Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor | Dale Twachtmann, Secretary | John Shearer, Assistant Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. Martin A. Smith, Manager Environmental
Florida Power & Light Company
P. O. Box 078768
West Palm Beach, Florida 33407-0768

October 30, 1990

Enclosed is construction permit No. AC 06-179848 for the existing Lauderdale plant at Griffin Road, Dania, Broward County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this permit has the right to seek judicial review of the permit 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 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 this permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

James K. Pennington
for C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

Copy furnished to:

Isidore Goldman, SE District
Al Linero, Broward County
David Buff, P.E.
Jewell Harper, EPA

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of buisness on 10-30-90.

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

Kim Baker 10-30-90

Clerk Date

Final Determination

Florida Power and Light Company

Lauderdale Plant
Broward County, Florida
Permit No. AC 06-179848

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

October 30, 1990

Final Determination

The Technical Evaluation and Preliminary Determination for a permit to construct for the existing Florida Power and Light Company (FPL) Lauderdale plant in Dania, Broward County, Florida, was distributed on August 31, 1990. The Notice of Intent to Issue was published in the Fort Lauderdale News/Sun-Sentinel on September 15, 1990. Copies of the evaluation were available for public inspection at the Department's offices in West Palm Beach and Tallahassee and the Broward County Environmental Quality Control Board in Fort Lauderdale.

In response to the Department's intent to issue the proposed permit: the Broward County Environmental Quality Control Board (EQCB) submitted a Petition for Administrative Hearing dated September 14, 1990; the USEPA, Region IV, submitted comments in a letter dated September 26, 1990; and the consulting engineer for FPL requested changes to six of the specific conditions in the draft permit (KBN letter dated October 3, 1990).

The EQCB objected to the Department's Intent to Issue a permit for numerous reasons, but primarily because the proposed permit would make it legitimate for FPL to avoid new source review for nonattainment areas (and consequently emission offsets) for the planned Lauderdale repowering project that is currently being processed under the Power Plant Site Certification Act. They also questioned:

- The appropriateness of the permit, as no construction was involved.

- If the permit would be federally enforceable or limit VOC emissions to 100 TPY.

- If the issuance of the permit would not interfere with reasonable further progress toward meeting the ambient air quality standard for ozone.

The Department's comments to the main issues in the EQCB petition are as follows:

The proposed permit limits the VOC emissions increase from the fuel storage tanks to 5.41 TPY and the total VOC emissions from the facility to 99.924 TPY. The applicant has documented that the actual VOC emissions from the Lauderdale plant have always been less than 100 TPY, although the existing permit allows much higher emissions. Based on the actual emissions, the plant has always been a minor facility for VOC. The Department's regulations do not subject modifications of minor facilities to new source review for nonattainment areas unless the increase in emissions is itself major (100 TPY).

The actual VOC emissions from the No. 3 fuel storage tank will increase when it begins handling No. 2 fuel oil. A change in operation that increases emissions from an existing source is a modification by definition, and therefore requires a permit to construct by Department regulations. The Department placed VOC emission limits on all air pollution sources at this facility in the proposed permit, which are much lower than the emissions allowed by the current permits.

EPA recognizes that construction permits issued by the Department are federally enforceable. The proposed permit and associated emission limits will be federally enforceable.

The emissions associated with the repowering project currently being processed under the Power Plant Site Certification Act were not addressed as part of this application. The rule applicability, air pollution controls, and allowable emissions are being addressed during the Power Plant Site Certification process.

The EQCB entered into an agreement with FPL on September 25, 1990, in which they withdrew their petition for a hearing and committed their agency to obtaining VOC "offsets" in return for a $280,000 trust fund established by FPL.

The EPA requested that the Department reconsider the proposed permitting action. They recommended the allowable VOC emissions be the documented actual emissions from the Lauderdale plant rather than the 99+ TPY requested by the applicant. Our comments on this issue are as follows:

The Department substantially reduced the allowable emissions from this facility in the proposed permit. This action does not violate any regulation. The EQCB is committed by the stipulation with FPL to finding "offsets" for the Lauderdale plant. Although not a direct issue of this proposed permit, FPL has recalculated the VOC emissions associated with the repowering project and now estimate the maximum net VOC change from this facility will be 71.6 TPY. As long as the Lauderdale plant is a minor facility (emits less than 100 TPY) and a modification is not major in itself (increase emissions by 100+ TPY), the modification will not be subject to any additional state or federal regulations. The Department will permit the existing Lauderdale plant at the VOC emission rate of 99.924 tons per year.

KBN's request to modify six specific conditions in the permit and the Department's response are discussed below.

Specific Condition No. 4: The applicant requested the maximum fuel input be deleted from the permit because the heating value of the fuel will vary slightly. This request is denied because estimated emissions from AP-42, Emission Factors, are based on volumetric fuel consumption, not heat content of the fuel.

Specific Conditions Nos. 11 and 19: The applicant stated the maximum hourly VOC emissions limits should be the same as listed in the application (Table 5, Appendix A). The Department agrees with this request and has changed these specific conditions.

Specific Condition No. 21: The applicant requested to be allowed to keep records of the fuel consumption for each bank of turbines instead of for each turbine. This change is acceptable to the Department and this specific condition has been revised.

Specific Condition No. 23: The applicant asked that the requirement to test the visible emissions annually from each turbine while it is burning fuel oil be relaxed because these tests would be difficult to schedule and expensive to run. The Department has revised this specific condition to allow testing while some of the units are burning natural gas fuel.

Specific Condition No. 24: The applicant asked that the limit on the amount of solvent used for maintenance be deleted from the permit. As a slight increase in VOC emissions will make this source major and subject it to more restrictive regulations, the Department believes a limit on the maintenance solvent consumption is necessary. We will revise this specific condition to clarify that the limit is on the loss of solvent, not the total quantity of solvent used at the plant.

The final action of the Department will be to issue construction permit No. AC 06-179848 as proposed in the Technical Evaluation and Preliminary Determination, except for the changes discussed above.

Attachments:
EQCB Petition September 14, 1990
Stipulation, DER File No. AC 06-179848
EPA September 26, 1990 letter
KBN October 3, 1990 letter

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

PERMITTEE:
Florida Power & Light Company
P. O. Box 078768
West Palm Beach, FL 33407-0768

Permit Number: AC 06-179848
Expiration Date: June 1, 1991
County: Broward
Latitude/Longitude: 26°04'05"N
80°11'54"W
Project: Lauderdale Plant

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

For modifications to the Lauderdale Plant which contain the following air pollution sources: 80,000 bbl fuel storage tank No. 2 handling No. 6 fuel oil, 150,000 bbl fuel storage tank No. 3 to be converted from No. 6 fuel oil to No. 2 fuel oil service, 55,000 bbl tank No. 4 to be removed from service, 75,000 bbl tank No. 5 handling No. 2 fuel oil, two 1,500 gallon underground gas turbine dump tanks, three 252,000 gallon fuel oil metering tanks, one 4,000 gallon underground unleaded gasoline storage tank, and one 1,000 gallon underground diesel fuel storage tank; fossil fuel steam generating units Nos. 4 and 5, two 161 MW (gross capacity) steam generating units burning a variable combination of natural gas, used oil fuel from FP&L operations, and No. 6 fuel oil with a maximum heat input rate of 1725 MMBtu/hr each, discharging air pollutants through a stack 151 ft. above ground level; 24 gas turbines with 45 ft. high stacks burning natural gas and/or No. 2 fuel oil at a maximum heat input rate of 702 MMBtu/hr for each unit; and, maintenance operations throughout the facility that consume up to 250 GPY solvents.

The UTM coordinates of this facility are Zone 17, 580.2 km E and 2,883.3 km N.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application
2. DER letter dated May 15, 1990
3. KBN letter dated June 20, 1990
4. KBN letter dated July 1, 1990

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither 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. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

a. Have access to and copy any records that must be kept under the conditions of the permit;

b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

a. a description of and cause of non-compliance; and

b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

GENERAL CONDITIONS:

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

Tanks

1. The maximum volatile organic compounds (VOC) emissions and volume of organic liquids handled by the tanks shall not exceed the following:

Vessel	Organic Liquid	Annual Throughput (gallons)	Emissions (TPY VOC)
No. 2 Storage Tank	No. 6 fuel oil	192,642,943	0.050
No. 3 Storage Tank	No. 2 fuel oil	688,302,094	6.380
No. 4 Storage Tank	None	0	0

SPECIFIC CONDITIONS:

Vessel	Organic Liquid	Annual Throughput (gallons)	Emissions (TPY VOC)
No. 5 Storage Tank	No. 2 fuel oil	343,635,079	3.380
Gas Turbine Dump Tanks	No. 2 fuel oil	300,000	0.003
Fuel Oil Metering Tanks	No. 6 fuel oil	192,642,943	0.011
Gasoline Storage Tank	Gasoline	10,000	0.106
Diesel Fuel Storage Tank	Diesel fuel	5,000	0.001

2. The permittee shall keep records of the following for at least three years:

A) The amount of No. 6 fuel oil obtained for the plant.
B) The sulfur content of the No. 6 fuel oil obtained for the plant.
C) The amount of No. 2 fuel oil obtained for the plant.
D) The throughput for fuel storage tank No. 3, fuel storage tank No. 5, gas turbine dump tanks, gasoline storage tank, and diesel fuel storage tank.

3. The VOC emission in TPY from all stationary tanks at this facility shall be calculated annually by the procedure described in AP-42, Emission Factors, Section 4.3, Storage of Organic Liquids. Actual throughput and meteorological data shall be used for these calculations.

Fossil Fuel Steam Generator Units Nos. 4 and 5

4. The maximum heat and fuel inputs to Units Nos. 4 and 5 shall not exceed the following:

	Natural Gas		Oil (No. 6 and FP&L Used Oil)	
Unit	MMCFH	MMBtu/hr	GPH	MMBtu/hr
4	1,643	1,725	10,995	1,650
5	1,643	1,725	10,995	1,650
Total	3,286	3,450	21,991	3,300

When gas and oil are burned together, the allowable heat input and fuel consumption shall be prorated based on the above table.

SPECIFIC CONDITIONS:

5. During steady state operations: A) visible emissions shall not exceed 20% opacity, and B) particulate matter emissions shall not exceed 0.1 pounds per million Btu heat input.

6. During soot blowing and load changes: A) visible emissions shall not exceed 60% opacity during the 3 hour period of excess emissions allowed for soot blowing and load changes, B) particulate emissions shall not exceed an average of 0.3 pounds per million Btu heat input during the three hour period of excess emissions allowed for soot blowing and load changes.

7. Sulfur dioxide emissions shall not exceed 1.1 pounds per million Btu heat input.

8. Sulfur content of the No. 6 fuel oil shall not exceed 1.0%.

9. Sulfur content of the No. 2 fuel oil shall not exceed 0.5%.

10. The VOC emissions from each unit shall not exceed 0.0050 lbs/MMBtu when the boiler is burning No. 6 fuel oil and used oil, and 0.0013 lbs/MMBtu when the boiler is burning natural gas. When both fuels are burned together, the allowable emissions shall be prorated.

11. Total VOC emissions from both units when operating at their permitted capacity shall not exceed 16.5 lbs/hr when they are burning oil and 4.49 lbs/hr when they are burning natural gas.

12. The emissions of other criteria pollutants shall be calculated by using emission factors listed in AP-42, Emission Factors. Tests will not be required for these pollutants unless the Department believes these rates may have been exceeded.

13. The permittee shall keep records for at least three (3) years of the type, quantity, and sulfur content of fuels, GPH of oil, MMCF/hr of natural gas, and type fuel and sulfur content (by weight) used by each boiler.

14. Compliance testing shall be conducted for units Nos. 4 and 5 once each federal fiscal year.

SPECIFIC CONDITIONS:

15. The compliance test shall be conducted by the following methods:

Source/Emission Point Units Nos. 4 and 5	
Pollutant	Test Method
Particulate (Steady State & Soot Blowing)	EPA Method 17* or EPA Method 5
Visible Emissions (Steady State & Soot Blowing)	DER Method 9
Fuel Oil Sulfur Content	ASTM Method D-129

* EPA Method 17 may be used only if the stack temperature is less than 375°F.

16. Emissions compliance testing should be conducted with the source firing No. 6 fuel oil and/or natural gas and operating within ten percent (10%) of its permitted capacity; provided, however, that such testing may be conducted with the source operating at less than ninety percent (90%) of its permitted capacity, in which case the source may subsequently be operated at any capacity up to one hundred ten percent (110%) of the average load at which compliance was demonstrated, and at higher capacities for up to fifteen days for purposes of additional compliance testing. A particulate test to show compliance must be conducted within sixty (60) days of the monthly fuel analysis if the equivalent sulfur content of the fuel burned (fuel oil and/or natural gas) is increased by 0.5 percentage points or more from that used during the previous test.

17. Burning of used oil meeting EPA specifications (40 CFR S266.40) and generated from FPL operations shall be permitted under the following conditions:

(a) Each batch of used oil to be burned shall be sampled and analyzed for: arsenic, chromium, cadmium, total halogens, and lead using EPA/DER or ASTM approved methods. Split samples of the used oil shall be retained for three (3) months after analysis for additional testing if necessary.

SPECIFIC CONDITIONS:

(b) Results of used oil sampling and analysis performed pursuant to Specific Condition 17(a) shall be retained by the permittee for at least three (3) years and made available for inspection by DER upon request.

(c) An estimate of the total quantity of used oil burned during the applicable calendar year shall be included in the Annual Operations Report (AOR) for Air Emissions Sources. The permittee will submit with the AOR a summary of the range of values for each constituent analyzed pursuant to Specific Condition 17(a).

Gas Turbines

18. VOC emissions from each gas turbine shall not exceed 0.0013 lbs/MMBtu when the turbine is burning No. 2 fuel oil and 0.0034 lbs/MMBtu when the turbine is burning natural gas. When both fuels (oil and gas) are burned together, the allowable VOC emissions shall be prorated.

19. Total VOC emissions from the 24 gas turbines when operating at the permitted capacity shall not exceed 57.28 lbs/hr when the units are burning natural gas and 21.06 lbs/hr when the units are burning oil. When both fuels are burned in the turbines at the same time, the allowable emissions shall be prorated.

20. Visible emissions shall not exceed 20% opacity.

21. The permittee shall keep records of the type and quantity of fuel, GPH of oil and MMCF/hr of natural gas, used by each bank of turbines (GTs 1-12 and GT 13-24) for at least three (3) years.

22. The VOC emission factors for the gas turbines shall be confirmed every five (5) years by EPA Method 25A tests as described in 40 CFR 60, Appendix A (July 1, 1988) on any of the gas turbines while burning 100% natural gas and while burning 100% No. 2 fuel oil.

23. Visible emissions from all units shall be determined annually by EPA Method 9 as described in 40 CFR 60, Appendix A (July 1, 1988). At least one test shall be conducted on a turbine in each bank while it is operating near its permitted capacity and burning No. 2 fuel oil.

SPECIFIC CONDITIONS:

Maintenance Operation

24. Not more than 250 gallons loss of solvent during any 12 month period shall be allowed for maintenance at this facility. The loss shall be calculated from records showing the gallons of solvent used at the facility and the gallons of used solvents burned and hauled away for disposal.

25. The permittee shall keep records of the type and quantity of solvents, in GPY, used during maintenance throughout this plant for a minimum of three (3) years.

Facility

26. The total VOC emissions from all sources at this facility shall not exceed 99.92 TPY.

27. The VOC emissions shall be determined annually by adding the VOC emissions from each source at this facility for each calendar the year and included in the annual operating report.

General Administrative Requirements

28. The Department shall be notified of expected test dates at least fifteen (15) days prior to compliance stack testing.

29. On or before March 1 of each calendar year, a completed DER Form 17-1.202(6), Annual Operations Report Form for Air Emissions Sources, shall be submitted to the Department. This shall include the annual VOC emissions for all air pollution sources at this facility.

30. Copies of all reports, tests, notifications or other submittals required by this permit shall be submitted to both the Department of Environmental Regulation, Southeast District Office and the Broward County Environmental Quality Control Board.

31. In addition to the requirements of General Condition No. 8 of this permit, a written quarterly report shall be submitted to the Department of all opacity exceedances of emission limitations specified in Florida Administrative Code Rules 17-2.250(1) through (4) and 17-2.600(5)(b)1. The report shall state the cause, period of noncompliance, and steps taken for corrective action and/or

SPECIFIC CONDITIONS:

prevention of recurrence. If the opacity level cannot be determined for any reason, the report shall state the cause, duration and action taken. All recorded data shall be maintained on file by Florida Power & Light for no less than three (3) years and made available to the Department upon request.

32. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

33. An application for an operation permit must be submitted to the Southeast District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this 30th day
of October, 1990

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

STEVE SMALLWOOD, P.E.
Director
Division of Air Resources
Management

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee

To: _____ Location: _____

To: _____ Location: _____

To: _____ Location: _____

From: _____ Date: _____

Interoffice Memorandum

TO: Steve Smallwood

FROM: Clair Fancy

DATE: October 26, 1990

SUBJ: Approval of Construction Permit No. AC 06-179848
Florida Power and Light Company

Attached for your approval and signature is a permit prepared by the Bureau of Air Regulation for the above mentioned company to construct the existing Lauderdale plant.

Comments were received during the public notice period.

Day 90, after which this permit will be issued by default, is October 30, 1990.

I recommend your approval and signature.

CF/WH/plm

Attachments

OK/fr

Comments 1st paragraph of Final Determination

See #18, 22, 27 - Letter dissents

CHF → (?)

P 256 396 224

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to Mr. Martin A. Smith, FP&L	
Street and No. P. O. Box 07868	
P.O., State and ZIP Code West Palm Beach, FL 33407-076	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date Mailed: 10-30-90 Permit: AC 06-179848	

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to: Mr. Martin A. Smith Manager Environmental Florida Power & Light Compnay P. O. Box 078768 West Palm Beach, FL 33407-0768	4. Article Number P 256 396 224 Type of Service: ☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail ☐ Return Receipt for Merchandise Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature — Addressee X	8. Addressee's Address *(ONLY if requested and fee paid)*
6. Signature — Agent X L Leak	
7. Date of Delivery NOV 1 1990	

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

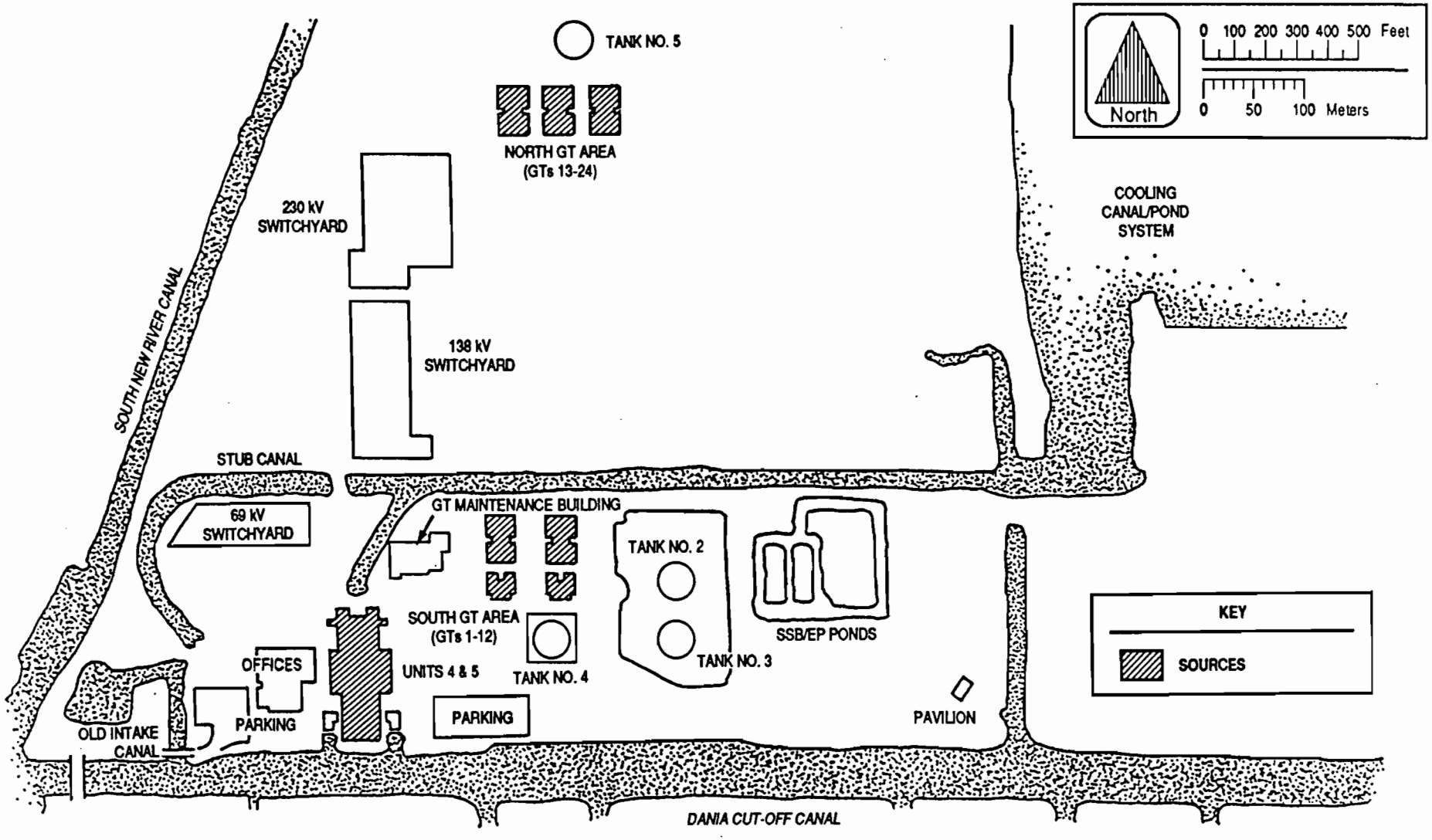

Figure 1 SOURCES OF AIRBORNE EMISSIONS

Lauderdale
Repowering
Project

FPL

P 052 482 258

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Martin Smith	
Street and No. Fla. Power & Light	
P.O., State and ZIP Code P.O. BOX 078768 - WPB	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 5-15-90 AC06-179848	

