuel can be used while still meeting the heat input limits of the unit, based on the ambient temperature and varying heating values of the fuel. The use of the curves should more accurately reflect appropriate limitations on the quantities of fuel oil that may be used to ensure compliance with the maximum heat input limits for this unit. Lakeland therefore requests that the current limitations on the quantities of fuel oil that may be used in Condition No. 6 be replaced with the attached curves.

D. PM Compliance Test Method. Lakeland requests that Method 5B be included as an acceptable method for particulate matter compliance testing under Specific Condition 9.a. This test method is currently authorized in the operation permit for this unit, and has been included in the draft Title V permit as well. Lakeland requests that the construction permit be revised to specifically recognize the authority to use Method 5B, to be consistent with the current operation permit and draft Title V permit.

Clair H. Fancy, P.E.
Chief, Bureau of Air Regulation
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E. Sulfuric Acid Mist and Carbon Monoxide Emission Limitations. While Table 1 of the permit states that the annual sulfuric acid mist and carbon monoxide emissions are limited, there are no corresponding short-term limits or annual compliance testing requirements. The draft Title V permit issued by the Department does not include these annual limits, and Lakeland requests that they be deleted from the construction permit as well. Best available control technology for this unit is the use of natural gas as the primary fuel with restricted use of low sulfur diesel oil as the alternative fuel, and good combustion practices. It is not necessary to establish emission limitations for these pollutants, and Lakeland therefore requests that the annual limitations identified in Table 1 for sulfuric acid mist and carbon monoxide be deleted.

F. Averaging Periods for Particulate Matter Nitrogen Oxides, and Heat Input Rate. The U.S. Environmental Protection Agency recently finalized what is called the "Any Credible Evidence" rule, which provides that data from test methods other than the compliance methods identified in permits can be used as evidence in enforcement actions. (62 Fed. Reg. 8314, Feb. 24, 1997). Lakeland understands that the federal rule is not yet effective and the Florida Department of Environmental Protection has not yet formally adopted the new rule, it may nevertheless be appropriate to make certain clarifications at this time since the permit is in the process of being revised. While the methods for demonstrating compliance have been identified in the permit, clarification regarding the averaging times applicable to certain emission limits would also be appropriate.

Particulate Matter--The particulate matter emission limits in Table 1 should be identified as being based on a three-hour average, since the compliance test methods (Method 5 and 17 stack tests) recognizes the average of three 1-hour runs.

Nitrogen Oxides--Based on Section 403.0872(13)(b) of the Florida Statutes, if a continuous emissions monitor required under the acid rain program (40 CFR Part 75) is used to demonstrate compliance with a nitrogen oxides (NOx) limit, compliance is to be based on a 24-hour rolling average. This unit is subject to the acid rain program requirements and has installed and certified a continuous emissions monitor for NOx emissions under 40 CFR Part 75. Lakeland hereby requests that Specific Condition 9.b. of the permit be revised to identify the CEM as the method of demonstrating compliance with the permit limits of 25 and 42 ppm for natural gas and fuel oil, respectively, in lieu of a Method 20 stack test. Lakeland further requests, based on Section 403.0872(13)(b), Florida Statutes, that the permit be revised to clarify that compliance with the NOx limits in Table 1 is to be based on a 24-hour rolling average.

Heat Input--Specific Condition 6 provides that the maximum heat input is not to exceed 1055 mmBtu/hour while firing gas and 1040 mmBtu/hour while firing No. 2 fuel oil. Lakeland requests that this condition be revised to clarify that the heat input rate is to be determined

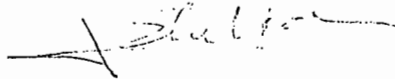
Clair H. Fancy, P.E.
Chief, Bureau of Air Regulation
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Page 4

based on the heating value of the fuel from vendor data and the quantity of fuel used. Lakeland also requests that the averaging time for the limits be specified as a 30-day rolling average.

G. Notice of Changes--Lakeland requests that Specific Condition 7 be deleted from the permit as unnecessary. This condition requires notice of "any changes" in the method of operation, equipment, or operating hours. Changes in the method of operation should require a notice only if the definition of "modification" is triggered, and the Department's rules address the notice and permitting requirements for modifications. There should be no requirement to notify the Department of changes in equipment unless it is a non-routine, non-replacement change that results in an increase in emissions, or is inconsistent with information previously provided to the Department. In addition, the unit is allowed to operate continuously, up to 8,760 hours per year, so it is unnecessary to provide notice the Department as to fluctuations in hours of operation, other than as part of the annual air operating report. For these reasons, Lakeland requests that Condition 7 be deleted in its entirety.