PS Form 3800, June 1985

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)*
2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Martin A. Smith
Env. Mgr.
Fla. Power & Light Co.
P.O. BOX 078768
West Palm Beach, Fl
33407-0768

4. Article Number
P 052 482 258

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Address
X

6. Signature — Agent
X L Leakins

7. Date of Delivery
5/18/90

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form **3811**, Mar. 1988 ★ U.S.G.P.O. 1988-212-865 **DOMESTIC RETURN RECEIPT**

P 280 742 414

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

☆U.S.G.P.O. 1989-234-555

Sent to Martin A. Smith	
Street and No. FLA. Power & Light	
P.O., State and ZIP Code P.O. Box 078768	
Postage WP Bch Fl	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date AC 06-179848 8-31-90	

PS Form 3800, June 1985

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3. Article Addressed to: Martin A. Smith Mgr. Env. FLA. Power & Light Co. P.O. Box 078768 West Palm Beach, Fl 33407-0768	4. Article Number P 280 742 414
	Type of Service: ☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail ☐ Return Receipt for Merchandise
	Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature — Addressee X	8. Addressee's Address *(ONLY if requested and fee paid)*
6. Signature — Agent X L Leaks	
7. Date of Delivery 9/5/90	

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

Best Available Copy

FORT LAUDERDALE NEWS/SUN-SENTINEL
PUBLISHED DAILY
FORT LAUDERDALE, BROWARD COUNTY, FLORIDA
BOCA RATON, PALM BEACH COUNTY, FLORIDA
MIAMI, DADE COUNTY, FLORIDA

RECEIVED
SEP 21 1990
DER-BAQM

STATE OF FLORIDA
COUNTY OF BROWARD/PALM BEACH/DADE
BEFORE THE UNDERSIGNED AUTHORITY PERSONALLY APPEARED ..... WHO ON OATH SAYS THAT HE/SHE IS A DULY AUTHORIZED REPRESENTATIVE OF THE CLASSIFIED DEPARTMENT OF THE FORT LAUDERDALE NEWS/SUN-SENTINEL, DAILY NEWSPAPERS PUBLISHED IN BROWARD/PALM BEACH/DADE COUNTY, FLORIDA THAT THE ATTACHED COPY OF ADVERTISEMENT, BEING A

NOTICE

IN THE MATTER OF

LAUDERDALE PLANT

IN THE CIRCUIT COURT, WAS PUBLISHED IN SAID NEWSPAPER IN THE ISSUES OF
C,9/15,1X

9C340(

AFFIANT FURTHER SAYS THAT THE SAID FORT LAUDERDALE NEWS/SUN-SENTINEL ARE NEWSPAPERS PUBLISHED IN SAID BROWARD/PALM BEACH/DADE COUNTY, FLORIDA, AND THAT THE SAID NEWSPAPERS HAVE HERETOFORE BEEN CONTINUOUSLY PUBLISHED IN SAID BROWARD/PALM BEACH/DADE COUNTY, FLORIDA, EACH DAY, AND HAVE BEEN ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE IN FORT LAUDERDALE, IN SAID BROWARD COUNTY, FLORIDA, FOR A PERIOD OF ONE YEAR NEXT PRECEDING THE FIRST PUBLICATION OF THE ATTACHED COPY OF ADVERTISEMENT; AND AFFIANT FURTHER SAYS THAT HE/SHE HAS NEITHER PAID NOR PROMISED ANY PERSON, FIRM OR CORPORATION ANY DISCOUNT, REBATE, COMMISSION OR REFUND FOR THE PURPOSE OF SECURING THIS ADVERTISEMENT FOR PUBLICATION IN SAID NEWSPAPERS.

.....
AUTHORIZED REPRESENTATIVE

cc: W. Hanks
A. Linero
S. Brooks

SWORN TO AND SUBSCRIBED BEFORE ME
THIS 15 DAY OF SEPTEMBER
A.D. 1990

.....
(SEAL) NOTARY PUBLIC

Notary Public, State of Florida
My Commission Expires Aug. 22, 1992
Bonded thru Troy Fain - Insurance Inc.

State of Florida
Department of
Environmental
Regulation
Notice of Intent to Issue

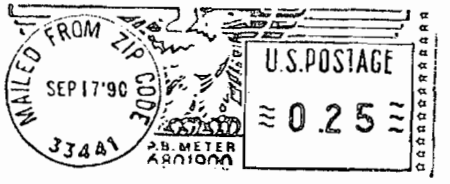
The Department of Environmental Regulation hereby gives notice of its intent to issue a permit (AC 06-179848) to construct the existing Lauderdale Plant located on Griffin Road, Dania, Broward County, Florida; to Florida Power & Light Company, P.O. Box 078768, West Palm Beach, Florida 33407-0768. The applicant is proposing to change the type of fuel stored in an existing tank from No. 6 to No. 2 fuel oil. This project will increase volatile organic compounds (VOC) emissions from fuel storage tanks Nos. 2, 3, 4 (removed from service), and 5 by 5.41 TPY. The applicant is also requesting the Department impose federally enforceable permit restrictions on the facility, primarily by limiting the fuels burned in existing gas turbines, which would result in allowable VOC emissions being less than 100 TPY. These emissions will not cause a violation of any ambient air quality standard or interfere with reasonable further progress toward attainment of the ozone ambient air quality standard. A Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) determination was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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, 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, within fourteen (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 (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 the Petitioner, if any; (e) A statement of facts which petition-

News/Sun-Sentinel

News and Sun-Sentinel Company
101 N. New River Drive
Fort Lauderdale, Florida 33301-2293



LEGAL

RECEIVED
SEP 21 1990
DER - BAQM

Fl. Dept. of Environmental Regulation
Twin Towers Office Bldg.
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
Attn: C M. Fancy, P.E., Chief
Bureau of Air Regulation

er 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 business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Evnironmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Department of Environmental Regulation
Southeast District
1900 S. Congress Ave.
Suite A
W. Palm Beach, FL 33406

Broward County Environmental Quality Control Board
500 SW 14th Court
Ft. Lauderdale, FL 33315

Any person may send written comments on the proposed action to Mr. Barry Andrews at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

September 15, 1990

P 256 396 224

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to Mr. Martin A. Smith, FP&L	
Street and No. P. O. Box 07868	
P.O., State and ZIP Code West Palm Beach, FL 33407-076	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date Mailed: 10-30-90 Permit: AC 06-179848	

☆U.S.G.P.O. 1989-234-555

PS Form 3800, June 1985

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3. Article Addressed to: Mr. Martin A. Smith Manager Environmental Florida Power & Light Compnay P. O. Box 078768 West Palm Beach, FL 33407-0768	4. Article Number P 256 396 224 Type of Service: ☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail ☐ Return Receipt for Merchandise Always obtain signature of addressee or agent and DATE DELIVERED.
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6. Signature – Agent X L Leak	
7. Date of Delivery NOV 1 1990	

PS Form **3811**, Apr. 1989 ★U.S.G.P.O. 1989-238-815 **DOMESTIC RETURN RECEIPT**

BEST AVAILABLE COPY

P 832 539 787

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to: Martin Smith	
Street & No. FPL	
P.O., State & ZIP Code WPBch FL	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$
Postmark or Date 6-10-91 AC 06-179848	

PS Form **3800**, June 1990

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1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Mr. Martin A. Smith
Fla. Power & Light
P.O. Box 078768
West Palm Bch, Fl
33407-0768

4. Article Number
P 832 539 787

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X D Leakins

7. Date of Delivery
6/13/91

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form **3811**, Apr. 1989 ★U.S.G.P.O. 1989-238-815 **DOMESTIC RETURN RECEIPT**

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

March 30, 1993

Mr. C. H. Fancy, Chief
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399

RE: FPL Lauderdale Plant
AC 06-179848 and AO 06-199041
Air Construction Permit Amendment

Dear Mr. Fancy:

On October 30, 1990, the Department issued FPL an air construction (AC 06-179848) permit for the Lauderdale Plant. The air construction permit authorized minor changes to the onsite storage tanks and piping, demolition of storage tank 4, and the establishment of federally enforceable permit limits which resulted in the plant being a minor VOC source. This work was conducted prior to the Lauderdale Repowering Project (PSD-FL-145).

On September 25, 1991, the District issued an air operating permit (AO 06-199041) for the Lauderdale Plant based on the air construction permit. FPL filed a request to be granted additional time in which to request a hearing on the air operating permit. On December 2, 1991, FPL provided comments on the air operating permit to the District office. It was discussed with the District staff that some comments could be handled by the District office and others had to the revised by the Department in Tallahassee. FPL through Mr. Peter Cunningham of Hopping, Boyd, Green & Sams had discussion with Department staff about FPL's comments on the air operating permit and the need to revise the air construction permit in order for the District to then modify the air operating permit.

On February 16, 1993, the Department advised FPL that the District office would make the modifications to the air operating permit that they were authorized to make and that the Department would correct the gas flow measurement typographic errors (MCFH instead of MMCFH in the air construction permit). (The District office on February 24, 1993, issued a letter modifying the air operating permit exclusive of the gas flow measurement errors.) The Department also requested that FPL formally amend the air construction permit in order to resolve FPL's remaining comments on the air operating permit.

FPL is hereby requesting that the air construction permit (AC 06-179848) be revised as follows and that the District then modify the air operating permit accordingly:

1) Page 1 of 11 Paragraph 2 Line 6-- The "Two 1,500 gallon underground gas turbine dump tanks" should be "one 1,500 gallon and one 2,500 gallon underground gas turbine dump tanks".

N · O · T · E · S

4/6

John Brown—

PK handle. Willard did
this permit —

Clair

Preston 4/8/93

Willard —

4-12-93

Patty,

I have a copy of this.

WMH

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN RE: SITE CERTIFICATION, LAUDERDALE REPOWERING PROJECT, FLORIDA POWER & LIGHT CO.	)	CERTIFICATION NO. PA 89-26

FINAL ORDER MODIFYING CONDITIONS OF CERTIFICATION

On January 10, 1991, the Governor and Cabinet, acting as the Siting Board, issued a final order approving certification for Florida Power & Light Company's (FPL) Lauderdale Repowering Project. That certification order approved the construction and operation of a natural gas/oil fired combined cycle facility and associated facilities to be located in Broward County, Florida. Subsequently, on November 11, 1992, the Department issued a final order modifying the certification to authorize certain changes to the facilities and buildings on the Lauderdale site.

On March 12, 1993, FPL filed a request to modify the conditions of certification pursuant to section 403.516(1)(b), F.S. FPL requested that the conditions be modified to approve several recently identified changes to the project design and operation. These proposed changes include changing SO_2 emission rates to correspond with sulfur concentrations in the natural gas and changing heat input limits to reflect the decision not to install duct burners in the combined cycle units at this time. FPL also proposed the

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE ASAP

1. TO: (NAME, OFFICE, LOCATION)	Initial / Date
Teresa Heron	
2. ~~Preston~~ Lewis OK, GPL 7/13	
3. ~~John Brown~~ JB	
4.	Initial / Date

Teresa, if you agree call Gary and let him know GPL 7/13

REMARKS:

Please review the attached final order so that I may submit it to Secretary Wetherell. Be sure we are complying with all Federal and Florida requirements. Thanks!

Preston - Teresa is on annual leave. HELP! Gary

INFORMATION	
	Review & Return
	Review & File
	Initial
DISP	
	Review
	Prepare R
	For My Signature
	For Your Signature
	Let's Discuss
	Set Up Meeting
	Investigate & Report
	Initial & Forward
	Distribute
X	Concurrence
	For Processing
X	Initial & Return

FROM:

Gary Smallridge
Room 625E, TT

DATE 7-12-93

PHONE 1-9636

7/15/93 - Sent Comments to G-S, wml

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

DRAFT

RECEIVED

APR 18 1990

Hopping Boyd Green & Sams

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Electrical Generating Plant [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Florida Power and Light Company COUNTY: Broward

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) _____

SOURCE LOCATION: Street S.W. 42nd St; 2 miles West of Ravenswood Road City N.A.

UTM: East 580,200 North 2,883,300

Latitude 26 ° 4 ' 5 "N Longitude 80 ° 11 ' 54 "W

APPLICANT NAME AND TITLE: _____

APPLICANT ADDRESS: P.O. Box 078768, West Palm Beach, Florida 33407-0768

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of _____

I certify that the statements made in this application for a _____ permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: _____

_____
Name and Title (Please Type)

Date: _____ Telephone No. _____

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

[1] See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed _____

Kennard F. Kosky
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

1034 Northwest 57th Street, Gainesville, FL 32605
Mailing Address (Please Type)

Florida Registration No. 14996 Date: _____ Telephone No. _____

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

FDER is requested to issue a construction permit to limit maximum potential VOC emissions from the Lauderdale Plant to less than 100 TPY. The requested emission limitation is included as Attachment A.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction June 1990 Completion of Construction December 1990

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Not Applicable

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

AO-06-146594; AO-06-143213; AO-06-148760; AO-06-148761

(copies of applicable permits are attached)

E. Requested permitted equipment operating time: hrs/day_____; days/wk_____; wks/yr_____;

if power plant, hrs/yr_____; if seasonal, describe:_____

Refer to response to A above

F. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? Yes

   a. If yes, has "offset" been applied? No

   b. If yes, has "Lowest Achievable Emission Rate" been applied? No

   c. If yes, list non-attainment pollutants. Ozone-Applicable pollutant is Volatile Organic Compounds

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? No

   a. If yes, for what pollutants?_____

   b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any juatification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Not Applicable

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): _____

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Refer to Tables 1, 2 and 6

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard.

[4]Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr*	
Unit 4 and 5 Natural Gas		3,286 MMcf/hr	3,450
" " No. 6 Fuel Oil		22,991 gal/hr	3,450
GTs 1-24 Natural Gas		16.046 MMcf/hr	16,848
GTs 1-24 No. 2 Fuel Oil		122,513 gal/hr	16,848

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: 1.0 Percent Ash: < 0.1

Density: No. 6=8.2; No. 2=7.2 lbs/gal Typical Percent Nitrogen: No.6-0.35; No.2-0.015

Heat Capacity: No.6=18,300; No.2=19,100 BTU/lb Natural Gas - 1,050 BTU/cf BTU/gal

Other Fuel Contaminants (which may cause air pollution):

F. If applicable, indicate the percent of fuel used for space heating. Not Applicable

Annual Average Maximum

G. Indicate liquid or solid wastes generated and method of disposal.

Liquid wastes are authorized under FDER permit IO-06-158722

Solid wastes are disposed of offsite in an approved sanitary landfill.

See Table 5 attached

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: _____ ft. Stack Diameter: _____ ft.

Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.

Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diamter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
   Previous FDER Air Permits - Attached
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
   See Attached Tables 1 through 6.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
   See Attached Tables 1 through 6.
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
   Not Applicable
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
   Not Applicable
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained. Not Applicable
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
   See Attached Figure 1.
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
   See Attached Figure 1.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

This section is not applicable

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

[1]Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

This section is not applicable

A. Company Monitored Data

1. _____no. sites _____ TSP _____( ) SO^{2}* _____ Wind spd/dir

Period of Monitoring _____/_____/_____ to _____/_____/_____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from ____/____/____ to ____/____/____
month day year month day year

2. Surface data obtained from (location)_____

3. Upper air (mixing height) data obtained from (location)_____

4. Stability wind rose (STAR) data obtained from (location)_____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate	
TSP	_____	grams/sec
SO^2	_____	grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

Attachment A

The requested emission limitation is based on limiting potential plant VOC emissions to 99.9 TPY. The emission-limiting standard requested by FPL for the GTs and Units 4 and 5 is:

$$(HI_{GTNG} \times VOC_{GTNG}/MHI_{GTNG}) + (HI_{GTOIL} \times VOC_{GTOIL}/MHI_{GTOIL}) + (HI_{U4\&5NG} \times VOC_{U4\&5NG}/MHI_{U4\&5NG}) + (HI_{U4\&5OIL} \times VOC_{U4\&5OIL}/MHI_{U4\&5OIL}) \leq 90.9$$

where:

HI_{GTNG} = annual heat input of GTs 1-24 with natural gas firing,

HI_{GTOIL} = annual heat input of GTs 1-24 with oil firing,

$HI_{U4\&5NG}$ = annual heat input of Units 4 and 5 with natural gas firing, and

$HI_{U4\&5OIL}$ = annual heat input of Units 4 and 5 with oil firing.

VOC_{GTNG} = maximum potential annual emissions of VOCs for GTs firing natural gas.

VOC_{GTOIL} = maximum potential annual emissions of VOCs for GTs firing oil.

$VOC_{U4\&5NG}$ = maximum potential annual emissions for units 4 & 5 firing natural gas.

$VOC_{U4\&5OIL}$ = maximum potential annual emissions of VOCs for Units 4 & 5 firing oil.

MHI_{GTNG} = maximum potential annual heat input for GTs firing natural gas.

MHI_{GTOIL} = maximum potential annual heat input for GTs firing oil.

$MHI_{U4\&5NG}$ = maximum potential annual heat input for units 4 & 5 firing natural gas.

$MHI_{U4\&5OIL}$ = maximum potential annual heat input for units 4 & 5 firing oil.

The maximum potential annual emissions of VOC and maximum potential heat input (BTU) are presented in table 1. Substituting in the equation above, the emission limitation is:

$$(HI_{GTNG} \bullet 251/14.8 \times 10^{13}) + (HI_{GTOIL} \bullet 95.9/14.8 \times 10^{13}) + (HI_{U4\&5NG} \bullet 20.1/3.02 \times 10^{13}) + (HI_{U4\&5OIL} \bullet 75.2/3.02 \times 10^{13}) \leq 90.9$$

where: HI_{GTNG} = annual heat input of GTs 1-24 with natural gas firing,

HI_{GTOIL} = annual heat input of GTs 1-24 with oil firing,

$HI_{U4\&5NG}$ = annual heat input of Units 4 and 5 with natural gas firing, and

$HI_{U4\&5OIL}$ = annual heat input of Units 4 and 5 with oil firing.

The value 90.9 represents TPY from the plant minus tank VOC emissions which have been estimated to be 9.1 TPY (see Table 2).

Total = 100 TPY should be 99.9

The requested emission limitation actually acknowledges that the Lauderdale Plant will be and has been a minor source of VOCs as evidenced by the data presented in Tables 3, 4, and 5.

In addition to limiting VOCs, the requested emission limitation will reduce potential emissions of sulfur dioxide, nitrogen oxides, carbon monoxides, and PM10 from the existing Lauderdale Plant.

↳ NOTE → less credits ?

Table 1. Backup Calculations for VOC Emissions at Existing Lauderdale Plant

	Units	Source	Data
FUEL:			
No. 6 Fuel Oil	Btu/lb		18,500
	lb/gal		8.25
Natural Gas	Btu/scf		1,050
EMISSION FACTOR:			
Fossil Steam - Oil	lb/10^3 gal	AP-42	0.76
	lb/10^6 Btu	AP-42	0.0050
Fossil Steam - Gas	lb/10^6 cf	AP-42	1.4
	lb/10^6 Btu	AP-42	0.0013
Gas Turbine - Oil	lb/10^6 Btu	Testing	0.0013
Gas Turbine - Gas	lb/10^6 Btu	Testing	0.0034
HEAT INPUT:			
Units 4&5 - per Unit	10^6 Btu/hr	FDER Permit	1,725
- Total	10^6 Btu/hr	FDER Permit	3,450
- Total	10^12 Btu/yr	FDER Permit	30.2
GT's 1-24 - per Unit	10^6 Btu/hr	FDER Permit	702
- Total	10^6 Btu/hr	FDER Permit	16,848
- Total	10^12 Btu/yr	FDER Permit	147.6
EMISSIONS:			
Units 4 & 5 - Oil			
Total	lb/hr		17.2
Total	tons/yr		75.2
Units 4 & 5 - Gas			
Total	lb/hr		4.6
Total	tons/yr		20.1
GT's 1-24 - Oil			
Total	lb/hr		21.9
Total	tons/yr		95.9
GT's 1-24 - Gas			
Total	lb/hr		57.3
Total	tons/yr		250.9

Table 2. Maximum Emissions of VOCs From Storage Tanks Before Repowering Units 4 and 5

Description	No. 3 Tank New[a]	No. 3 Tank Old[b]	No. 2 Tank Potential[c]	No. 4 Tank Removed[d]	No. 5 Tank Potential[e]
Type of Liquid Stored	No. 2 Fuel Oil	No. 6 Fuel Oil	No. 6 Fuel Oil	No. 2 Fuel Oil	No. 2 Fuel Oil
Tank Volume (gallons)	6,300,000	6,300,000	3,360,000	2,310,000	3,150,000
Total Annual Throughput (gallons)	715,834,178	19,751,871	201,339,440	1,656,000	357,380,482
Turnovers Per Year	113.6	3.1	59.9	0.72	113.45
Molecular Weight of Vapor	130.0	190.0	130.0	130.0	130.0
Storage Temperature (°F)	75.0	75.0	75.0	75.0	75.0
Vapor Pressure at Storage Temperature (psia)	0.0105	0.0001	0.0001	0.0105	0.0105
Tank Diameter (ft)	150.0	150.0	120.0	100.0	120.0
Average Vapor Space Height (ft)	24.0	24.0	20.0	20.0	19.0
Average Diurnal Temperature Change (°F)	20.0	20.0	20.0	20.0	20.0
Paint Factor	1.33	1.33	1.33	1.33	1.33
Product Factor	1.0	1.0	1.0	1.0	1.0
Turnover Factor	0.4	1.0	0.6	1.0	0.4
Breathing Losses (lb/yr)	3,730.9	189.3	80.2	1,685.7	2,251.2
(TPY)	1.9	0.09	0.04	0.8	1.1
Working Losses (lb/yr)	11,725.4	6.8	28.3	54.3	4,683.1
(TPY)	4.7	0.0034	0.01	0.0	2.3
Total Emissions (TPY)	6.56	-0.10	0.05	-0.87	3.47

[a]Assumes 66.7 percent of the potential No. 2 fuel oil usage required for GTs 1-24.
[b]Creditable emission decrease for ceasing No. 6 fuel oil use; assumes 66.7 percent of the 1969 through 1989 average fuel usage for Units 4 and 5 (see Table 2-10).
[c]Potential emissions for No. 6 fuel oil use for Units 4 and 5 prior to repowering.
[d]Creditable emission decrease for removing Tank No. 4; annual throughput is the 1970 through 1989 average for GTs 1-12 which are located adjacent to the tank.
[e]Assumes 33.3 percent of the potential No. 2 fuel oil usage required for GTs 1-24.

Table 3. Hours of Operation and Fuel Usage for Lauderdale Units 4 and 5

Year	Unit 4 Operation (hours)	Unit 4 Natural Gas (10^6 ft^3)	Unit 4 No. 6 Fuel Oil (10^3 gal)	Unit 5 Operation (hours)	Unit 5 Natural Gas (10^6 ft^3)	Unit 5 No. 6 Fuel Oil (10^3 gal)	VOC Emissions (TPY)
1989	3,345	2,451	6,272	1,437	868	3,283	5.89
1988	1,623	1,279	3,460	2,317	1,937	3,948	5.02
1987	2,086	2,110	993	2,173	2,089	1,785	3.98
1986	1,615	1,857	0	2,113	2,356	468	3.12
1985	1,876	2,103	983	1,289	1,309	1,343	3.26
1984	1,724	938	6,268	1,574	818	5,498	5.62
1983	1,943	1,049	7,208	1,677	792	6,871	6.55
1982	1,899	1,611	3,397	2,587	1,957	5,481	6.81
1981	2,895	402	16,884	3,100	259	20,803	14.53
1980	4,376	2,161	20,301	4,208	1,788	21,098	18.22
1979	5,341	2,796	22,605	4,925	1,870	25,203	21.12
1978	4,871	1,937	20,983	6,461	4,046	20,849	19.81
1977	4,273	2,220	15,103	5,342	3,900	11,147	14.15
1976	5,821	2,958	18,766	7,360	4,991	18,472	19.47
1975	6,593	3,160	23,507	6,126	3,609	19,736	20.88
1974	6,669	2,756	29,413	6,576	2,367	31,794	26.44
1973	8,151	2,281	43,285	8,295	1,799	48,808	37.24
1972	8,764	5,979	36,036	7,311	4,434	32,928	33.04
1971	6,671	4,525	403	8,414	5,610	22,384	15.06
1970	8,449	6,015	18,358	8,681	6,769	328	15.92
1969	7,030	3,753	13,440	6,984	3,811	11,970	14.79
Average	4,572	2,588	14,651	4,712	2,737	14,962	14.78

Note: Calculations based on maximum heat input of Units 4 and 5 of 1,725 x 10^6 Btu/hr/unit; VOC emissions on natural gas and No. 6 fuel oil were based on AP-42, i.e., 1.4 lb/10^6 ft^3 of natural gas and 0.76 lb/10^3 gal of No. 6 fuel oil burned; heat content of natural gas and No. 6 fuel oil was 1,050 Btu/ft^3 and 152,625 Btu/gal, respectively.

10^6 ft^3 = million cubic feet.
10^3 gal = thousand gallons.
TPY = tons per year.

Table 4. Hours of Operation, Fuel Usage, and VOC Emissions for Lauderdale GTs 1-24

Year	GTs 1-12 Operation (hours)	GTs 1-12 Natural Gas (10^6 ft^3)	GTs 1-12 No. 2 Fuel Oil (10^3 gal)	GTs 13-24 Operation (hours)	GTs 13-24 Natural Gas (10^6 ft^3)	GTs 13-24 No. 2 Fuel Oil (10^3 gal)	VOC Emissions (TPY)
1989	376	812	1795	501	1,097	3,144	3.85
1988	590	169	276	1,077	372	435	1.03
1987	714	265	82	3,159	1,256	702	2.78
1986	292	69	29	742	229	414	0.57
1985	861	296	283	1,704	555	534	1.59
1984	1,079	384	169	708	263	138	1.18
1983	834	281	375	519	188	265	0.89
1982	1,472	539	151	532	188	158	1.33
1981	299	488	1,323	487	1,080	1,418	3.04
1980	1,045	2,289	4,716	1,786	5,566	3,782	14.78
1979	1,216	2,760	3,354	1,650	3,273	7,953	11.77
1978	803	1,355	2,405	1,775	3,841	4,333	9.87
1977	480	861	1,817	1,104	2,534	4,176	6.59
1976	332	493	1,205	851	1,834	2,225	4.46
1975	893	1,156	7,296	455	421	3,727	3.80
1974	986	4,872	1,735	525	3,984	586	16.01
1973	1,471	2,763	5,032	2,242	6,064	6,338	16.77
1972	2,094	1,841	719	2,139	4,440	505	11.32
1971	2,103	4,910	360	0	0	0	8.80
1970	1,335	3,708	0	0	0	0	6.62
Average	964	1,516	1,656	1,220	2,066	2,269	6.34

Note: Calculations based on a maximum heat input for GTs of 702 x 10^6 Btu/hr/GT; VOC emissions on natural gas and No. 2 fuel oil determined from test to be 0.0034 and 0.0013 lb/10^6 Btu, respectively; heat content of natural gas and No. 2 fuel oil was 1,050 Btu/ft^3 and 136,800 Btu/gal, respectively.

10^6 ft^3 =million cubic feet.
10^3 gal = thousand gallons.
TPY = tons per year.

Table 5. Actual VOC Emissions for Lauderdale Units 4 and 5 and GTs 1-24

Year	Units 4 and 5 VOC Emissions (TPY)	GTs 1-24 VOC Emissions (TPY)	Total VOC Emissions[a] (TPY)
1989	5.89	3.85	9.74
1988	5.02	1.03	6.05
1987	3.98	2.78	6.76
1986	3.12	0.57	3.69
1985	3.26	1.59	4.85
1984	5.62	1.18	6.80
1983	6.55	0.89	7.44
1982	6.81	1.33	8.14
1981	14.53	3.04	17.57
1980	18.22	14.78	33.00
1979	21.12	11.77	32.89
1978	19.81	9.87	29.68
1977	14.15	6.59	20.74
1976	19.47	4.46	23.93
1975	20.88	3.80	24.68
1974	26.44	16.01	42.45
1973	37.24	16.77	54.01
1972	33.04	11.32	44.36
1971	15.06	8.80	23.86
1970	15.92	6.62	22.54
1969	14.79	0	14.79
Average	14.78	6.04	20.82

[a]Maximum actual VOC emissions from storage tanks during this period were 2.3 TPY which occurred in 1973.

Table 6. Summary of Existing Air Emission Sources at the FPL Lauderdale Plant

Source	Location (m)[a]		Stack Data (ft)		Operating Data		Maximum Emissions[b] (lb/hr)			
	X	Y	Height	Diameter	Temperature (°F)	Velocity (ft/sec)	SO_2	NO_x	PM	CO
Units 4 and 5	-50	0.0	151.0	14.0	300	58	3,630	1,892	330	138
Gas Turbines 1 - 12	0.0	110.0	43.5	18.0[c]	860	70	4,164	4,032	297	966
Gas Turbines 13 - 24	0.0	540.0	43.5	18.0[c]	860	70	4,164	4,032	297	966

[a]Relative to UTM: 580,200E and 2,8~~A~~B3,300N; Zone 17.
[b]Total emissions from identified units. Calculation of maximum emissions besed on the following:
- SO_2 - Units 4 and 5: 0.964 percent sulfur
  GTs 1-24: 0.5 percent sulfur
- NO_x - Units 4 and 5: Based on AP-42 for natural gas
  GTs 1-24: Based on AP-42 for fuel oil
- PM - Units 4 and 5: Based on AP-42 for fuel oil
  GTs 1-24: Based on AP-42 for ~~natural gas~~ fuel oil.
- CO - Units 4 and 5: Based on AP-42 for natural gas
  GTs 1-24: Based on AP-42 for ~~fuel oil~~. natural gas.

[c]Effective stack diameter based on actual stack area.

Note: All operational and emissions data based on FDER permitted rates. The following permits are relevant: Unit 4-AO-06-146594; Unit 5-AO-06-143213; GT Units 1-2 AO-06-148760 and GT Units 13-24 AO-06-148761.

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

January 25, 1995

Mr. John Brown
Administrator, Air Permitting & Standards
State of Florida
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Permit Amendment Request - AC 06-179848
FPL Lauderdale Plant

Dear Mr. Brown:

Attached per your request of December 6, 1994 please find the following information:

· Application for permit modification - using the new FDEP form 62-210.900(1). Since FPL will be submitting a Title V application for this facility within a few months, I have not addressed all of the emission units located at the Lauderdale facility, but rather restricted the information to only the three above-ground fuel oil storage tanks.

· FPL's calculations for Volatile Organic Carbon (VOC) emissions from the fuel oil storage tanks at the Lauderdale generating station (included as Attachment A in the permit application). FPL has employed EPA's TANKS2 computer program to generate the VOC emission data from the fuel oil storage tanks.

In your correspondence of December 6, 1994, the issue of visible emission testing for the simple-cycle gas turbines was addressed. Specifically, you proposed that 140 million cubic feet of natural gas fuel be used as the threshold for triggering visible emission testing at the gas turbines. I have calculated that quantity of natural gas to be approximately equivalent to 17 hours of operation for one of the gas turbine banks. In a subsequent conversation with Mr. Willard Hanks of your office, I learned that the intent of the Department was to relate the quantity of natural gas fuel which would trigger visible emission testing, to 400 hours of operation for a bank of 12 gas turbines. My calculations, using 702 mmBtu/hour heat input/gas turbine and 1040 btu/cubic foot of natural gas, show that 3,240 million cubic feet of natural gas is approximately equivalent to 400 hours of operation; therefore FPL requests that the language in Specific Condition 23 be amended as follows:

> If natural gas consumption in a bank of combustion turbines reaches 3,240,000,000 (3,240 MMCF) in a federal fiscal year (FFY), testing will be required on a combustion turbine within that bank while it is operating near its permitted capacity and burning natural gas. For each additional 3,240 MMCF of natural gas consumed in a bank of combustion turbines in a FFY, an additional combustion turbine in the bank (which has not previously been tested on natural gas during the FFY) must be tested while it is operating near its permitted capacity and burning natural gas.

The remainder of the Department's proposed language in the December 6th correspondence is acceptable to FPL.

Should you, or anyone in the Department have any questions regarding the enclosed information, please do not hesitate to contact me at (407) 625-7661. Thank-you in advance for your attention to this matter.

Very Truly Yours,

Richard Piper
Environmental Specialist
Florida Power & Light Company

cc:
I. Goldman FDEP/SED
D. Banu BCDNRP

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

August 31, 1994

Mr. Clair Fancy
State of Florida
Bureau of Air Regulation
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: FPL Lauderdale Plant
Air Construction Permit #AC-06-179848

Dear Clair:

This correspondence is submitted to request several changes in the FDEP Air Construction permit (#AC-06-179848) for the FPL Lauderdale plant. Please note that a concurrent request to change the associated air Operation permit (#AO-06-230614) is also being submitted to the Southeast District Office in West Palm Beach.

The requested changes involve two items: (1) Combine the VOC emission limits for the on-site fuel oil storage tanks, and (2) Change the permit language regarding visible emission evaluations for the simple-cycle gas turbine units.

Item 1 - VOC Emission Limits

Background

A change is requested to combine the VOC emission limits for the on-site fuel oil storage tanks. The original construction permit issued for the facility had an emissions cap of 99.92 tons per year which included emission allocations for Tanks #2, #3, and #5, the gas-turbine dump tanks, the gasoline storage tank, the diesel storage tank, the simple-cycle gas turbines, as well as the now-demolished boiler units 4 and 5. The total allocation for the tanks was 9.92 tons per year (i.e., Tank #2 = 0.05 tons per year, Tank #3 = 6.38 tons per year, Tank #5 = 3.38 tons per year, gas turbine dump tanks = 0.003 tons per year, gasoline storage tank = 0.106 tons per year, and the diesel storage tank = 0.001 tons per year).

Various permit-related changes and operational changes at the Lauderdale facility have resulted in the current situation in which the individual VOC limits on the fuel oil storage tanks are no longer appropriate. Following is a brief synopsis of these changes:

At the time the construction permit was issued, Tank #2 still contained #6 residual oil. The fuel useage for tanks 3 and 5 reflected a 40% capacity factor for oil firing in the new combustion turbines, and 100% capacity factor for oil firing in the simple-cycle gas turbines. Subsequent to the construction permit being issued, the capacity factor for oil firing for the combustion turbines was reduced to 25% (via PSD-FL-146) and the RACT limit on the simple-cycle gas turbines effectively limited the oil-firing capacity factor to 10 percent. In addition, when

the initial operating permit was issued, the VOC emission allocation for Tank #2 did not reflect the use of distillate oil; thus the allocation of 0.05 tons per year for this tank is too low.

It should be noted that the facility reported VOC emissions for Tank #2 of 1.48 tons per year in the 1993 Annual Operating Report (AOR); however the total VOC emissions for all three of the large storage tanks was only 6.51 tons; well within the combined permitted limitation.

Effect of Title V Permit

FPL must submit a Title V permit application to the Department for the Lauderdale facility by April 2, 1995. Under the current Title V rules, FPL must fill out a separate emissions unit section of the application for each of the fuel oil storage tanks, because they each have separate emission limits in the current air operating permit. This information could be more easily considered under a single emissions unit section, or in the insignificant sources section, as appropriate.

Requested Change

In view of the history cited above, and the pending submittal of the Title V permit application for the Lauderdale facility in April 1995, FPL requests that the Department combine the current VOC emission limits for the tanks into one emission limit of 9.92 tons per year, which is the current aggregate in the operations permit. FPL would continue to track the emissions of each of the tanks, but would "roll-up" the VOC emissions into a combined limit not to exceed the 9.92 tpy. This proposal would not change the overall emissions from the facility. The change would reflect the current ability of the facility to transfer fuel between tanks as needed. I have attached a copy of the relevent page from the current air operating permit with the suggested change added.

Item 2 - Visible Emission Evaluations for Simple-cycle gas turbines

Background

The current air operation permit contains language regarding visible emissions evaluations which can be interpreted to mean that each gas turbine must be evaluated for visible emissions once-per-year on natural gas fuel, as well as one unit per bank-of-twelve required to be evaluated on distillate oil fuel. Specific Condition 9 of that permit currently reads as follows:

> "Visible emissions from all units shall be determined annually by EPA Method 9 as described in 40 CFR 60, Appendix A (July 1, 1988). At least one test shall be conducted on a turbine in each bank while it is operating near its permitted capacity and burning No. 2 fuel oil."

Requested Change
FPL requests that the Department revise Specific Condition 9 to read as follows:

> "Visible emissions from the gas turbine units shall be determined by EPA Method 9 as described in 40 CFR 60, Appendix A (July 1, 1988) if fuel oil consumption in any unit reaches 23,810 bbls (1,000,000 gallons) in a fiscal year, within that fiscal year. Usage may be determined on the basis of proportionate time of operation versus total fuel consumption for each block of twelve units. If fuel consumption testing threshold is achieved in September, then visible emissions testing may be conducted prior to October 31 of the same calendar year."

The Department should consider the following in reviewing this proposed change:

- The Department inserted language similar to that which FPL is suggesting for the Lauderdale permit, into the Port Everglades permit, which is in the same district, and which was issued within 2 days of the Lauderdale permit.

- FAC 17-297.340(1)(g) states that "any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period coinciding with the term of its air operating permit."

- These units are virtually identical. Therefore, emissions data from any one gas turbine will be representative of all units in a given bank.

- These units are "peaking units" which are typically operated only during periods of high electric load demand. They therefore have extremely low annual capacity factors. In 1993 for example, the total annual operating hours on liquid and gas combined for all 24 units was only 4,687 hours (2.2% capacity factor). In addition, the FDEP NOx RACT permits for these units (AO 06-148760 and AO 06-148761) in effect limit the annual capacity of each bank of turbines to 10%. Thus, the "potential to emit" from these units is minor compared to the base-loaded generating units.

Please do not hesitate to contact me at (407) 625-7661 regarding the above requests.

Sincerely,

Rich Piper

Rich Piper
Environmental Specialist
Florida Power & Light Company

cc: Broward County Department of Natural Resource Protection
FDEP Southeast District Office

Tanks

1. The maximum volatile organic compounds (VOC) emissions for the fuel oil storage tanks shall not exceed the following:

Vessel	Organic Liquid	Emissions (TPY VOC)
No. 2 Storage Tank	No. 2 fuel oil	Combined emissions
No. 3 Storage Tank	light distillate	for all tanks not to
No. 5 Storage Tank	No. 2 fuel oil	exceed 9.92 TPY
Gas Turbine Dump Tanks	No. 2 fuel oil	
Gasoline Storage Tank	gasoline	
Diesel Fuel Storage Tank	diesel fuel	

2. The permittee shall keep records of the following for at least three years:

a) The amount of light distillate fuel oil obtained for the plant.
b) The amount of No. 2 fuel oil obtained for the plant.
c) The throughput for fuel storage tank No. 3, fuel storage tank No. 5, gas turbine dump tanks, gasoline storage tank, and diesel fuel storage tank.

3. The VOC emission in TPY from all stationary tanks at this facility shall be calculated annually by the procedures described in AP-42, Emission Factors, Section 4.3, Storage of Organic Liquids. Actual throughput and meteorological data shall be used for these calculations.

Gas Turbines

4. VOC emissions from each gas turbine shall not exceed 0.0013 lbs/MMBTU when the turbine is burning No. 2 fuel oil and 0.0034 lbs/MMBTU when the turbine is burning natural gas. When both fuels (oil and gas) are burned together, the allowable VOC emissions shall be prorated.

5. Total VOC emissions from the 24 gas turbines when operating at the permitted capacity shall not exceed 57.28 lab/hr. when the units are burning natural gas and 21.06 lbs/hr. when the units are burning oil. When both fuels are burned in the turbines at the same time, the allowable emissions shall be prorated.

6. Visible emissions shall not exceed 20% opacity.

7. The permittee shall keep records of the type and quantity of fuel, GHP of oil and MMCF/hr. of natural gas, used by each bank of turbines (GTs 1-12 and GT 13-24) for at least three (3) years. Usage may be determined on the basis of time of operation versus total fuel consumption for block of 12 units.

8. The VOC emission factors for the gas turbines shall be confirmed every five (5) years by EPA Method 25A tests as described in 40 CFR 60, Appendix A (July 1, 1988) on any of the gas turbines while burning 100% natural gas and while burning 100% No. 2 fuel oil.

9. Visible emissions from all units shall be determined annually by EPA Method 9 as described in 40 CFR 60, Appendix A (July 1, 1988). At least one test shall be conducted on a turbine in each bank while it is operating near its permitted capacity and burning No. 2 fuel oil.

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

August 5, 1993

Mr Tom Tittle
Department of Environmental Regulation-SED
1900 S. Congress Avenue, Suite A
West Palm Beach, FL 33406

RE: Lauderdale Plant
Steam Injection Curve CT 5B
PSD-FL-145, PA89-26

Dear Mr. Tittle:

Enclosed is a copy of the curves for CT 5B as required by special condition 20 of PSD-FL-145. The Curves entitled "Ambient Temperature vs Heat Input" illustrates the effect of the ambient temperature on the heat input at the permitted NO_x (42 ppm gas and 65 ppm oil) limit. The other Curves entitled "Steam Injection Control Curve" illustrate the steam injection rate necessary to maintain the permitted NO_x limit across the load range.

If you have any questions or comments, please call me at (407) 625-7661.