Thank you for your consideration of this request. Three copies of this letter are enclosed along with a \$250 processing fee pursuant to Rule 62-4.050(4)(r)5, F.A.C. If you have any questions or need any additional information, please contact Farzie Shelton at 941-499-6603.

Sincerely,



Farzie Shelton
Environmental Division

Enclosures

cc: Howard L. Rhodes, DEP
John Brown, DEP
Pat Comer, DEP OGC
Scott M. Sheplak, DEP
Edward Svec, DEP
Al Linero, DEP
Angela Morrison, HGSS

Memorandum

Florida Department of Environmental Protection

DARM-PER/GEN-18
REVISED

TO: District Air Program Administrators
County Air Program Administrators
BAR Air Permitting Staff

FROM: Howard L. Rhodes, Director *HLR*
Division of Air Resources Management

DATE: May 19, 1995

SUBJECT: Guidance on Testing Requirements in Permit Conditions for
the Determination of Metal Concentrations in Fuels.

This guidance replaces "Guidance on Testing Requirements in Permit Conditions for the Determination of Metal Concentrations in Fuels" (DARM-PER/GEN-18) dated April 6, 1995.

Rule 62-297.340(1)(a), F.A.C., requires the owner or operator of a new or modified emissions unit that is subject to an emission limiting standard to conduct a compliance test that demonstrates compliance with the applicable emission limiting standards prior to obtaining an operating permit for such emissions unit.

Recent data from analyses of new distillate fuel oil indicate that metal concentrations are low and in many cases non-detectable by ASTM test methods. Distillate fuel oil is defined as any fuel oil that contains 0.05 or less percent nitrogen, by weight, and complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society of Testing and Materials in ASTM D396-78, Standard Specifications for Fuel Oils. Test data indicate that the metal concentrations in gaseous fuels are non-detectable. Also, the analyses indicate that testing requirements for metal concentrations in gaseous fuels or the above mentioned distillate oils are unnecessary, burdensome, and costly. The metals of concern are lead (Pb), inorganic arsenic compounds (As), cadmium (Cd), chromium (Cr), nickel (Ni), mercury (Hg), vanadium (V), and beryllium (Be).

If permit applications and Department review show that emissions units that exclusively use natural gas, propane, or distillate oil fuels do not trigger Prevention of Significant Deterioration (PSD) or Nonattainment Area (NAA) New Source Review (NSR) determinations, mass emissions limitations for metals should not be included in the permit. Even if the emission levels of one or more of the above mentioned metals trigger PSD or NAA NSR, the permitting authority need not establish mass emissions limitations for such metals. However, the permit (which includes BACT or LAER determinations) should note that the metals emissions levels for natural gas, propane, and distillate fuels (as defined above) are generally non-detectable by ASTM test methods. A BACT or LAER determination that requires the exclusive use of the above referenced fuels automatically minimizes the emissions of the heavy

District Air Program Administrators
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May 19, 1995
Page Two

metals and should suffice without imposing specific mass emissions limitations for metals, which would require testing pursuant to Rule 62-297.340(1)(a), F.A.C.

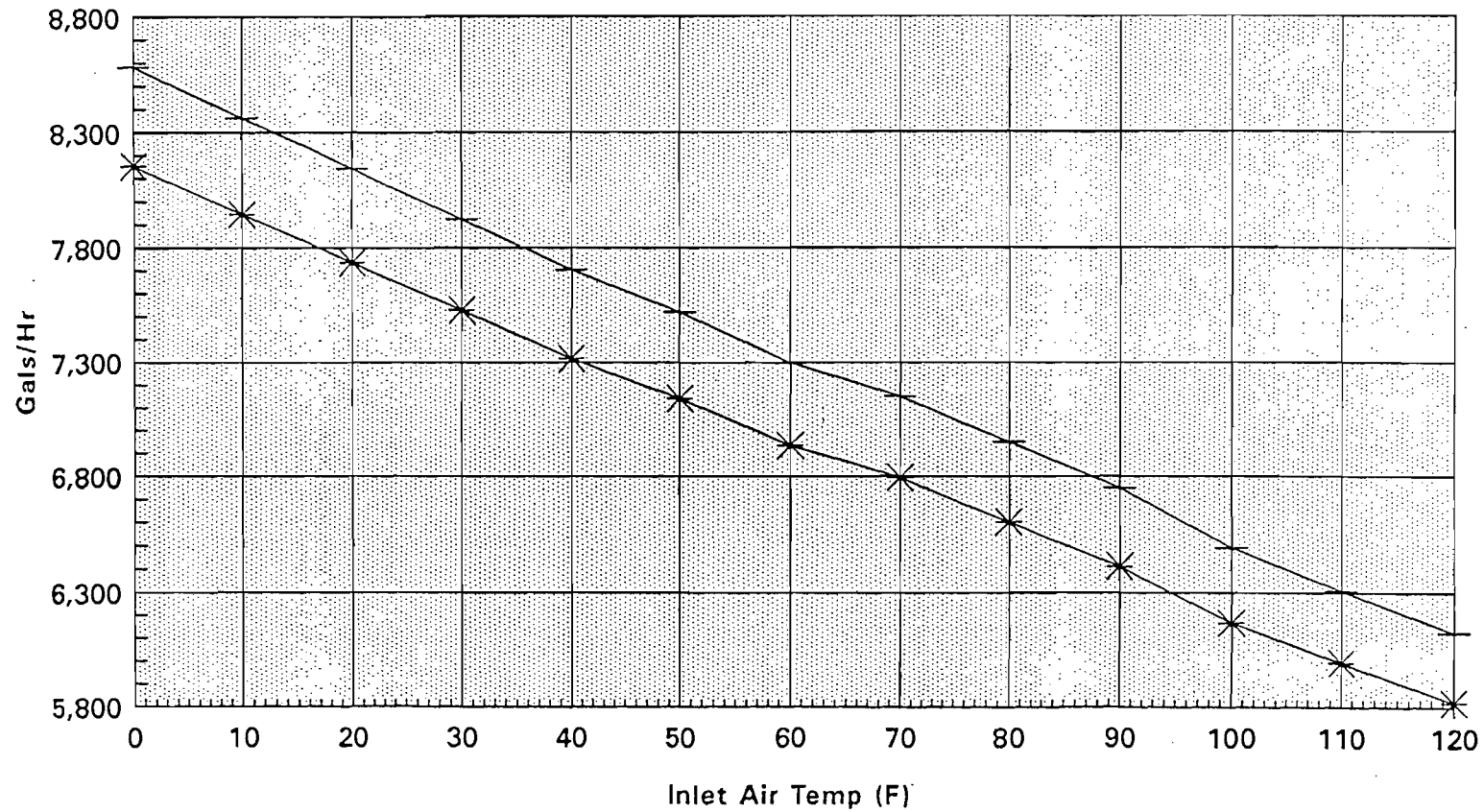
Each permit for emissions units exclusively using natural gas, propane, or distillate oils, as defined above, shall include a requirement that the owner maintain records to reflect that all the fuels delivered for these emissions units meet the specifications necessary to classify them as distillate fuels, natural gas, or propane.

To the extent that this conflicts with an existing permit, the existing permit prevails until a new permit is issued. For such changes to be federally enforceable, it is necessary to change both the air construction permit and the air operation permit.

HLR/mc/c

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

FLORIDA's Electronic Notification Cover Memorandum

TO: Gracy R. Danois, U.S. EPA Region 4
THRU: Scott Sheplak, P.E., Tallahassee Title V Section
FROM: Edward J. Svec, Permit Engineer, Tallahassee Title V Section
DATE: 4/23/97
RE: U.S. EPA Region 4 Title V Operation Permit Review



Pursuant to the 1996 comprehensive Title V operation permit review strategy contained in the Florida/EPA Implementation Agreement, the following Title V operation permit(s) and associated documents are made available for your review/comment prior to issuance.

<u>Applicant Name</u>	<u>County</u>	<u>Method of Transmittal</u>	<u>Electronic File Name(s)</u>
Lakeland Electric & Water Utilities	Polk	INTERNET (computer diskette) (hard copy)	1050003r.zip

This zipped file contains the following electronic files:

1050003r.doc
1050003i.doc
1050003i.me2
10500031.xls
10500032.xls
1050003e.doc
1050003u.doc
1050003h.doc
Fednot.doc

12/5/96

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