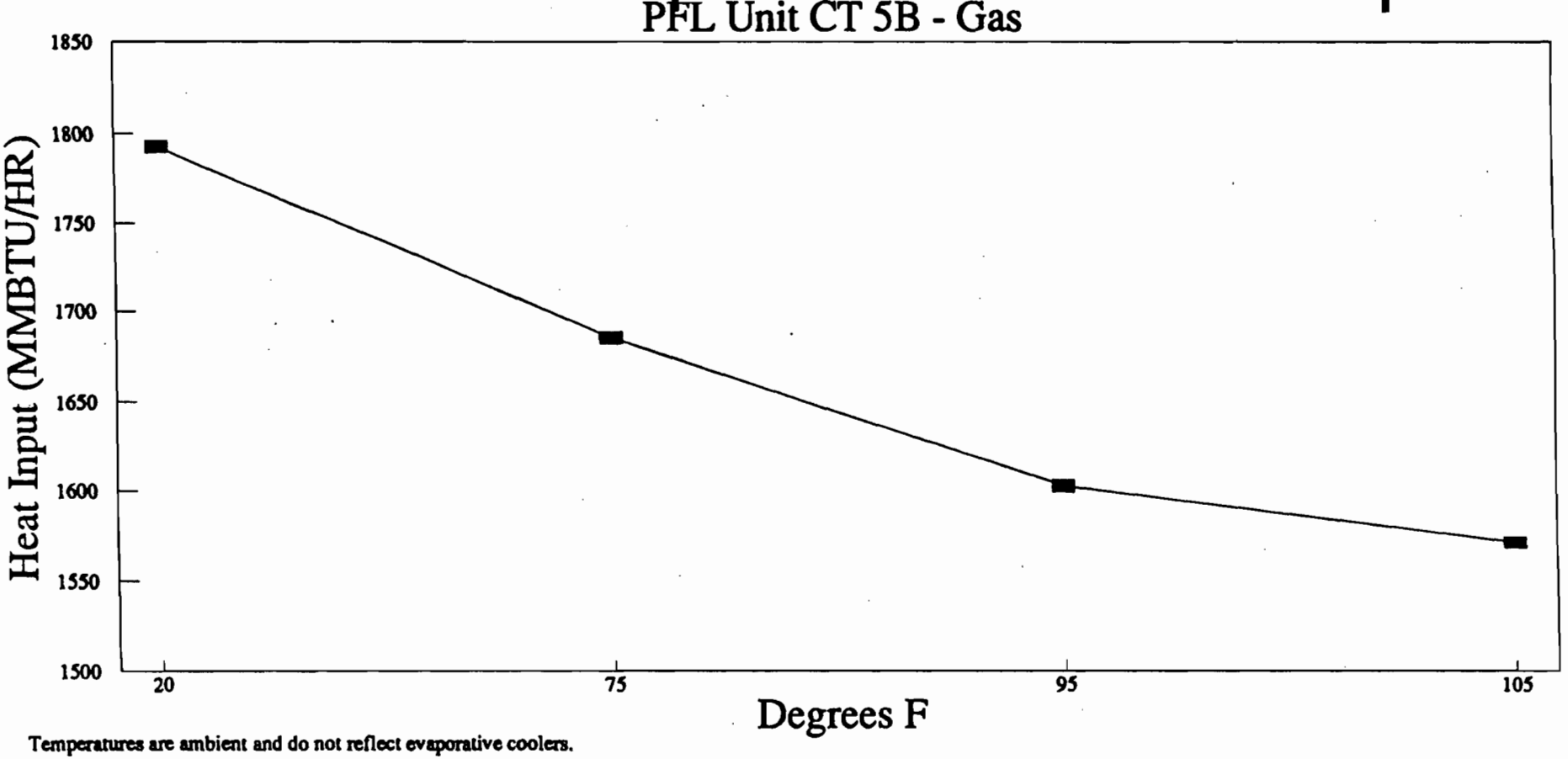
Sincerely,

Daniel M. MacDougall
Environmental Specialist
Florida Power & Light

cc: Clair Fancy DER/TAL

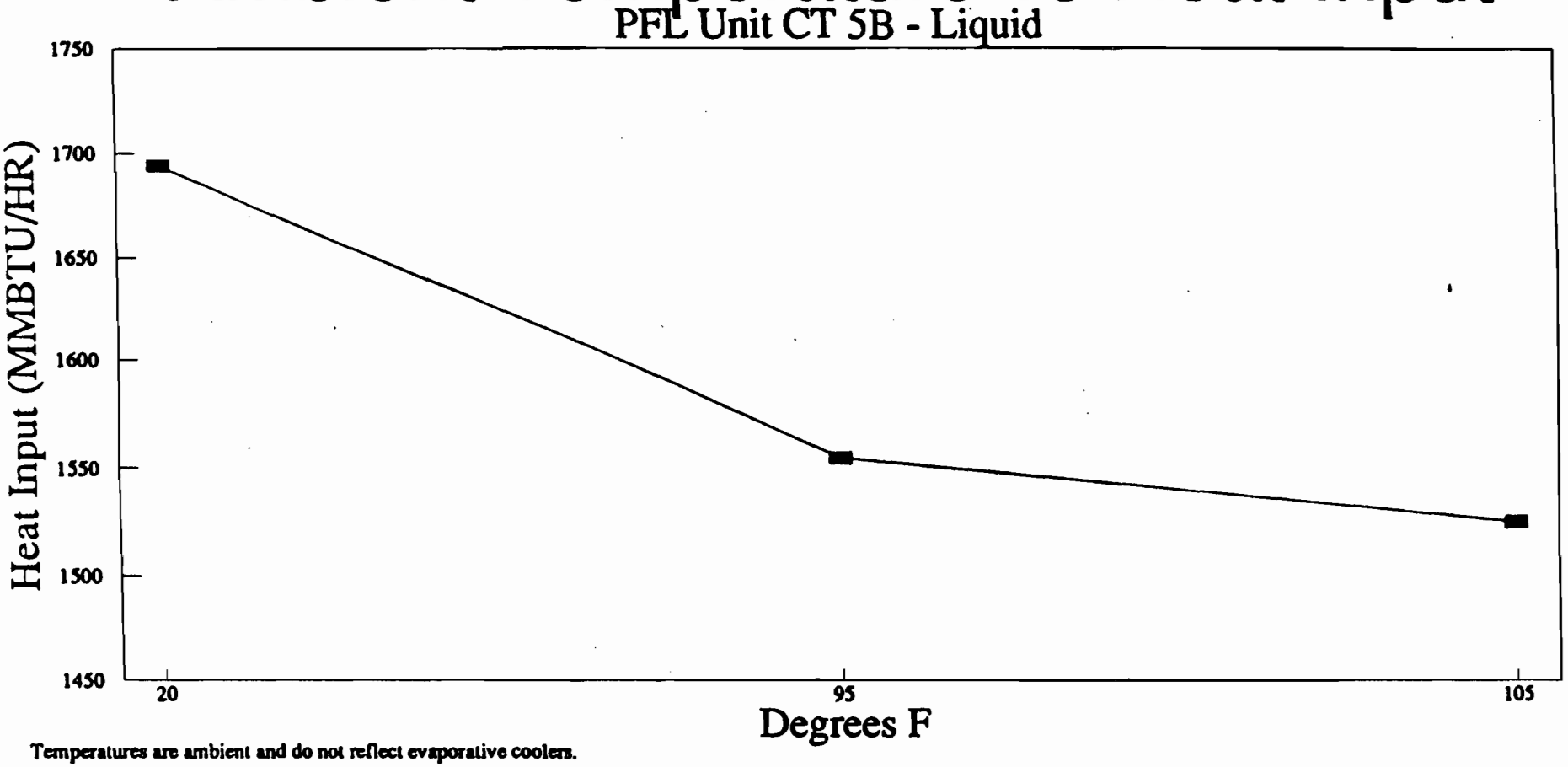
John Brown
~~Preston~~ Patty
File w/ permit folder

Ambient Temperature vs Heat Input



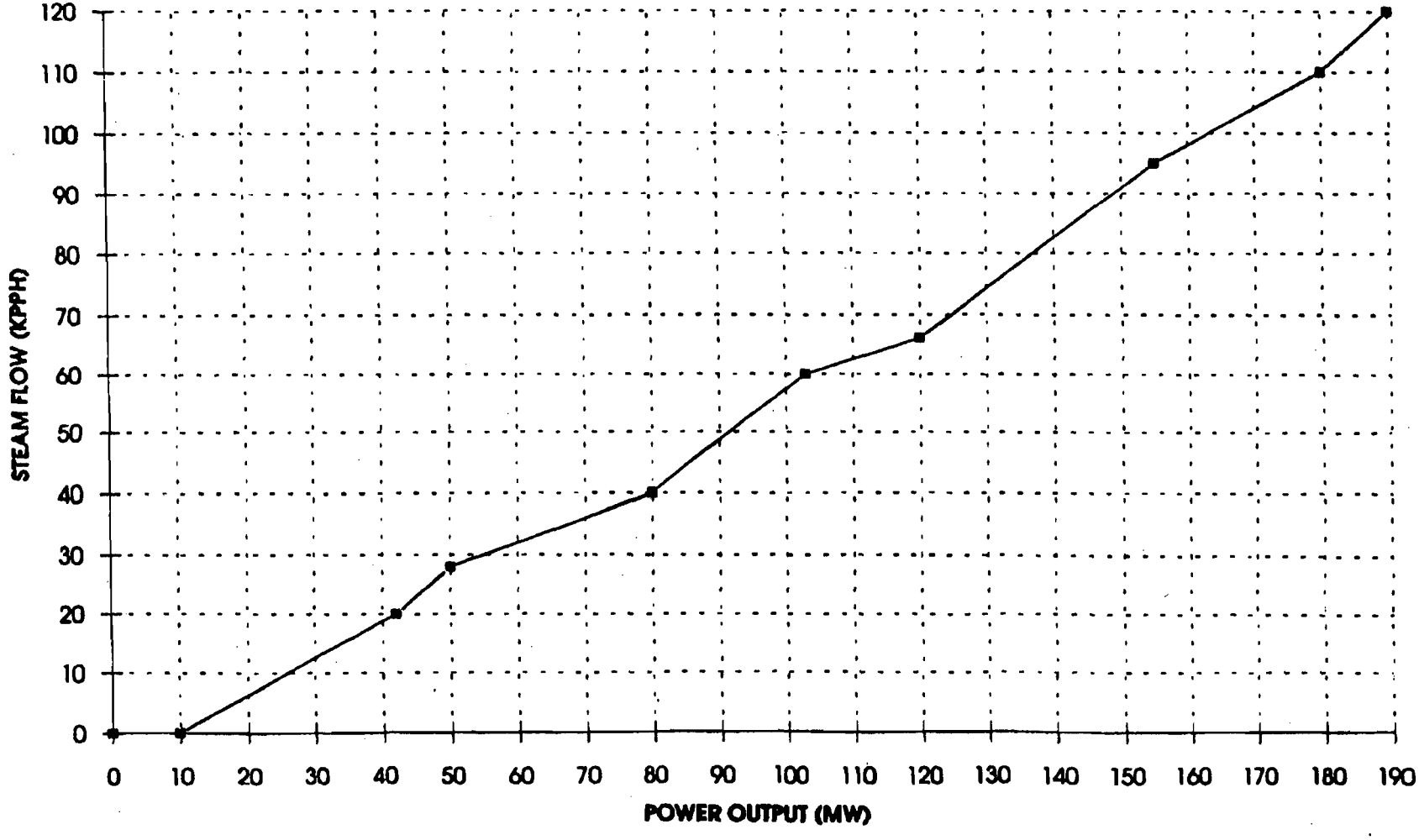
Temperatures are ambient and do not reflect evaporative coolers.

Ambient Temperature vs Heat Input



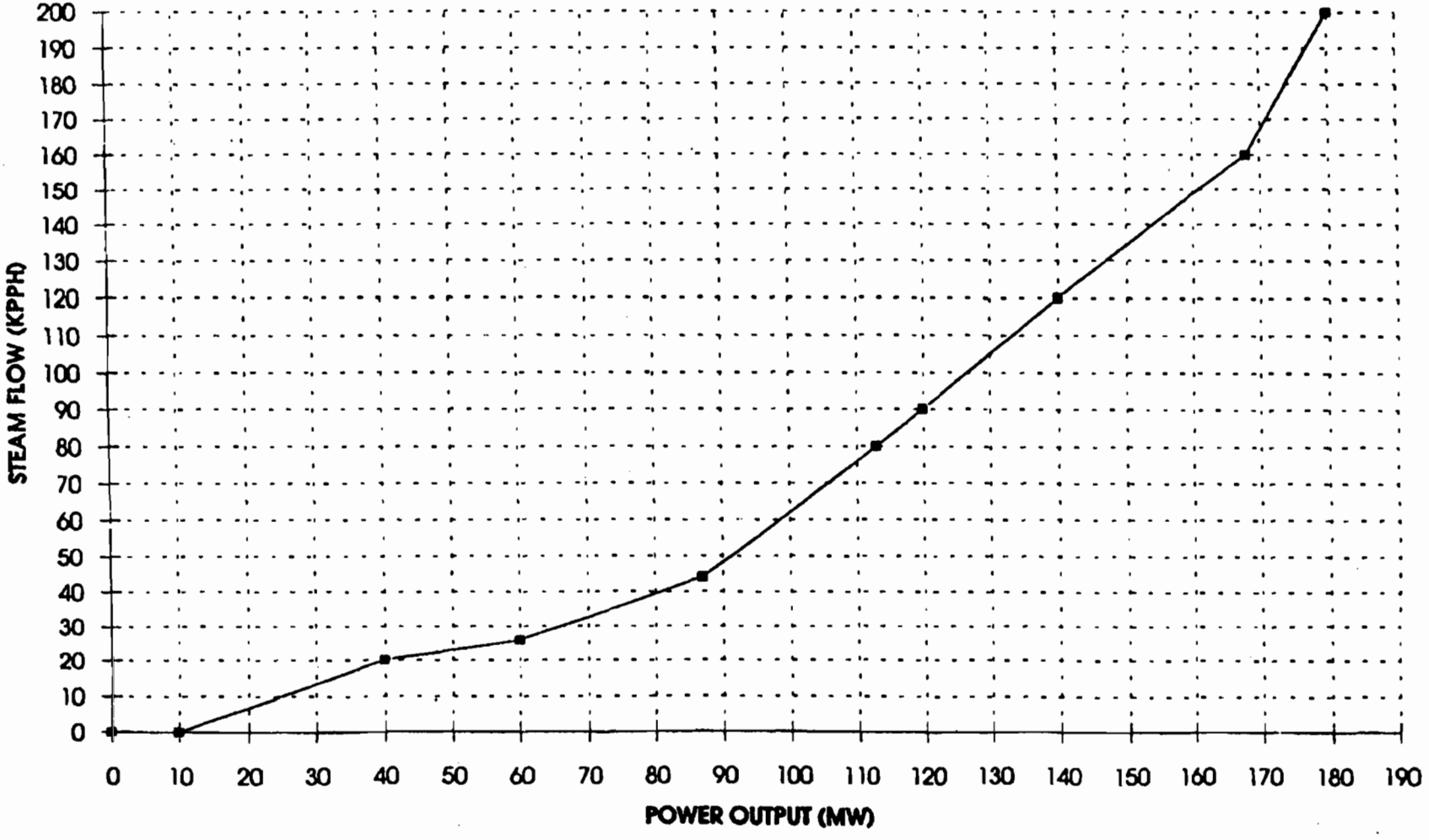
Temperatures are ambient and do not reflect evaporative coolers.

STEAM INJECTION CONTROL CURVE--CT 5B GAS



5/14/93

STEAM INJECTION CONTROL CURVE--CT 5B OIL



5/14/93

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

4APT-AEB

JUL 19 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RECEIVED
JUL 26 1993
Division of Air Resources Management

Mr. Charles D. Henderson
Environmental Licensing Project Manager
Environmental Affairs Department
Florida Power & Light Company
P. O. Box 088801
North Palm Beach, Florida 33408-8801

RE: Lauderdale Repowering Project (PSD-FL-145)

Dear Mr. Henderson:

The review of Mr. Daniel MacDougall's March 12, May 18, and May 26, 1993, letters requesting administrative changes to the conditions of the Prevention of Significant Deterioration permit (PSD-FL-145) issued to Florida Power & Light Company (FPL) on March 14, 1991, for the Lauderdale Repowering project has been completed. You requested that Specific Conditions 1 and 5 of the permit be revised to account for a higher sulfur content in the natural gas and to authorize the burning of all natural gas fuel permitted for this facility in the combustion turbines. The basis of your request is that the natural gas contains more sulfur than was originally estimated, that there is a delay in installing the duct burners, and that the combustion turbines can burn the natural gas permitted for the duct burners without any increase in emissions.

Based on the foregoing, it is determined that the proposed revision to the Specific Conditions 1 and 5 of PSD-FL-145 is acceptable and will not result in the increase in permitted annual emissions of any pollutant subject to the PSD regulations. As an administrative change, this revision will not require additional public participation procedures.

Authority to construct a stationary source was granted for the Florida Power & Light Company, Lauderdale Repowering Project, subject to the conditions contained in the permit to construct on March 14, 1991. This administrative change to PSD-FL-145 does not alter the commence construction deadline for the Lauderdale Repowering Project. This authority to construct is based solely on the requirements of 40 CFR §52.21, the federal regulations governing significant deterioration of air quality, and in no way affects the approvals under other federal or State regulatory authorities. Please be advised that a violation of any condition issued as part of this approval, as well as any construction which proceeds in material variance with information submitted in your application, may subject Florida Power & Light Company to an enforcement action.

Any questions concerning this administrative permit revision may be directed to Mr. Winston A. Smith, Director; Air, Pesticides, and Toxics Management Division at (404) 347-3043.

Sincerely,

Patrick M Tobin

Patrick M. Tobin
Acting Regional Administrator

Enclosure

cc: C. H. Fancy, FDER
M. Harris
L. Smallridge, OGC
B. Owen
D. Tittle, SE Dist.
G. Linero, Broward Co.
P. Cunningham, HBGRS
CHF/PL

7/26

CHF → FYI
PL
[illegible] PA

PSD-FL-145

PERMIT TO CONSTRUCT UNDER THE RULES FOR THE PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

Pursuant to and in accordance with the provisions of Part C, Subpart 1 of the Clean Air Act, as amended, 42 U.S.C. §7470 et seq., and the regulations promulgated thereunder at 40 C.F.R. §52.21, as amended at 45 Fed. Reg. 52676, 52735-41 (August 7, 1980),

Florida Power & Light Company
P. O. Box 088801
North Palm Beach, Florida 33408-8801

is hereby authorized to construct/modify a stationary source, specifically the Lauderdale Repowering Project, at the following location:

Florida Power & Light Company
Lauderdale Electric Utility Plant
Griffin Road
Dania, Florida

UTM Coordinates: Zone 17 580.1 km E, 2883.3 km N

Upon completion of this authorized construction and commencement of operation/production, this stationary source shall be operated in accordance with the emission limitations, sampling requirements, monitoring requirements and other conditions set forth in the attached Specific Conditions (Part I) and General Conditions (Part II).

The revisions to this permit shall become effective on the date signed below.

If construction does not commence within 18 months after March 14, 1991, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time, this permit shall expire and authorization to construct shall become invalid.

This authorization to construct/modify shall not relieve the owner or operator of the responsibility to comply fully with all applicable provisions of Federal, State, and Local law.

Patrick M. Tobin
Acting Regional Administrator

JUL 19 1993
Date Signed

The Specific Conditions of federal permit PSD-FL-145 shall be modified as follows:

FROM:

Specific Condition No. 1

The maximum heat input to each combustion turbine (CT) shall neither exceed 1,685.0 mmBTU/hr while firing natural gas, nor 1,646.9 mmBTU/hr while firing fuel oil (@ 75°F). Each CT's fuel consumption shall be continuously measured and recorded. The maximum heat input to each duct burner shall not exceed 90.62 mmBTU/hr. Each duct burner's fuel consumption shall be continuously measured and recorded.

Specific Condition No. 5

The maximum allowable emissions from each CT in accordance with the BACT determination shall not exceed the following emission limitations at 75°F:

Pollutant	Basis	Fuel	Emission Limitations			
			lbs/hr/CT	lbs/hr/DB	4 CT* (TPY)	4 DB+ (TPY)
NO_x	42 ppmvd	Gas	264	10.0		152
	65 ppmvd	Oil	422		4,716	
VOC	1 ppmvd	Gas	1.3	2.0		30.5
	6 ppmvd	Oil	7.8		48.3	
CO	30 ppmvd	Gas	89	17.6	1,405	268
	33 ppmvd	Oil	100			
PM/PM_{10}		Gas	14.7	0.7		10.7
		Oil	58.0		414	
SO_2		Gas	0.97	0.05		0.8
		Oil	538		1,582	

CT - Combustion Turbine
DB - Duct Burner

NOTES: * Refers to the maximum facility emissions (four CTs).
With capacity factor limitations of 25 percent on oil and 87 percent for the facility.
+ Refers to maximum duct burner emissions at 87 percent capacity factor.

NO_x emissions from duct burners are based on an as-fired emission limitation of 0.11 lbs/mmBTU.

Sulfur dioxide emission assume a maximum of 0.3 percent sulfur in fuel oil for hourly emissions and an average sulfur content of 0.2 percent for annual emissions.

TO:

Specific Condition No. 1

When the duct burners are installed, the maximum heat input to each combustion turbine (CT) shall neither exceed 1,685.0 mmBTU/hr while firing natural gas, nor 1,646.9 mmBTU/hr while firing fuel oil (@ 75°F). Each CT's fuel consumption shall be continuously measured and recorded. The maximum heat input to each duct burner shall not exceed 90.62 mmBTU/hr. Each duct burner's fuel consumption shall be continuously measured and recorded.

Until the duct burners are installed, the maximum heat input to each CT shall not exceed 1,775.62 mmBTU/hr while firing natural gas nor 1,646.9 mmBTU/hr while firing fuel oil (@ 75°F). Each CTs fuel consumption shall be continuously measured and recorded.

Specific Condition No. 5

The maximum allowable sulfur (total) content of the natural gas burned at this facility shall not exceed 10 grains per 1,000 cubic feet (gr/1000 CF). The permittee shall monitor the sulfur content of the natural gas by the customized fuel monitoring schedule approved by EPA. The sulfur content of the fuel oil shall not exceed a maximum of 0.3 percent and shall not exceed an average of 0.2 percent during any 12-month period.

The maximum allowable emissions from each CT in accordance with the BACT determination shall not exceed the following emission limitations at 75°F:

MAXIMUM ALLOWABLE EMISSION PRIOR TO THE INSTALLATION OF THE DUCT BURNERS

Pollutant	Basis	Fuel	Emission Limitations** lbs/hr/CT	4 CT* (TPY)
NO_x***	42 ppmvd	Gas	264	4,868
	65 ppmvd	Oil	422	
VOC	1 ppmvd	Gas	1.3	50
	6 ppmvd	Oil	7.8	
CO	30 ppmvd	Gas	89	1,489
	33 ppmvd	Oil	100	
PM/PM_{10}		Gas	14.7	
		Oil	58.0	424.7
SO_2		Gas	4.9	
		Oil	538	1,582.8

CT - Combustion Turbine
DB - Duct Burner

NOTES * Refers to the maximum facility emissions (four CTs). With capacity factor limitations of 25 percent on oil.

** Table revised to reflect removal of the duct burners and reallocation of the annual emissions to the CTs.

*** ppm NO_x, dry, corrected to ISO standard ambient air conditions and 15 percent oxygen.

MAXIMUM ALLOWABLE EMISSION LIMITS WITH THE DUCT BURNERS INSTALLED

Pollutant	Basis	Fuel	Emission Limitations* lbs/hr/CT	lbs/hr/DB	4 CT* (TPY)	4 DB* (TPY)
NO_x**	42 ppmvd	Gas	264	10.0		152
	65 ppmvd	Oil	422		4,716	
VOC	1 ppmvd	Gas	1.3	2.0		30.5
	6 ppmvd	Oil	7.8		48.3	
CO	30 ppmvd	Gas	89	17.6	1,405	268
	33 ppmvd	Oil	100			
PM/PM_{10}		Gas	14.7	0.7		10.7
		Oil	58.0		414	
SO_2		Gas	**4.9**	**0.25**		**4.0**
		Oil	538		1,582	

CT - Combustion Turbine
DB - Duct Burner

NOTES: * Refers to the maximum facility emissions (four CTs).
With capacity factor limitations of 25 percent on oil.

**** ppm NO_x, dry, corrected to ISO standard ambient air conditions at 15 percent oxygen.**

NO_x emissions from duct burners are based on an as-fired emission limitation of 0.11 lbs/mmBTU.

The permittee shall calculate an appropriate lbs/mmBTU emission factor for each pollutant based on the compliance tests heat input rates/steam injection rate/emission measurements. After submittal to and approval by the Department, the permittee shall program the on site computer system to calculated and record the emissions of each pollutant for each CT. Results shall be reported as lbs/hr and TPY.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN RE: SITE CERTIFICATION, LAUDERDALE REPOWERING PROJECT, FLORIDA POWER & LIGHT CO.	)	CERTIFICATION NO. PA 89-26

FINAL ORDER MODIFYING CONDITIONS OF CERTIFICATION

On January 10, 1991, the Governor and Cabinet, acting as the Siting Board, issued a final order approving certification for Florida Power & Light Company's (FPL) Lauderdale Repowering Project. That certification order approved the construction and operation of a natural gas/oil fired combined cycle facility and associated facilities to be located in Broward County, Florida. Subsequently, on November 11, 1992, the Department issued a final order modifying the certification to authorize certain changes to the facilities and buildings on the Lauderdale site.

On March 12, 1993, FPL filed a request to modify the conditions of certification pursuant to section 403.516(1)(b), F.S. FPL requested that the conditions be modified to approve several recently identified changes to the project design and operation. These proposed changes include changing SO_2 emission rates to correspond with sulfur concentrations in the natural gas and changing heat input limits to reflect the decision not to install duct burners in the combined cycle units at this time. FPL also proposed the

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE ASAP

		Initial / Date
1.	TO: (NAME, OFFICE, LOCATION) Teresa Heron	
2.	Preston Lewis OK, GPL 7/13	
3.	~~John Brown~~ JB	
4.		

Teresa, If yr agree call Gary and let him know GPL 7/13

REMARKS:

Please review the attached final order so that I may submit it to Secretary Wetherell. Be sure we are complying with all Federal and Florida requirements. Thanks!

INFORMATION	
	Review & Return
	Review & File
	Initi

Preston - Teresa is on annual leave. HELP! Gary

DISP

	Review
	Prepare R
	For My Signature
	For Your Signature
	Let's Discuss
	Set Up Meeting
	Investigate & Report
	Initial & Forward
	Distribute
X	Concurrence
	For Processing
X	Initial & Return

FROM: Gary Siadlick, Room 625E, TT

DATE 7-12-93

PHONE 1-9636

7/15/93 - Sent Comments to GS, wnk

certification be modified to reflect the more stringent limits on oil firing of the units contained in the separate Prevention of Significant Deterioration permit for the project. FPL submitted changes to several conditions of certification to address the proposed changes.

Copies of FPL's request were distributed to all parties to the certification proceeding and made available for public review. On March 19, 1993, a Notice of Proposed Modification of Power Plant Certification regarding the proposed modifications was published in the Florida Administrative Weekly. As of April 23, 1993, all of the parties to the original proceeding had received copies of the intent to modify. The notices specified that a hearing would be held if requested by a party within 45 days from receipt of the proposed Department's modification or if requested by a person, who had a substantial interest, within 30 days of publication of the notice. A hearing was not requested and written objections to the Department's proposed modifications were not received.

Accordingly, in the absence of any dispute,

IT IS ORDERED:

The proposed changes to the Lauderdale Repowering Project, described in the March 12, 1993, request for modification, are approved based on the absence of any request for a hearing or written objections. The Department hereby approves the requested modifications, and, pursuant to

Section 403.516(1)(b), F.S., the Department hereby modifies the conditions of certification for the Lauderdale Repowering Project as follows:

II.A Emission Limitations for LRP

1. When the duct burners are installed, the maximum heat input to each combustion turbine (CT) shall neither exceed 1,685.0 MMBtu/hr while firing natural gas, nor 1,646.9 MMBtu/hr while firing fuel oil (@75°F). Each CT's fuel consumption shall be continuously measured and recorded. The maximum heat input to each duct burner shall not exceed 90.62 MMBtu/hr. Each duct burner's fuel consumption shall be continuously measured and recorded.

Until the duct burners are installed, the maximum heat input to each CT shall neither exceed 1,775.62 MMBtu/hr while firing natural gas nor 1,646.9 MMBtu/hr while firing fuel oil (@75°F). Each CT's fuel consumption shall be continuously measured and recorded.

* * *

2. Each of the four CT's may operate continuously, i.e., 8,760 hrs/year provided that the total (four turbines) annual heat input attributed to light distillate fuel oil firing does not exceed 14,426,844 ~~23,082,950~~ MMBtu (@75°F) and the total heat input for all four turbines and the duct burners does not exceed 54,129,421 MMBtu.

* * *

5. The maximum allowable sulfur (total) content of natural gas burned at this facility shall not exceed 10 grains per 1,000 cubic feet (gr/1,000 CF). The permittee shall monitor the sulfur content of the natural gas by the customized fuel monitoring schedule approved by EPA. The sulfur content of the fuel oil shall not exceed a maximum of 0.3 percent and shall not exceed an average of 0.2 percent during any 12-month period. In accordance with the BACT determination, the maximum allowable emissions from each CT and duct burner shall not exceed any of the following emission limitations:

* * *

MAXIMUM ALLOWABLE EMISSIONS PRIOR TO THE INSTALLATION OF THE DUCT BURNERS*

Pollutant	Basis	Fuel	Emission Limitations lb/hr/CT	4 CT** (TPY)
NO_x***	42 ppmvd	Gas	264	4,868
	65 ppmvd	Oil	422	
VOC	1 ppmvd	Gas	1.3	50
	6 ppmvd	Oil	7.8	
CO	30 ppmvd	Gas	89	1,489
	33 ppmvd	Oil	100	
PM/PM_{10}		Gas	14.7	
		Oil	58.0	424.7
SO_2		Gas	4.9	
		Oil	538	1,582.8

CT - Combustion Turbine
DB - Duct Burners

NOTES: * The table has been revised to reflect removal of the duct burners and reallocation of the annual emissions to the CTs.

** This column refers to the maximum facility emissions (four CTs) with capacity factor limitations of 25 percent on oil.

*** The ppm of NO_x (dry) has been corrected to ISO standard ambient air conditions and 15 percent oxygen.

MAXIMUM ALLOWABLE EMISSION LIMITS WITH THE DUCT BURNERS INSTALLED

Pollutant	Basis	Fuel	lb/hr/CT (TPY)	lb/hr/DB (TPY)	Emission Limitations 4 CT*	4DB+
NO_x**	42 ppmvd	Gas	264	10.0		152
	65 ppmvd	Oil	422		4,716 ~~5,131~~	
VOC	1 ppmvd	Gas	1.3	2.0		30.5
	6 ppmvd	Oil	7.8		48.3 ~~65.2~~	
CO	30 ppmvd	Gas	89	17.6		268
	33 ppmvd	Oil	100		1,405 ~~1,434~~	
PM/PM_{10}		Gas	14.7	0.7		10.7
		Oil	58.0		414 ~~528~~	
SO_2		Gas	4.9 ~~.97~~	0.25 ~~.05~~		4.0 ~~.8~~
		Oil	538		1,578.2 ~~2,413~~	

CT - Combustion Turbine
DB - Duct Burners

NOTES: * This table rRefers to the maximum facility emissions (four CTs) .--wWith capacity factor limitations of 25 percent on oil ~~and 87 percent for the facility~~.

** The ppm of NO_x (dry) has been corrected to ISO standard ambient air conditions at 15 percent oxygen.

~~+-Refers to maximum duct burner emissions at 87 percent capacity factor.~~

NO_x emissions from duct burners are based on an as-fired emission limitation of 0.11 lbs/MMBtu.

The permittee shall calculate an appropriate lbs/MMBtu emission factor for each pollutant based on the compliance tests heat input rates/steam injection rate/emission measurements. After submittal to and approval by the Department, the permittee shall program the on site computer system to calculate and record the emissions of each pollutant for each CT. Results shall be reported as lbs/hr and TPY.

~~Sulfur dioxide emissions assume a maximum of 0.3 percent sulfur in fuel oil for hourly emissions and an average sulfur content of 0.2 percent for annual emissions.~~

All modifications to the original certification shall conform and comply with the following, as appropriate:

Stationary Sources - Chapters 17-296 and 17-297, F.A.C.

Potable Water - Chapters 17-4, 17-531, 17-532, 17-550, 17-555, and 17-560, F.A.C.

Industrial Waste - Chapters 17-4, and 17-660, F.A.C.

Stormwater - Chapters 17-4, and 17-25, F.A.C.

Any party to this Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of 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 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 that the Final Order is filed with the Department of Environmental Protection.

DONE AND ENTERED this _____ day of _____, 1993 in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

_____
VIRGINIA B. WETHERELL
Secretary

Marjory Stoneman Douglas Bldg.
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
Telephone: (904) 487-0472

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing was sent by U.S. Mail to the following this _____ day of _____, 1993.

Douglas S. Roberts
Hopping Boyd Green & Sams
P.O. Box 6526
Tallahassee, FL 32314

David Jordan, Senior Attorney
Department of Community Affairs
2740 Centerview Drive
Tallahassee, FL 32399-2100

Sara Nall
South FL Water Management District
P.O. Box 24680
3301 Gun Club Road
West Palm Beach, FL 33416-4680

M. B. Adelson
Assistant General Counsel
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Noel M. Pfeffer
Deputy County Attorney
Broward County
115 South Andrews Avenue
Suite 423
Fort Lauderdale, FL 33301

Michael Palecki
Division of Legal Services
Florida Public Service Commission
101 East Gaines Street
Fletcher Building, Room 212
Tallahassee, FL 32399-0850

Susan M. Coughanour
South FL Water Management District
P.O. Box 24680
3301 Gun Club Road
West Palm Beach, FL 33416-4680

James Antista
General Counsel
FL Game and Fresh Water Fish Commission
Bryant Bldg.
620 S. Meridian Street
Tallahassee, FL 32399-1600

William Roberts
Assistant General Counsel
Department of Transportation
Haydon Burns Building
605 Suwanee Street, M.S. #58
Tallahassee, FL 32399

Thomas R. Henderson
Broward County Resource Recovery Facility
114 South Andrews Avenue
Fort Lauderdale, FL 33301

FACSIMILE COVER SHEET

FLORIDA POWER & LIGHT COMPANY
GOLDEN BEAR
11770 U.S. HIGHWAY ONE
P. O. BOX 088801
NORTH PALM BEACH, FLORIDA 33408-8801

FPL Lauderdale
UTM
17 - 580.1 Km E
2883.3 Km N

DATE: 5/25/93 19 ____

SEND TO:

NAME: Willard Hanks

COMPANY _____

FACSIMILE PHONE NUMBER: _____

PHONE NUMBER/EXTENSION: _____

FROM: Dan MacDougall
ENVIRONMENTAL AFFAIRS DEPARTMENT (JEN/GB)

PHONE NUMBER (407) 625-7661

TOTAL NUMBER OF PAGES (INCLUDING COVER PAGE): 3

SPECIAL INSTRUCTIONS:

Minor comments on Lauderdale's mod.

JEN/GB FACSIMILE PHONE NO: (407) 625-7666

FACSIMILE OPERATOR/TELEPHONE NO: _____ / (407) 625____

DRAFT

SPECIFIC CONDITION NO. 5

The maximum allowable sulfur (total) content of the natural gas burned at this facility shall not exceed 10 grains per 1,000 cubic feet (gr/1000 CF). The permittee shall monitor the sulfur content of the natural gas by the customized fuel monitoring schedule approved in EPA's April 8, 1993, letter to the Department. The sulfur content of the fuel oil shall not exceed a maximum of 0.3 percent and shall not exceed an average of 0.2 percent during any 12-month period. (as may be appropriately amended)

In accordance with the BACT determination, the maximum allowable emissions from each CT and duct burner shall not exceed any of the following emission limitations:

MAXIMUM ALLOWABLE EMISSIONS PRIOR TO THE INSTALLATION OF THE DUCT BURNERS

			Emission Limitations*	
Pollutant	Basis	Fuel	lb/hr/CT	4 CTs (TPY)
NO_x***	42 ppmvd	Gas	264	4,868
	65 ppmvd	Oil	422	
VOC	1 ppmvd	Gas	1.3	50
	6 ppmvd	Oil	7.8	
CO	30 ppmvd	Gas	89	1,489
	33 ppmvd	Oil	100	
PM/PM10		Gas	14.7	
		Oil	58.0	424.7
SO2		Gas	4.9	
		Oil	538	1,629

CT - Combustion Turbine
DB - Duct Burner

NOTES: * Refers to the maximum facility emissions (four CTs); with capacity factor limitations of 25 percent on oil.
** Table revised to reflect removal of the duct burners and reallocation of the annual emissions to the CTs.
*** ppm NO_x (dry) corrected to ISO standard ambient air conditions and 15 percent oxygen.

DRAFT

MAXIMUM ALLOWABLE EMISSION LIMITS WITH THE DUCT BURNERS INSTALLED

Pollutant	Basis	Fuel	Emission Limitations lb/hr/CT	lb/hr/DB	4 CT* (TPY)	4 DB+ (TPY)
NOx	42 ppmvd	Gas	264	10.0		152
	65 ppmvd	Oil	422		4,716	
VOC	1 ppmvd	Gas	1.3	2.0		30.5
	6 ppmvd	Oil	7.8		48.3	
CO	30 ppmvd	Gas	89	17.6	1,405	268
	33 ppmvd	Oil	100			
PM/PM10		Gas	14.7	0.7		10.7
		Oil	58.0		414	
SO2		Gas	4.9	0.25		4.0
		Oil	538		1,625	

CT - Combustion Turbine
DB - Duct Burner

NOTES: * Refers to the maximum facility emissions (four CTs); with capacity factor limitations of 25 percent on oil.
+ ppm NO_x (dry) corrected to ISO standard ambient air conditions and 15 percent oxygen.

NO_x emissions from duct burners are based on an as-fired emission limitation of 0.11 lbs/MMBtu.

The permittee shall calculate an appropriate lb/MMBtu emission factor(s) for each pollutant based on the compliance tests heat input rates/~~water~~ steam injection rate/emission measurements. After submittal to and approval by the Department, the permittee shall program the on site computer system to calculate and record the emissions of each pollutant for each CT. Results shall be reported as lbs/hr and TPY.

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

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MAY-26-1993 15:09 FROM FPL/ENV AFFAIRS TO 890492269792085192 P.01

FACSIMILE COVER SHEET

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FPL

FLORIDA POWER & LIGHT COMPANY
GOLDEN BEAR
11770 U.S. HIGHWAY ONE
P. O. BOX 088801
NORTH PALM BEACH, FLORIDA 33408-8801

DATE: 5/26/93 **19** ______

SEND TO:

NAME: Willard Hanks

COMPANY ______

FACSIMILE PHONE NUMBER: ______

PHONE NUMBER/EXTENSION: ______

FROM: Dan MacDougall
ENVIRONMENTAL AFFAIRS DEPARTMENT (JEN/GB)

PHONE NUMBER (407) 625- 7661

TOTAL NUMBER OF PAGES (INCLUDING COVER PAGE): ~~3~~ 4

SPECIAL INSTRUCTIONS:

~~[illegible] comments on [illegible]~~
~~[illegible]~~

The two circled items are the only two changes that are needed so that we now have no increase in annual emissions,

JEN/GB FACSIMILE PHONE NO: (407) 625-7666

[illegible]ACSIMI[illegible] [illegible]ERATOR/TELEPHONE N[illegible]: ______ / **(407) 625** ______

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

May 26, 1993

Mr. Willard Hanks
DER/Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Lauderdale Plant
PSD-FL-145, PA89-26
Revision to Request to Modify PSD Permit

Dear Mr. Hanks:

After review of the Department's draft PSD permit modification, FPL would like to propose the following additional change. FPL would like to change the total annual TPY SO_2 emission limit from the requested 1629 TPY to the original 1582.8 TPY. This change will result in no increase in annual emission as compared to the original permit. Enclosed is a copy of appropriate pages of the draft permit which have been marked up to reflect FLP's latest request.

If you have any questions please call me at (407) 625-7661.

Sincerely,

Dan MacDougall
Environmental Specialist
Environmental Affairs

DRAFT

SPECIFIC CONDITION NO. 8

The maximum allowable sulfur (total) content of the natural gas burned at this facility shall not exceed 10 grains per 1,000 cubic feet (gr/1000 CF). The permittee shall monitor the sulfur content of the natural gas by the customized fuel monitoring schedule approved in EPA's April 8, 1993, letter to the Department. The sulfur content of the fuel oil shall not exceed a maximum of 0.3 percent and shall not exceed an average of 0.2 percent during any 12-month period. (as may be appropriately amended)

In accordance with the BACT determination, the maximum allowable emissions from each CT and duct burner shall not exceed any of the following emission limitations:

MAXIMUM ALLOWABLE EMISSIONS PRIOR TO THE INSTALLATION OF THE DUCT BURNERS

			Emission Limitations**	
Pollutant	Basis	Fuel	lb/hr/CT	4 CT* (TPY)
NOx***	42 ppmvd	Gas	264	4,868
	65 ppmvd	Oil	422	
VOC	1 ppmvd	Gas	1.3	50
	6 ppmvd	Oil	7.8	
CO	30 ppmvd	Gas	89	1,489
	33 ppmvd	Oil	100	
PM/PM10		Gas	14.7	
		Oil	58.0	424.7
SO2		Gas	4.9	
		Oil	538	~~1,628~~ 1582.8

CT - Combustion Turbine
DB - Duct Burner

NOTES: * Refers to the maximum facility emissions (four CTs); with capacity factor limitations of 25 percent on oil.
** Table revised to reflect removal of the duct burners and reallocation of the annual emissions to the CTs.
*** ppm NO_x (dry) corrected to ISO standard ambient air conditions and 15 percent oxygen.

DRAFT

MAXIMUM ALLOWABLE EMISSION LIMITS WITH THE DUCT BURNERS INSTALLED

Pollutant	Basis	Fuel	Emission Limitations lb/hr/CT	lb/hr/DB	4 CTs (TPY)	4 DBs (TPY)
NOx**	42 ppmvd	Gas	264	10.0		152
	65 ppmvd	Oil	422		4,716	
VOC	1 ppmvd	Gas	1.3	2.0		30.5
	6 ppmvd	Oil	7.8		48.3	
CO	30 ppmvd	Gas	89	17.6	1,405	268
	33 ppmvd	Oil	100			
PM/PM10		Gas	14.7	0.7		10.7
		Oil	98.0		414	
SO2		Gas	4.9	0.25		4.0
		Oil	538		[illegible]	

4578.8

CT - Combustion Turbine
DB - Duct Burner

NOTES: * Refers to the maximum facility emissions (four CTs); with capacity factor limitations of 25 percent on oil.
** ppm NO_x (dry) corrected to ISO standard ambient air conditions and 15 percent oxygen.

4578.8 + 4.0 = 4582.8

NO_x emissions from duct burners are based on an as-fired emission limitation of 0.11 lbs/MMBtu.

The permittee shall calculate an appropriate lb/MMBtu emission factor(s) for each pollutant based on the compliance tests heat input rates/~~water~~ steam injection rate/emission measurements. After submittal to and approval by the Department, the permittee shall program the on site computer system to calculate and record the emissions of each pollutant for each CT. Results shall be reported as lbs/hr and TPY.

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

FACSIMILE COVER SHEET

FPL

FLORIDA POWER & LIGHT COMPANY
GOLDEN BEAR
11770 U.S. HIGHWAY ONE
P. O. BOX 088801
NORTH PALM BEACH, FLORIDA 33408-8801

DATE: _____ 19 ____

SEND TO:

NAME: Willard Hanks

COMPANY _____

FACSIMILE PHONE NUMBER: 904-922-6979

PHONE NUMBER/EXTENSION: _____

FROM: Don MacDougall
ENVIRONMENTAL AFFAIRS DEPARTMENT (JEN/GB)

PHONE NUMBER (407) 625-7661

TOTAL NUMBER OF PAGES (INCLUDING COVER PAGE): 3

SPECIAL INSTRUCTIONS:

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JEN/GB FACSIMILE PHONE NO: (407) 625-7666

FACSIMILE OPERATOR/TELEPHONE NO: _____ / (407) 625____

TO Willard Hanks 5/20/93

From Dan MacDougall

re Lauderdale Repowering Project
SO_2 emission Calculation

Current PSD Permit Limit

oil firing

Short term 538 lb/hr/CT (0.38 Sulfur in oil)

Long term rate is based on 0.2% Sulfur in oil

Therefore $\frac{(538)(0.2)}{(0.3)} = 358.7$ lb/hr/CT

gas firing = 0.97 lb/hr/CT & 0.05 lb/hr/DB

Based on permitted annual heat input & operational limits

54,129,421 mmBTU – all units both fuel

14,426,844 mmBTU – CTs on oil

oil firing 25% = 2190 hrs

gas firing 97% – 25% = 62% or 5431.2 hr

Total annual emissions are

oil $(2190\ hr)(358.7\ lb/hr/CT)(4\ CT)/2000\ TPY = 1571.1\ TPY$

gas CT $(5431.2\ hr)(0.97\ lb/hr/CT)(4\ CT)/2000\ TPY = 10.5\ TPY$

gas DB $(5431.2\ hr)(0.05\ lb/hr/CT)(4\ DB)/2000\ TPY = 0.54\ TPY$

$1592.1\ TPY$

Permitted

BEST AVAILABLE COPY

Proposed PSD Limit

oil – No change

Therefore 1571.1 TPY

gas 4.9 lb/hr/CT

0.25 lb/hr/~~CT~~ DB

Therefore

(5431.2 hr)(4.9 lb/hr/CT)(4 CT)/2000 = 53.2 TPY

(5431.2 hr)(0.25 lb/hr/DB)(4 DB)/2000 = 2.7 TPY

Total Annual emission = 1627 TPY oil/Gas + DB

However FPL has requested to ~~delete~~ the specific requirement for ~~27% capacity factor~~ (total) + [illegible] with 25% CF on oil + to use the available heat input allowed which would be

54 129 421 mmBTU – 14 426 844 mmBTU (25% oil) = 39 702 577 mmBTU

Therefore 39702577 mmBTU / (~~1455 mmBTU/hr/CT~~ + 90.62 hr/CT) 4 = 5589.9 hr at gas operation

Using max available hours on gas Total emissions are

(5589.9 hr)(4.9 lb/hr/CT)(4 CT)/2000 = 54.8 TPY

(5589.9 hr)(0.25 lb/hr/DB)(4 DB)/2000 = 2.8 TPY

" 57.7 TPY

FPL's requested SO2 annual emissions

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

May 18, 1993

Mr. Hamilton S. Oven, Jr. PE.
Florida Department of Environmental Regulation
2600 Blair Stone Rd Room 612
Tallahassee, FL 32399

Re: **Lauderdale Repowering Project**
PA 89-26 Modification Request
Response to Letter Dated May 5, 1993

Dear Mr. Oven:

In response to your letter dated May 5, 1993, FPL submits the following responses to the comments of the Department concerning our March 12, 1993, request for modification of the Site Certification for the Lauderdale Repowering Project. The actual Department comments have been repeated prior to FPL's response in order to provide a complete and coherent picture.

1.) REQUEST TO INCREASE SULFUR DIOXIDE (SO_2) EMISSION FROM EACH CT FROM 0.97 LBS/HR TO 4.9 LBS/HR. --The proposed limit of 4.9 lbs/hr is based on natural gas containing 10 gr/1000 cf of sulfur. The 1990 analytical data from Florida Gas Transmission Company showed the natural gas averaged 4.3 gr/1000 cf and had a maximum sulfur content of 8.0 gr/1000 cf in 1990. Please provide additional support (analysis from other years, statement from an officer of Florida Gas Transmission Company, etc.) to justify any higher sulfur content for the natural gas than was shown in the 1990 data. After the projected sulfur content of the natural gas is established, recalculate the increase in SO_2 emission. Address any changes this increase in emission will have on the ambient air impact.

RESPONSE: FPL decided to base the SO_2 emission from the CT on 10 gr/1000 cf because it provided a slight safety margin over the maximum reported values in 1990 of 8.0 gr/1000 cf. Section 2.2(b) of Attachment A (FERC Gas Tariff for FGT) states that the natural gas may have a sulfur content as high as 200 gr/ 1000 cf. While this is the theoretical maximum, this value is expected to occur only under rare pipeline failures where the gas supply will be suspended until the situation has been resolved. Therefore, FPL has elected to use a reasonable sulfur value in the natural gas instead of the worst case transient value.

As currently proposed, the SO_2 emission for each CT is 4.9 lb/hr when firing natural gas. The Project impacts were originally modeled using 0.5 percent sulfur fuel oil for 8760 hours (860.89 lb/hr or 3770.7 TPY at 75 F). All standards were predicted to be met by the modeling at this level of sulfur content. During the Site Certification process, FPL elected to use a lower sulfur oil (0.2 percent annual average and 0.3 percent maximum) and to reduce the hours of operation on oil to 40 percent of the time (3504 hr) to primarily reduce the NO_x values to a more realistic level. The SO_2 emission from the Project under this scenario was 538 lb/hr or 2413 TPY. Prior to the issuance of the final PSD permit, FPL agreed again to reduce the hours of oil operation to 25 percent or 2190 hours. The SO_2 emission from the Project when firing oil 25 percent of the time is 1570.96 TPY while the expected emission from the Project on natural gas is only 57.7 TPY when using 4.9 lb/hr. As can be seen, the proposed emission of 4.9 lb/hr on gas will not adversely affect ambient air quality since the Project impacts were previously analyzed based on oil firing which has a much greater SO_2 emission than natural gas even at the requested increased sulfur content.

As discussed with the Department's staff, FPL has obtained approval from the USEPA of a customized fuel monitoring schedule for the Lauderdale Repowering Project. A copy of that letter is attached as Attachment B hereto.

2.) REQUEST TO REALLOCATE THE FUEL BURNED IN THE DB TO THE CT--The PSD permit limits each duct burner to 90.62 MMBtu/hr of natural gas. Is your request to burn additional 90.62 MMBtu/hr of either natural gas or distillate oil in each CT? Either way, there will be an increase in air pollutant emissions from the CT unless the emission factors (lbs/MMBtu) for some pollutants are reduced. Please provide a table showing the proposed emissions factors, emissions (lb/hr and TPY), and change in emissions (TPY) under the worst fuel burning scenario. The table should be based on the amendment being approved and cover natural gas and distillate oil fuels along with each regulated air pollutant in the permit.

RESPONSE: FPL is proposing to increase the CT permitted hourly input rate only when firing natural gas by the requested 90.62 MMBbtu/hr, which is the heat input rate originally allocated to the duct burners. FPL will conduct the stack compliance test within 10% of the proposed maximum heat input rate of 1775.62 MMBtu/hr as authorized by Specific Condition 10 of the PSD permit for the Project. Since the permit limits pollutant emissions to a maximum lb/hr value, FPL will calculate a lb/MMBtu emission curve for each pollutant based on the various compliance test heat input rates and on the lb/hr emissions of each tested pollutant. These curves will

be input into the onsite computer system and will track the emissions of each pollutant based upon fuel flow to each CT Therefore, FPL will be able to calculate compliance with the permitted lb/hr emission limit by multiplying the recalculated emission factor of the tested pollutant by the actual heat input rate.

On an annual basis, FPL is limiting the CT emissions to no greater than the sum of the emissions from the CT and the duct burners as follows:

	CT TPY	DB TPY	Project TPY	Proposed Limit (TPY)	Percent Change
NO_x	4716	152	4868	4868	0
VOC	48.3	30.5	78.8	50	-36
CO	1405	268	1673	1489	-11
PM/PM_{10}	414	10.7	424.7	424.7	0
SO_2 *	1625	4.0	1629	1629	0

***Based on maximum permitted annual oil use (25%) and balance of operation on gas at 4.9 lb/hr of SO_2.**

Therefore, there will be no greater impact on the ambient air quality with the natural gas reallocated from the DB to the CT. In fact for VOC and CO the impact will be less with the reallocated natural gas due to the improved operating efficiencies of the CTs as compared to the duct burners.

3.) PSD SPECIFIC CONDITION 2--Please review specific condition No. 2 along with the other specific conditions of the permit and note any changes your requested amendment would have on them.

RESPONSE: There are no changes required to Specific Condition 2 of the PSD permit due to this pending request. However, FPL is requesting that the Site Certification conditions be conformed to the PSD permit and therefore, Condition of Certification II.A.2 needs to be revised to reflect the reduced annual allowance of fuel oil from 23,082,950 to 14,426,844 MMBtu at 75 F.

If you have any questions about these responses, Please call me at (407) 625-7661.

Sincerely,

Daniel M MacDougall /DSR

Daniel M MacDougall
Environmental Specialist
Environmental Affairs

cc: Clair Fancy DER/TAL
Preston Lewis DER/TAL
Willard Hanks DER/TAL

GENERAL TERMS AND CONDITIONS
(continued)

(d) shall contain not more than ten (10) grains of total sulphur per one hundred (100) cubic feet of gas;

(e) shall contain not more than a combined total three percent (3%) by volume of carbon dioxide and/or nitrogen;

(f) shall contain not more than one quarter percent (1/4%) by volume of oxygen;

(g) shall have a temperature of not more than one hundred twenty (120) degrees Fahrenheit; and

(h) shall have a BTU content of not less than nine hundred fifty (950) BTU per cubic foot.

(i) Seller may refuse to accept any gas which fails to conform with the quality standards itemized in (a) through (h) above. Seller, in its reasonable discretion exercised on a not unduly discriminatory basis, may waive the quality standards for gas delivered into its pipeline system at receipt points, provided that such waiver will not affect Seller's ability to maintain an acceptable gas quality in its pipeline and adequate service to its customers consistent with the applicable Rate Schedule and these General Terms, including (without limitation) Section 2.2 below.

2.2 The gas delivered by Seller to Buyer shall conform to the following standards:

(a) The gas shall be natural gas, or its equivalent as provided for in 2.2(c) below, from the sources of supply attached or delivered to Seller's pipeline system; provided, however, that moisture, impurities, helium, natural gasoline, butane, propane, and other hydrocarbons or other substances, may be removed prior to delivery to Buyer. Seller may subject or permit the subjection of the gas to compression, heating, cooling, cleaning or other processes, which are not substantially detrimental to the merchantability of the gas.

GENERAL TERMS AND CONDITIONS
(continued)

(b) The gas shall have a total heating value of not less than 950 Btu per cubic foot of dry gas, and be reasonably free of moisture, objectionable liquids and solids so as to be merchantable upon delivery to Buyer, and shall contain not more than 200 grains of total sulphur, nor more than 15 grains of hydrogen sulphide, per MCF. The gas may contain an odorant at the point of delivery, but it is the responsibility of the customer to monitor and maintain any required odorant levels after the point of delivery.

NOTE - MCF HERE DENOTES 1,000 CUBIC FEET.

(c) Seller may permit its supplier to supply, or it may itself supply gas from any standby equipment installed by it or by such supplier, provided the gas so supplied shall be reasonably equivalent to the natural gas supplied hereunder, and adopted for use by Buyer's consumers without the necessity of making adjustments to fuel-burning equipment.

3. PRESSURE:

Gas shall be delivered at such uniform pressure as Buyer may reasonably require, and as Seller may agree to, up to but not exceeding one hundred (100) pounds per square inch gauge at the point of delivery provided however, Seller may grant an increase in pressure from time to time above one hundred (100) pounds per square inch gauge if Seller determines in its sole discretion that such increase would not adversely affect the operation of Sellers' pipeline system or would not otherwise impair or inhibit Sellers' ability to deliver gas to its other customers. Buyer shall be required to install, operate and maintain such regulating devices as may be necessary to regulate the pressure after delivery to Buyer.

4. MEASUREMENT:

The volume and total heating value of the gas shall be determined as follows:

a. Sales Unit. Except as otherwise expressly provided, the unit of the gas sold shall be the therm, consisting of one hundred thousand (100,000) British thermal units. The number of therms received or delivered shall be determined by multiplying the

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

4APT-AE

APR 08 1993

Mr. Clair H. Fancy, Chief
Bureau of Air Permitting
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399

RE: FPL Lauderdale Repowering Project PA 89-26, PSD-FL-145
Customized Fuel Monitoring Schedule

Dear Mr. Fancy:

This letter is in response to FPL's March 12, 1993, request for approval of a customized fuel monitoring schedule for the above referenced project. This request was addressed to you and a copy was sent to Region IV. Since the authority for implementing §60.334(b) of 40 CFR Part 60, Subpart GG was not delegated to the State of Florida, we have reviewed FPL's custom fuel monitoring schedule and have determined that it is acceptable, because it conforms to custom fuel monitoring guidance (a copy of this guidance memo was included in the FPL's March 12, 1993, letter) issued by EPA Headquarters in 1987. Therefore, you may modify FPL's permit accordingly.

If you have any questions regarding the determination provided in this letter, please contact Mr. Mirza P. Baig of my staff at 404/347-5014.

Sincerely yours,

for Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

cc: Mr. Mike Harley, FDER
Mr. Charles Logan, FDER

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

March 30, 1993

Mr. C. H. Fancy, Chief
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399

RE: FPL Lauderdale Plant
AC 06-179848 and AO 06-199041
Air Construction Permit Amendment

Dear Mr. Fancy:

On October 30, 1990, the Department issued FPL an air construction (AC 06-179848) permit for the Lauderdale Plant. The air construction permit authorized minor changes to the onsite storage tanks and piping, demolition of storage tank 4, and the establishment of federally enforceable permit limits which resulted in the plant being a minor VOC source. This work was conducted prior to the Lauderdale Repowering Project (PSD-FL-145).

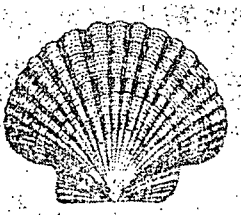
On September 25, 1991, the District issued an air operating permit (AO 06-199041) for the Lauderdale Plant based on the air construction permit. FPL filed a request to be granted additional time in which to request a hearing on the air operating permit. On December 2, 1991, FPL provided comments on the air operating permit to the District office. It was discussed with the District staff that some comments could be handled by the District office and others had to the revised by the Department in Tallahassee. FPL through Mr. Peter Cunningham of Hopping, Boyd, Green & Sams had discussion with Department staff about FPL's comments on the air operating permit and the need to revise the air construction permit in order for the District to then modify the air operating permit.

On February 16, 1993, the Department advised FPL that the District office would make the modifications to the air operating permit that they were authorized to make and that the Department would correct the gas flow measurement typographic errors (MCFH instead of MMCFH in the air construction permit). (The District office on February 24, 1993, issued a letter modifying the air operating permit exclusive of the gas flow measurement errors.) The Department also requested that FPL formally amend the air construction permit in order to resolve FPL's remaining comments on the air operating permit.

FPL is hereby requesting that the air construction permit (AC 06-179848) be revised as follows and that the District then modify the air operating permit accordingly:

1) Page 1 of 11 Paragraph 2 Line 6-- The "Two 1,500 gallon underground gas turbine dump tanks" should be "one 1,500 gallon and one 2,500 gallon underground gas turbine dump tanks".

N · O · T · E · S



4/6

John Brown —
PK handle. Willard did
this permit —

Clair
Preston/ 4/8/93
Willard —

4-12-93
Patty,
U have a copy of this.
LMH

2) Page 9 of 11 Specific Condition 21-- Add "Note: Usage may be determined on the basis of time of operation versus total fuel consumption for a block of 12 units." at the end of this condition.

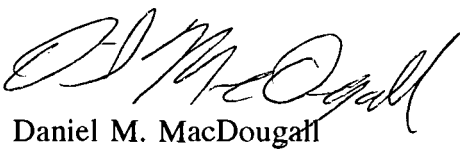
3) Page 10 of 11 Specific Condition 24-- This condition should be replaced with the following text: "The use of solvents for maintenance of the existing facility shall be tracked and controlled during each calendar year. The VOC emission from solvents shall be calculated by the following method: The solvent volume loss shall be equal to the total solvent volume purchased/in stock minus the solvent volume reclaimed/disposed of offsite. The solvent volume loss shall then be multiplied by the emission factor (mass VOC/ unit of solvent) to get a TPY value. The total solvent TPY emission value will be added to all other VOC sources to ensure compliance with Specific Condition 26."

FPL originally installed the two gas turbine dump tanks in the mid 70's at the Lauderdale Plant. At that time two 1,500 gallon single walled steel tanks were installed underground. The one tank for GT Site 1, located within the containment area for fuel oil storage tank 4, was replaced with a 2,500 gallon new double walled fiberglass dump tank when it was relocated in anticipation of the Lauderdale Repowering Project. The 2,500 gallon tank that was installed did not get incorporated into the construction permit. The original estimate of VOC emission (0.003 TPY) from the two gas turbine dump tank is conservative since it was based on a total annual throughput of 300,000 gallons and in 1991 the total annual throughput was less than 3,000 gallons. The actual emission from these tanks is calculated annually in accordance with Section 4.3 of AP-42 in order to determine compliance with Special Condition 26.

FPL requests that the second revision be granted since the GT fuel flows for natural gas and distillate oil are not measured individually at each gas turbine but is measured by GT banks (12 GT per bank).

FPL requests that the Special Condition 24 be revised as indicated above. The basis for this request is to allow FPL operational and maintenance flexibility without exceeding the 99.92 TPY VOC emission limit. FPL proposed that the solvent loss be treated as a variable which is calculated annually and summed with all the other VOC sources to produce an annual total VOC emission for the entire site. The Annual Air Operating Report for 1991 showed that the total VOC emission of 17.12 TPY is well below the 99.92 TPY limit. FPL will not be circumventing the intent of the original condition since the VOC emission will be limited annually. The new solvent limit is changed from being an arbitrary limit of 250 gallons to a variable limit which when summed with all the other VOC emission sources will be less than the 99.92 TPY VOC emission limit.

If you have any question about this request please call me at (407) 625-7661.



Daniel M. MacDougall
Environmental Specialist
Florida Power & Light Company

cc: Tom Title-DER/WPB
Stephannie Brooks-DER/WPB
Mark Sittig-DER/WPB
Claire Lardner-DER/TAL
Willard Hanks-DER/TAL

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

March 12, 1993

Mr. C. H. Fancy, Chief
Bureau of Air Permitting
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399

RE: FPL Lauderdale Repowering Project
PA 89-26, PSD-FL-145
Customized Fuel Monitoring Schedule

Dear Mr. Fancy:

The repowered Units 4 & 5 at the FPL Lauderdale Plant have been permitted under the Power Plant Siting Act (Chp 403 Part II F.S.) and a corresponding PSD permit. These Units consist of 4 dual fuel fired "advanced" combustion turbines, with heat recovery steam generators (HRSG). The combustion turbines are subject to New Source Performance Standards (NSPS-40 CFR 60, Subpart GG). 40 CFR 60.334(b) requires the owner/operator of any combustion turbine to monitor the sulfur and nitrogen content of the fuel as follows: 1) If the turbine fuel is supplied by a bulk storage tank then the sulfur and nitrogen content are to be determined whenever new fuel is transferred into the bulk storage tank and 2) If the turbine fuel is supplied without an intermediate bulk storage tank then daily monitoring of the sulfur and nitrogen content of the fuel is required. FPL has an intermediate bulk storage tank(s) for the light distillate oil and will test the sulfur and nitrogen content of the fuel oil as required by 40 CFR 60.334(b)(2).

Since the natural gas used by the combustion turbines does not pass through an intermediate bulk storage tank, FPL is hereby requesting a customized fuel monitoring schedule as allowed by 40 CFR 60.334(b)(2) for the Lauderdale Plant. While firing natural gas, FPL requests the following customized fuel monitoring schedule which was developed based on an EPA guidance memorandum (Attachment A):

1. Monitoring of natural gas nitrogen content shall not be required in accordance with page 2 of the EPA guidance memorandum and the attached enclosure.

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 D3245-81; and ASTM D4048-82 as referenced in 40 CFR 60.335(b)(2).

b. Effective on the commercial operation date of the CTs or the approval date of the customized fuel monitoring schedule whichever is later, 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 monitoring required by 2(b), above, of the sulfur content of the natural gas shows little variability and the calculated sulfur dioxide emissions, represents 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, FPL will notify the Department of Environmental Regulation 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. FPL will notify the Department of Environmental Regulation 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 FPL for a period of three years, and be available for inspection by appropriate regulatory personnel.

5. FPL will obtain the sulfur content of the natural gas from Florida Gas Transmission Company at its Brooker Lab.

Data from natural gas at the Brooker Lab site is considered representative of the sulfur content of the natural gas at the Lauderdale site since there is no additional entry point for sulfur or other elements/compounds which may affect the quality of the natural gas. The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.

If you or you staff have any questions about this request please call me at (407) 625-7661.

Sincerely,

Daniel M. MacDougall/DSK

Daniel M. MacDougall
Environmental Specialist
Florida Power & Light Company

cc: Mike Harley, FDER
Charles Logan, FDER
David McNeal, Region IV, EPA

File John Brown Preston

HOPPING BOYD GREEN & SAMS

ATTORNEYS AND COUNSELORS

123 SOUTH CALHOUN STREET

POST OFFICE BOX 6526

TALLAHASSEE, FLORIDA 32314

(904) 222-7500

FAX (904) 224-8551

CARLOS ALVAREZ
JAMES S. ALVES
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ELIZABETH C. BOWMAN
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MICHAEL P. PETROVICH
DOUGLAS S. ROBERTS
JULIE B. ROME
KRISTIN C. RUBIN
CECELIA C. SMITH

OF COUNSEL
W. ROBERT FOKES

December 15, 1992

BY HAND-DELIVERY

RECEIVED

DEC 15 1992

Division of Air
Resources Management

Daniel H. Thompson, Esquire
Office of General Counsel
Florida Department of Environmental
Regulation
2600 Blair Stone Road, Room 654
Tallahassee, Florida 32399-2400

Re: Florida Power & Light Company
Lauderdale Power Plant
Air Operation Permit No. AO 06-199041

Dear Mr. Thompson:

On September 26, 1991, Florida Power & Light Company (FPL) received the above referenced air operation permit for its Lauderdale Power Plant, located in Broward County, Florida. The permit was issued by the Department's Southeast Florida District office and was signed by J. Scott Benyon, Director of District Management. By order dated October 22, 1992, FPL was granted an extension of time to and including December 15, 1992 in which to file a petition for administrative proceedings regarding the permit.

On behalf of FPL, I hereby request, pursuant to F.A.C. Rule 17-103.070, an extension of an additional sixty-two (62) days to, and including, February 15, 1993, in which to file a petition for administrative proceedings regarding the permit. As good cause for granting the request for extension of time for filing, FPL states the following:

1. The permit contains thirty-one (31) specific conditions, several of which appear to warrant clarification or correction.

2. An FPL representative has discussed the conditions in question with appropriate Department staff and submitted a letter regarding the same to Ms. Stephanie Brooks of the Southeast District office on December 2, 1991. (See Attachment "A".)

3. It is FPL's understanding that at least one of its suggested changes to the permit may require amendment of a condition in the underlying air construction permit (Permit No. AC 06-179848). Representatives of FPL intend to meet with staff of the Department's Bureau of Air Regulation in the near future to discuss this matter.

4. The two fossil fuel fired steam electric generating units formerly at the Lauderdale Plant (Units No. 4 and 5) and addressed in the subject permit have been dismantled and removed from the site as part of the Lauderdale Repowering Project. It would therefore be appropriate to conform the subject permit to reflect this change at the facility.

5. On December 9, 1992, the Florida Environmental Regulation Commission adopted amendments to Chapter 17-296, Florida Administrative Code, including new requirements for facilities that are major sources of volatile organic compounds and nitrogen oxides in Dade, Broward and Palm Beach Counties. In accordance with those rule amendments, FPL will be filing an application for a revised air operation permit for the Lauderdale Plant in the near future. FPL believes this permit process offers an excellent opportunity for resolution of all outstanding issues regarding the subject permit.

This request is filed simply as a protective measure to avoid waiver of FPL's right to challenge the permit as issued. Grant of this request will not prejudice either party, but will further their mutual interest and likely avoid the need to initiate formal administrative proceedings.

I hereby certify that I have attempted, without success, to contact both Claire Lardner and Pat Comer of the Department's Office of General Counsel regarding this request. I have discussed this matter with Clair Fancy, Chief of the Bureau of Air Regulation, and Mr. Fancy advised that, given the circumstances described in paragraphs 4 and 5 above, he does not object to the grant of this request.

I hereby request that you formally extend the time for filing a petition for administrative proceedings in regard to Department

air operation permit AO 06-199041 to and including February 15, 1993.

Respectfully submitted,

Peter C. Cunningham

/gbb

cc: Clair Fancy
Stephanie Brooks
Claire E. Lardner, Esq.
Pat Comer, Esq.
Dan MacDougall
Elsa Bishop

Attachment

FPL

P. O. Box 078768, West Palm Beach, FL 33407-0768

December 2, 1991

Ms. Stephanie Brooks
Department of Environmental Regulations
Southeast District
1900 S. Congress Avenue, Suite A
West Palm Beach, FL 33406

RE: Air Permit No: AO-06-199041
FPL Lauderdale Plant - Units 4 & 5
Gas Turbines 1 - 24 & Tanks

Dear Ms. Brooks:

After review of the above-referenced permit, FPL has the following comments:

- Page 1 of 7 Para 2 ¨ Change "An air pollution source" with "Air pollution source(s)" to be consistent with FAC definition.

- Page 1 of 7 bullet 4 ¨ The "Two 1,500 gallon underground gas turbine dump tanks" should be "one 1,500 gallon and one 2,500 gallon underground gas turbine dump tanks". The 2,500 gallon tank was installed during the construction permit but did not get incorporated into the operating permit.

- Page 4 of 7 Specific Condition 4 ¨ The "MMCFH" should be "MCFH" to be consistent with the values in the table.

- Page 5 of 7 Specific Condition 5 ¨ either "except" needs to be inserted in line 1 after opacity or the phrase "during the 3 hour period of excess emissions allowed for soot blowing and load changes", need to be deleted.

- Page 5 of 7 Specific Condition 11 ¨ The phrase "oil and 4.49 lbs/hr when they are burning" needs to be added after "burning" in the second line.

- Page 5 of 7 Specific Condition 13 -- The "MMCFH" should be "MCFH" to be consistent with Condition 4.

- Page 5 of 7 Specific Condition 16 -- "particular" should be "particulate" in line 7.

- Page 6 of 7 Specific Condition 20 -- The following note should be added to this Condition for clarification. "By FAC 17-2.250(1), excess emissions resulting from start-up, shut-down or malfunction shall be permitted providing (1) Best operational practices to minimize emissions are adhered to and (2) 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".

- Page 6 of 7 Specific Condition 21 -- "MMCFH" should be "MCFH" to be consistent with Condition 4. Also the following note should be added for clarification. "Note: Usage may be determined on the basis of time of operation versus total fuel consumption for a block of 12 units".

- Page 6 of 7 Specific Condition 22 -- The "10%" in line 3 should be "100%".

- Page 6 of 7 Specific Condition 24 -- This condition should be replaced with the following text: "The use of solvents for maintenance of the existing facility shall be tracked and controlled during each calendar year. The VOC emission from solvents shall be calculated by the following method: For each type of solvent the solvent volume loss shall be equal to the total solvent volume purchased/in stock minus the solvent volume reclaimed/disposed of off site. The solvent volume loss for each solvent type shall then be multiplied by the emission factor (% VOC/unit of solvent) to get a TPY value for that solvent type. The TPY value for all the solvent types shall then be summed to obtain a total solvent TPY emission value. This value will then be used to ensure compliance with Specific Condition 26." This revised condition is in keeping with the intent of the original condition but allows FPL sufficient flexibility to handle uncertaintities regarding maintenance and power generation.

Please call me at (407) 697-6930 or Dan MacDougall at (407) 697-6957 if you have any questions about these comments.

Sincerely,

Martin A. Smith, Ph.D.
Manager
Air and Water Permitting & Programs

MAS:mmk

Enclosure

cc: Scott Benyon - DER SE District
Clair Fancy - DER Tallahassee

P. O. Box 078768, West Palm Beach, FL 33407-0768

FPL

December 2, 1991

Ms. Stephanie Brooks
Department of Environmental Regulations
Southeast District
1900 S. Congress Avenue, Suite A
West Palm Beach, FL 33406

RE: Air Permit No: AO-06-199041
FPL Lauderdale Plant - Units 4 & 5
Gas Turbines 1 - 24 & Tanks

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Sincerely,

Martin A. Smith, Ph.D.
Manager
Air and Water Permitting & Programs

MAS:mmk

Enclosure

cc: Scott Benyon - DER SE District
Clair Fancy - DER Tallahassee

File Copy

Florida Department of Environmental Regulation

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 4, 1991

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Martin A. Smith, Environmental Manager
Florida Power & Light Company
P. O. Box 078768
West Palm Beach, Florida 33407-0768

Dear Mr. Smith:

Re: Amendment of Construction Permit AC 06-179848
Lauderdale Power Plant

The Department is in receipt of Mr. Peter C. Cunningham's May 2 letter, requesting an extension of the expiration date for the construction permit referenced above. The extension is needed to allow completion of the modifications authorized by the permit and additional time to submit the application for a permit to operate. This request is acceptable and the expiration date of construction permit AC 06-179848 is extended from June 1, 1991, to October 1, 1991.

A copy of this letter must be attached to the above construction permit and shall become a part of that permit.

Sincerely,

STEVE SMALLWOOD, P.E.
Director
Division of Air Resources
Management

SS/WH/plm

Attach: Hopping Boyd Green & Sam's May 2, 1991 letter

c: Isidore Goldman, SE District
Al Linero, Broward County
Peter Cunningham, Attorney
Reading File
Willard Hanks } 6-10-91 KT

P 832 539 787

Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to	Martin Smith
Street & No.	FP&L
P.O., State & ZIP Code	WPBch FL
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$
Postmark or Date	6-10-91

AC 06-179848

PS Form **3800**, June 1990

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)*
2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Mr. Martin A. Smith
Fla. Power & Light
P.O. Box 078768
West Palm Bch, Fl
33407-0768

4. Article Number
P 832 539 787

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X [signature]

7. Date of Delivery
6/13/91

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form **3811**, Apr. 1989 ★U.S.G.P.O. 1989-238-815 **DOMESTIC RETURN RECEIPT**

HOPPING BOYD GREEN & SAMS
ATTORNEYS AND COUNSELORS
123 SOUTH CALHOUN STREET
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500
FAX (904) 224-8551

CARLOS ALVAREZ
JAMES S. ALVES
BRIAN H. BIBEAU
ELIZABETH C. BOWMAN
WILLIAM L. BOYD, IV
RICHARD S. BRIGHTMAN
PETER C. CUNNINGHAM
THOMAS M. DeROSE
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MICHAEL P. PETROVICH
DAVID L. POWELL
DOUGLAS S. ROBERTS
CECELIA C. SMITH

OF COUNSEL
W. ROBERT FOKES

May 2, 1991

Clair H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

RECEIVED
MAY 2 1991
DER-BAQM

Re: Florida Power & Light Company
Lauderdale Power Plant
Permit No. AC 06-179848

Dear Clair:

As you will recall, the Department issued the referenced air construction permit for Florida Power & Light Company's Lauderdale Power Plant on October 30, 1990. The permit authorizes certain modifications to the existing fuel oil-handling and storage facilities at the Lauderdale Plant and imposes restrictions that ensure total emissions of volatile organic compounds from the Plant will be less than 100 tons per year. The current expiration date for the permit is June 1, 1991.

I am writing on behalf of FPL to request that the permit expiration date be extended to October 1, 1991.* This additional time will allow completion of the modifications authorized under the permit and will extend the deadline for submission of FPL's application for an operation permit until July 1, 1991. Of course, the Plant will remain subject to the conditions in the construction permit until an operation permit is issued.

* June 1, 1991 now

Please do not hesitate to call me if you or members of your staff have any questions regarding this request.

Sincerely,

Peter C. Cunningham

FPLLaudLtr:gbb

cc: Willard Hanks
C. D. Henderson
E. A. Bishop

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To:	Location:
To:	Location:
To:	Location:
From:	Date:

Interoffice Memorandum

TO: Steve Smallwood

FROM: Clair Fancy

DATE: June 4, 1991

SUBJ: Amendment to Construction Permit AC 06-179848
Florida Power & Light Company

Attached for your approval and signature is a letter extending the expiration date for the above referenced construction permit.

The Bureau recommends approval of this amendment.

CF/WH/plm

Attachment

6-6-91

HOPPING BOYD GREEN & SAMS
ATTORNEYS AND COUNSELORS
123 SOUTH CALHOUN STREET
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500
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CECELIA C. SMITH

OF COUNSEL
W. ROBERT FOKES

May 2, 1991

RECEIVED
MAY 2 1991
DER-BAQM

Clair H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

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Lauderdale Power Plant
Permit No. AC 06-179848

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Please do not hesitate to call me if you or members of your staff have any questions regarding this request.

Sincerely,

Peter C. Cunningham

FPLLaudLtr:gbb

cc: Willard Hanks
C. D. Henderson
E. A. Bishop

FACSIMILE COVER SHEET

KBN Engineering and Applied Sciences, Inc.

DATE: 10/16/90

TO: Willard Hanks

ORGANIZATION: FDER - Tallahassee

FAX NUMBER: 487-4938 TELEPHONE NUMBER: 488 4805

FROM: Ken Kosky

TOTAL NUMBER OF PAGES: 2 (including cover page)

MESSAGE/INSTRUCTIONS:

No other Comments!

PROJECT NUMBER: 82802 FAX OPERATOR: BMW

( ) The original of the transmitted document will be sent by:

( ) US Mail
( ) Overnight delivery
( ) Other: _____

( ) This is the ONLY form of delivery of the transmitted document.

RECEIVED
OCT 24 1990
DER - BAQM

Return original to _____

cc: Project File _____ yes _____ no

KBN Engineering and Applied Sciences, Inc.
1034 NW 57th Street, Gainesville, FL 32605
Phone (904) 331-9000 FAX (904) 332-4189

MAS/FAX

REVISED MAXIMUM NET VOC EMISSIONS FROM LAUDERDALE REPOWERING PROJECT

Maximum Net VOC Emissions - 71.6 tons/year

Capacity Factors - 47% natural gas and 40% distillate oil

EMISSION CALCULATION:

1) Maximum emissions at 100% capacity factor -

VOC emissions from CT on natural gas =
$4 \times 1.27 \frac{lb}{hr} \times 4.38 \frac{TPY}{lb/hr} = 22.32$ TPY

VOC emissions from duct burners on natural gas =
$4 \times 2 \frac{lb}{hr} \times 4.38$ TPY/lb/hr = 35.2 TPY

VOC emissions from CT on distillate oil =
4 x 7.8 lb/hr x 4.38 TPY/lb/hr = 136.8 TPY

2) Maximum emissions at revised capacity factors -

0.47 x 22.32 TPY + 0.47 x 35.2 TPY + 0.4 x 136.8 TPY = 81.75 TPY

3) Net VOC Emissions -

Repowered Units = +81.75 TPY

Tank VOC Increase = +4.80 TPY

Emission Offsets = -14.98 TPY

+71.57 TPY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

BROWARD COUNTY ENVIRONMENTAL
QUALITY CONTROL BOARD,

Petitioner,

vs. OGC CASE NO. 90-1421

FP & L LAUDERDALE PLANT and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Respondents.

_____/

FINAL ORDER

On September 17, 1990, the State of Florida Department of Environmental Regulation ("Department") received a request for administrative hearing from Petitioner, BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD. The request challenged the Department's decision to issue Permit No. AC 06-179848 to FP & L LAUDERDALE PLANT, for Lauderdale Repowering Project in Broward County.

On September 25, 1990, the Department received a Stipulation and Notice of Voluntary Dismissal from the Petitioner. (Exhibit 1) There being no further matters to consider,

IT IS ORDERED:

The petition is hereby dismissed and the Department's Southeast District Office is directed to issue Permit No. AC 06-179848 to FP & L LAUDERDALE PLANT as soon as possible.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

	Initial	Date
1. TO: (NAME, OFFICE, LOCATION) Larry George Clair rm 310 S		
2.		
3. Patty ← Willard — let OGC know BAR, not SE District issues the permit		
4.		

REMARKS: File

RECEIVED
OCT 9 1990
DER - BAQM

INFORMATION	
	Review & Return
	Review & File
	Initial & Forward

DISPOSITION	
	Review & Respond
	Prepare Response
	For My Signature
	For Your Signature
	Let's Discuss
	Set Up Meeting
	Investigate & Report
	Initial & Forward
	Distribute
	Concurrence
	For Processing
	Initial & Return

FROM: Lorraine Doma

DATE 10-9-90

PHONE 8-9730

Any party to this 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 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 this Order is filed with the clerk of the Department.

DONE AND ORDERED this 8 day of October, 1990, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

DALE TWACHTMANN
Secretary

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (904)488-4805

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

Clerk

10-8-90
Date

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished by U.S. Mail to Victor N. Howard, Broward County Environmental Quality Control Board, 500 S.W. 14th Court, Ft. Lauderdale, FL 33315 and to Douglas S. Robert, F P & L, P.O. Box 078768, West Palm Beach, FL 33407 on this 8th day of October, 1990.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Patricia E. Comer
Assistant General Counsel

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (904)488-9730

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD, Petitioner, vs. STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION, and FLORIDA POWER & LIGHT COMPANY, Respondent.	)	DER FILE NO. AC 06-179848

STIPULATION AND NOTICE OF VOLUNTARY DISMISSAL

WHEREAS, the Broward County Environmental Quality Control Board (Board) wishes to protect and maintain the quality of the air in Broward County, Florida; and

WHEREAS, Florida Power & Light Company (FPL) wishes to offset the increased level of volatile organic compounds (VOCs) which will be allowed from its Lauderdale Repowering Project in Broward County, Florida;

WHEREAS, the Florida Department of Environmental Regulation (DER) has issued a Notice of Intent to Issue a Permit, dated August 31, 1990 for the FPL Lauderdale Plant;

WHEREAS, the Board filed, on September 14, 1990, a Petition for Administrative Proceedings to challenge DER's Intent to Issue a Permit;

WHEREAS, FPL and the Board desire to resolve this matter at this time without further administrative proceedings;

NOW, THEREFORE, be it agreed by FPL and the Board that:

1. Florida Power & Light Company shall pay to the Broward County Environmental Quality Control Board, within 60 days of the

date the Site Certification Order for the Lauderdale Repowering Project becomes final, the sum of $280,000.00, to be held in trust by the Board in an interest-bearing account.

2. The Board shall utilize the funds provided by Florida Power & Light Company to develop and implement a program within Broward County to offset the potential increase in emissions of volatile organic compounds.

3. Said program shall be in effect for a period not to exceed two (2) years from the date of the signing of this Agreement, during which time the Board shall determine ways to offset the potential increase in emissions of VOCs within Broward County.

4. If, within said two (2) year time period, the Board determines that it is unable to effectuate appropriate offsets, the remaining funds held in trust shall be returned to Florida Power & Light Company.

5. The Board hereby voluntarily dismisses its Petition for Administrative Proceedings regarding the Florida Department of Environmental Regulation's Intent to Issue Permit No. AC 06-179848. This Stipulation and Notice of Voluntary Dismissal shall serve as notice to DER of the Board's dismissal of this challenge.

Dated this 25th day of September, 1990.

FLORIDA POWER & LIGHT COMPANY

By: _____
ATTORNEY

BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD

By: _____
ATTORNEY

October 3, 1990

Mr. C.H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Air Construction Permit for Florida Power & Light Company's Lauderdale Plant - DER File No. AC 06-179848

Attention: Mr. Barry Andrews, P.E.

Dear Barry:

On behalf of FPL, the following comments are offered on some of the technical aspects of the proposed air construction permit. Comments are provided for the specific conditions only and are listed below according to the condition number:

SPECIFIC CONDITIONS

4. The limitations on the maximum fuel inputs, i.e., millions of cubic feet per hour for natural gas and gallons per hour for oil, should be deleted from the table since actual inputs may vary slightly because of the heating value of the respective fuels. The maximum heat inputs are the most appropriate and are the same as those contained in the existing permit.

11. The VOC emissions in this condition should be 16.5 and 4.49 lb/hr for oil and natural gas, respectively. These values were contained in Table 5 of Attachment A.

19. The VOC emissions in this condition should be 57.28 and 21.06 lb/hr for natural gas and oil, respectively. As discussed above, these values were in the construction permit application.

21. The language "used by each turbine..." should be changed to "used by each bank of turbines (i.e., GTs 1-12 and GTs 13-24)...." This change would make this condition consistent with Specific Condition 19, which establishes limits on VOC emissions from all 24 combustion turbines. In addition, data are currently recorded on this basis at the plant.

23. Annual visible emission testing of each turbine when firing No. 2 fuel oil is both difficult to schedule and expensive. The GTs operate only during peak demand periods and primarily use natural gas. Performing a visible emission test would involve scheduling a GT for a specific period of time and fuel, i.e., oil firing. The low efficiency of these units compared to other

KBN ENGINEERING AND APPLIED SCIENCES, INC.
1034 Northwest 57th Street Gainesville, Florida 32605 904/331-9000 FAX: 904/332-4189

base-load generation and the higher cost for No. 2 fuel oil cause a significant economic impact if each unit is tested each year. Therefore, the language "...from each unit...," should be changed to "...from one GT in each bank of turbines...."

24. This condition limits the use of solvents to no more than 250 gallons per year. While this usage was provided in the permit application, actual usage is expected to vary from year to year. As a consequence, this condition should be changed to "VOC-containing solvents used for maintenance will be included in calculating the total facility VOC emission limitation described in Specific Condition 26."

Your consideration of these comments is greatly appreciated. Please call if you have any questions.

Sincerely,

David A. Buff

David A. Buff, P.E.
Principal Engineer

cc: Martin A. Smith, FPL
Charles D. Henderson, FPL
Winifred Perkins, FPL
Peter Cunningham, Esq.
Kennard K. Kosky, KBN

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

4APT-AEB

SEP 26 1990

Mr. C. H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Florida Power and Light Company (FPL), Lauderdale Repowering Project (PSD-FL-145)

Dear Mr. Fancy:

We acknowledge receipt of the Technical Evaluation and Preliminary Determination and proposed permit to construct the modified boiler units 4 and 5, gas turbines 1 through 24, 3 fuel tanks, and all other miscellaneous stationary sources of air pollution at the above referenced facility.

We have reviewed the package and offer the following comments.

At the outset, we note that this permit action is being processed in advance of the pending modification at FPL involving the addition of new combustion turbines and heat recovery steam generators. We also note that the intended purpose of this permit is to impose federally enforceable permit conditions on FPL designed to limit potential emissions of volatile organic compounds (VOC) to below 100 tons per year (tpy). This action would theoretically make the existing FPL facility a "minor" source for nonattainment new source review (NSR) purposes and thus allow the future planned modification to increase VOC emissions by an additional 99 tpy. This action could easily be misconstrued as a deliberate attempt to circumvent the NSR regulations, and we feel that both "modifications" should normally be included as part of the same permit application. For example, if a company clearly intends to install two new presses at a major VOC facility located in a nonattainment area, it would obviously be considered circumvention for the permitting agency to issue separate permits limiting each unit to 39 tpy. We do feel, however, that there may be situations where limiting a source's potential emissions is valid and can be used to establish "minor source" status.

We recognize that many facilities may have the potential to emit VOC in excess of 100 tpy, but for whatever reason(s), a facility may actually be emitting considerably less than this amount. In these situations, we would not feel that it is inappropriate to limit the facility's potential to emit down to an emissions level indicative of

historic actual emissions. To discount previous actual levels of emissions and arbitrarily choose 99 tpy as the appropriate permit limit, however, does not appear to represent good permitting practice and should be discouraged. We strongly suggest that your Agency reconsider this proposed permitting action. We would be happy to discuss this with you in more detail at your convenience.

We appreciate the opportunity to review this package before the issuance of the final permits. Any further technical comments should be directed to Mr. Ahmed Amanulah of my staff at (404) 347-2904.

Sincerely,

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

cc: Mr. A. A. Linero
Broward County Environmental Control Board
500 S. W. 14th Court
Fort Lauderdale, FL 33315

CC: R. ANDREWS
W. HANKS

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD, Petitioner, vs. STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION, and FLORIDA POWER & LIGHT COMPANY, Respondent.	)	DER FILE NO. AC 06-179848

STIPULATION AND NOTICE OF VOLUNTARY DISMISSAL

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WHEREAS, Florida Power & Light Company (FPL) wishes to offset the increased level of volatile organic compounds (VOCs) which will be allowed from its Lauderdale Repowering Project in Broward County, Florida;

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WHEREAS, the Board filed, on September 14, 1990, a Petition for Administrative Proceedings to challenge DER's Intent to Issue a Permit;

WHEREAS, FPL and the Board desire to resolve this matter at this time without further administrative proceedings;

NOW, THEREFORE, be it agreed by FPL and the Board that:

1. Florida Power & Light Company shall pay to the Broward County Environmental Quality Control Board, within 60 days of the

date the Site Certification Order for the Lauderdale Repowering Project becomes final, the sum of $280,000.00, to be held in trust by the Board in an interest-bearing account.

2. The Board shall utilize the funds provided by Florida Power & Light Company to develop and implement a program within Broward County to offset the potential increase in emissions of volatile organic compounds.

3. Said program shall be in effect for a period not to exceed two (2) years from the date of the signing of this Agreement, during which time the Board shall determine ways to offset the potential increase in emissions of VOCs within Broward County.

4. If, within said two (2) year time period, the Board determines that it is unable to effectuate appropriate offsets, the remaining funds held in trust shall be returned to Florida Power & Light Company.

5. The Board hereby voluntarily dismisses its Petition for Administrative Proceedings regarding the Florida Department of Environmental Regulation's Intent to Issue Permit No. AC 06-179848. This Stipulation and Notice of Voluntary Dismissal shall serve as notice to DER of the Board's dismissal of this challenge.

Dated this 25th day of September, 1990.

FLORIDA POWER & LIGHT COMPANY

By: _____
ATTORNEY

BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD

By: _____
ATTORNEY

FORT LAUDERDALE NEWS/SUN-SENTINEL
PUBLISHED DAILY
FORT LAUDERDALE, BROWARD COUNTY, FLORIDA
BOCA RATON, PALM BEACH COUNTY, FLORIDA
MIAMI, DADE COUNTY, FLORIDA

BEST AVAILABLE COPY

RECEIVED

SEP 2 4 1990

DER - BAQM

STATE OF FLORIDA
COUNTY OF BROWARD/PALM BEACH/DADE
BEFORE THE UNDERSIGNED AUTHORITY PERSONALLY APPEARED .... WHO ON OATH SAYS THAT HE/SHE IS A DULY AUTHORIZED REPRESENTATIVE OF THE CLASSIFIED DEPARTMENT OF THE FORT LAUDERDALE NEWS/SUN-SENTINEL, DAILY NEWSPAPERS PUBLISHED IN BROWARD/PALM BEACH/DADE COUNTY, FLORIDA THAT THE ATTACHED COPY OF ADVERTISEMENT, BEING A

NOTICE

IN THE MATTER OF

LAUDERDALE PLANT

IN THE CIRCUIT COURT, WAS PUBLISHED IN SAID NEWSPAPER IN THE ISSUES OF
C,9/15,1X

AFFIANT FURTHER SAYS THAT THE SAID FORT LAUDERDALE NEWS/SUN-SENTINEL ARE NEWSPAPERS PUBLISHED IN SAID BROWARD/PALM BEACH/DADE COUNTY, FLORIDA, AND THAT THE SAID NEWSPAPERS HAVE HERETOFORE BEEN CONTINUOUSLY PUBLISHED IN SAID BROWARD/PALM BEACH/DADE COUNTY, FLORIDA, EACH DAY, AND HAVE BEEN ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE IN FORT LAUDERDALE, IN SAID BROWARD COUNTY, FLORIDA, FOR A PERIOD OF ONE YEAR NEXT PRECEDING THE FIRST PUBLICATION OF THE ATTACHED COPY OF ADVERTISEMENT; AND AFFIANT FURTHER SAYS THAT HE/SHE HAS NEITHER PAID NOR PROMISED ANY PERSON, FIRM OR CORPORATION ANY DISCOUNT, REBATE, COMMISSION OR REFUND FOR THE PURPOSE OF SECURING THIS ADVERTISEMENT FOR PUBLICATION IN SAID NEWSPAPERS.

....
AUTHORIZED REPRESENTATIVE

SWORN TO AND SUBSCRIBED BEFORE ME
THIS 15 DAY OF SEPTEMBER
A.D. 1990

....
(SEAL) NOTARY PUBLIC

9C3400

State of Florida Department of Environmental Regulation
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit (AC 06-179848) to construct the existing Lauderdale Plant located on Griffin Road, Dania, Broward County, Florida, to Florida Power & Light Company, P.O. Box 078768, West Palm Beach, Florida 33407-0768. The applicant is proposing to change the type of fuel stored in an existing tank from No. 6 to No. 2 fuel oil. This project will increase volatile organic compounds (VOC) emissions from fuel storage tanks Nos. 2, 3, 4 (removed from service), and 5 by 5.41 TPY. The applicant is also requesting the Department impose federally enforceable permit restictions on the facility, primarily by limiting the fuels burned in existing gas turbines, which would result in allowable VOC emissions being less than 100 TPY. These emissions will not cause a violation of any ambient air quality standard or interfere with reasonable further progress toward attainment of the ozone ambient air quality standard. A Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) determination was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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, 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, within fourteen (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 (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 the Petitioner, if any; (e) A statement of facts which petition-

er 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 business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Evnironmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Department of Environmental Regulation
Southeast District
1900 S. Congress Ave.
Suite A
W. Palm Beach, FL 33406

Broward County Environmental Quality Control Board
500 SW 14th Court
Ft. Lauderdale, FL 33315

Any person may send written comments on the proposed action to Mr. Barry Andrews at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

September 15, 1990

News/Sun-Sentinel

News and Sun-Sentinel Company
101 N. New River Drive
Fort Lauderdale, Florida 33301-2293

LEGAL

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SEP 21 1998
DER - BAQM

Fl. Dept. of Environmental Regulation
Twin Towers Office Bldg.
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
Attn: C M. Fancy, P.E., Chief
Bureau of Air Regulation

BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD

500 S.W. 14th Court
Fort Lauderdale, FL 33315
(305) 765-4900

Air Section
621 S. Andrews Avenue
Ft. Lauderdale, FL 33301
(305) 765-4436

RECEIVED
SEP 18 1990
DER - BAQM

September 14, 1990

Office of the General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

CERTIFIED MAIL-RRR

Re: Petition for Administrative Hearing
DER Intent to Issue Permit AC 06-179848

Dear Sir:

Attached is our Petition for an Administrative Proceeding in the matter of the Intent by DER to Issue a Permit to the FPL Lauderdale Plant.

We note that this permit is intimately related with the Site Certification Application for the Lauderdale Repowering Project for which Public Hearings are scheduled here beginning September 24, 1990.

If you have any questions regarding this matter, please call A. A. Linero at 765-4436.

Yours very truly,

Victor N. Howard, P.E.
Pollution Control Officer

VNH/AAL/mr

Attachment

cc: FPL - West Palm Beach
BCEQCB Board Members
BCEQCB Staff Attorney
Jewel Harper - EPA Atlanta
Gary Carlson - BCEQCB
Broward County Attorney
Tom Henderson - BC Resource Recovery
Clair Fancy - DER Tallahassee
Isidore Goldman - DER S.E. District

PETITION FOR ADMINISTRATION PROCEEDING IN THE MATTER OF INTENT BY DER TO ISSUE A PERMIT TO FPL LAUDERDALE PLANT

Petitioner

Broward County Environmental Quality Control Board

500 SW 14th Ct
Fort Lauderdale, Fl 33315
(305) 765-4436

DER File NO. AC 06-179848
Broward County

Notification

Broward County Environmental Quality Control Board (EQCB) received a copy on September 4, 1990 of the Intent to Issue a Permit dated August 31, 1990. We were copied as the Local Pollution Control Agency in a county affected by Department Action.

Statement of Interests

The EQCB is affected as the Local Pollution Control Agency responsible (along with the DER) with the maintenance of air quality in Broward County. At the present time the existing facility in question falls under both State and Local Permitting requirements.

With a future planned FPL project at the same site, it is quite likely that this facility will at some point no longer fall under local jurisdiction per previous interpretations by DER Counsel of the Local Role in projects covered by the Site Certification Act (SCA).

Broward County is part of a three - County area within the Southeast Florida interstate Air Quality Control Region (AQCR) designated on December 31, 1982 by EPA as "Non Attainment" with respect to ozone. This designation and the resulting attainment plans affect the material interests of Broward County residents in general and the EQCB in particular. The subject permit is primarily a preparatory administrative step toward the ultimate construction of a project which will affect ozone levels in the County, the attainment plan and hence the material interests of Broward County residents in general and the EQCB in particular. Once the subject permit is granted, the EQCB will have no remedies in effecting the controls desired of the subsequent project short of legal action since it is not a party to the proceedings on that project.

Disputed Material Facts

We dispute the following:

1.) Page 1 of Letter of Intent to Issue.

(a) We dispute that the referenced permit is to construct the existing plant. The Lauderdale plant was constructed or modified many years ago. We dispute that any separate construction permit is required to change the type of fuel stored in existing Tank #3 from No 6 fuel oil to No 2 fuel oil. This action is already described on page 3.3.2 of the FPL Lauderdale Repowering Project Site Certification Application (SCA) as part of the conversion of both Tanks #2 and #3 to "hold No.2 oil for Lauderdale Repowering Project".

(b) We dispute the value of 5.41 Tons Per Year (TPY) as the increase in VOC's from the described actions. We contend that this is an estimate that is no better than single-significant-figure (or even "order-of-magnitude") accuracy based on the limitations inherent in VOC estimates based on AP-42 and the paucity (if not lack) of actual historical measurements. The same goes for all subsequent VOC values given on this page and in subsequent sections of the package. We don't dispute the Sulfur Dioxide estimates and don't dispute the Nitrogen Oxide estimates to the same extent as the VOC estimates.

(c) We dispute even the notion that the DER can impose federally-enforceable practical permit restrictions which would in-fact limit the allowable VOC emissions to less than 100 TPY.

(d) We dispute that "Best Available Control Technology (BACT) or lowest achievable Estimate Rate (LAER) determinations was not required". This is basically the same conclusion as that given in the SCA. When the actions described in the subject draft permit and the SCA are taken together, a BACT or LAER determination is in-fact required.

(e) While we don't dispute that the quantity of VOC emissions (5.41 TPY) given "will not cause a violation... or interfere with reasonable further progress toward attainment of the ozone..", the same cannot be said about issuance of the permit itself.

(f) We dispute that the reasons for the Intent to Issue are stated in the Technical Evaluation and Preliminary Determination. We contend that there are some unstated reasons.

2.) Rest of Package. We dispute all references to the above disputed facts wherever they arise in the package.

Facts Warranting Reversal or Modifications

The relevant facts warranting Reversal or Modifications are:

1.) The matter of the subject draft permit can and should be addressed under the Site Certification Process and not as a separate matter.

2.) The permit requested is not required for FPL to take a (presently unpermitted) tank storing fuel oil No 2 out of service and switch another (presently unpermitted) tank from fuel oil No 6 to fuel oil No 2 service.

3.) Nothing was submitted with the Permit Application indicative if a "Construction". For example there were no engineering drawings, pollution control equipment descriptions, nor site work plans, etc.

4.) For the reasons given in the previous sections, the permit will not result in federally enforceable permit restrictions which can be shown in any practical manner to actually limit VOC emissions to less than 100 TPY.

5.) Issuance of this permit will facilitate avoidance by FPL of a Non-Attainment New Source Review (NSR) for Ozone in the Lauderdale Repowering Project. This avoidance should not be facilitated. The review should in-fact be encouraged in every way.

6.) Avoidance of NSR prevents discussion of power plant impacts on Ozone. These were previously believed to be due to VOC emissions, but are now known to be affected by Nitrogen Oxides (which the Lauderdale project will emit in very substantial quantities).

7.) FPL is trying to avoid implementing the BACT determinations (Selective Catalytic Reduction - SCR) of EPA which FPL implied were "capricious" and "arbitrary". This avoidance of SCR will increase Nitrogen Oxides in Broward County.

8.) The increase in Broward County of Nitrogen Oxides interferes with "Reasonable Further Progress (RFP)" towards Ozone Attainment. It may also cause or contribute to violations of the Ozone standard.

9.) The residents of this County all will be subjected to very strict measures under the Motor Vehicle Inspection Program to control both Nitrogen Oxides and VOC's the purpose of which is to reduce Ozone formation.

10.) Among the unstated reasons for the draft subject permit are the expectation that NSR for Ozone will result in (expensive) LAER requirements for VOC's and the lack of VOC Offsets in Broward County. We note that Implementation of "Stage II" VOC controls at service stations in Broward County would provide sufficient offsets. Also per 40 CFR 51 S.IV.D the location of the offsets can be anywhere in the AQCR (Dade, Broward, Palm Beach, etc.) The implementation of SCR for Nitrogen Oxides will further promote RFP toward Ozone attainment. These latter considerations are sound bases for exemption from LAER. The apparently contradictory controls of SCR for Nitrogen Oxides and Catalytic Oxidation for VOC's will add further rationale for exemption from LAER. Thus there is no reason to facilitate avoidance of NSR for the Lauderdale Repowering Project.

11.) Issuance of the subject draft permit will lead to or even cause the scenario described above.

12.) The implication that no PSD/BACT nor NSR/LAER issues are involved, unfairly limits the time for Public Comment to less than the 30-day requirement when such issues are involved.

Rules or Statutes Requiring Reversal or Modification

1.) Chapter 17.2.200 Rules of the FDER, Statement of Intent. The subject source does indeed pose the possibility of degrading ambient air quality. Issuance of the Permit will facilitate in avoidance of New Source Review in the Lauderdale Repowering Project. The proponent has not yet given reasonable assurances that BACT for Nitrogen Oxides (which will help limit Ozone formation) will be a part of that project. Therefore DER cannot be sure that the scenario facilitated or caused by issuance of the subject draft permit will not occur.

2.) We will research other specific DER Rules and Policies which will support our position with respect to this specific permit. We consider the subject draft permit to have little merit and our arguments above to stand on their merits.

3.) We have researched and found specific Federal Rules, Regulations and Decisions which will require FPL to perform the NSR for Ozone for the subsequent Repowering Project if the draft subject permit is denied. We do not need to enumerate those here. Approval can be seen as part of an effort to circumvent those Rules, Regulations and Decisions.

Statement of Relief Sought

1.) We request that DER deny the permit and make the issue part of the Site Certification Procedure for the Lauderdale Repowering Project.

2.) If DER will not deny the permit then get commitments that Selective Catalytic Reduction will be part of the Lauderdale Repowering Project.

3.) Advise FPL that VOC offsets do exist and can be obtained by implementation of stage II in Broward County or anywhere in the non-Attainment part of the AQCR.

4.) Require New Source Review for Ozone for the Lauderdale Repowering Project as should have been required initially.

5.) Evaluate feasibility (or infeasibility) of VOC LAER requirements given that Nitrogen Oxide/BACT will promote RFP towards Ozone Attainment.

6.) Submit the entire matter of draft permit application and Repowering Project to EPA for an NSR "Non Applicability Determination."

Florida Department of Environmental Regulation

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

Bob Martinez, Governor | Dale Twachtmann, Secretary | John Shearer, Assistant Secretary

August 31, 1990

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Martin A. Smith, Manager Environmental
Florida Power & Light Company
P. O. Box 078768
West Palm Beach, Florida 33407-0768

Dear Mr. Smith:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit to construct the existing boiler units 4 and 5, gas turbines 1 through 24, 3 fuel tanks, and all other miscellaneous stationary sources of air pollution at the Lauderdale Plant located on Griffin Road, Dania, Broward County, Florida.

Before final action can be taken on your draft permit, you are required by Florida Administrative Code Rule 17-103.150 to publish the attached Notice of Proposed Agency Action in the legal advertising section of a newspaper of general circulation in Broward County no later than thirty days after receipt of this letter. The Department must be provided with proof of publication within seven days of the date the notice is published. Failure to publish the notice may be grounds for denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Barry Andrews of the Bureau of Air Regulation.

Sincerely,

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

CHF/WH/plm

Attachments

c: Isidore Goldman, SE District
Al Linero, Broward County
David Buff, P.E.
Jewell Harper, EPA

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Florida Power & Light Company
P. O. Box 078768
West Palm Beach, Florida 33407-0768

DER File No. AC 06-179848

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit (copy attached) for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Florida Power & Light Company, applied on May 3, 1990, to the Department of Environmental Regulation for a permit to construct the existing Lauderdale Plant in Dania, Broward County, Florida. The permit will restrict VOC emissions to less than 100 TPY.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit is required for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. 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. The applicant shall provide proof of publication to the Department, at the address specified 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 permit.

The Department will issue the permit 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 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 notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application(s) 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 in 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 REGULATION

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

Copies furnished to:

Isidore Goldman, SE District
Al Linero, Broward County
David Buff, P.E.
Jewell Harper, EPA

State of Florida
Department of Environmental Regulation
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit (AC 06-179848) to construct the existing Lauderdale Plant located on Griffin Road, Dania, Broward County, Florida, to Florida Power & Light Company, P. O. Box 078768, West Palm Beach, Florida 33407-0768. The applicant is proposing to change the type of fuel stored in an existing tank from No. 6 to No. 2 fuel oil. This project will increase volatile organic compounds (VOC) emissions from fuel storage tanks Nos. 2, 3, 4 (removed from service), and 5 by 5.41 TPY. The applicant is also requesting the Department impose federally enforceable permit restrictions on the facility, primarily by limiting the fuels burned in existing gas turbines, which would result in allowable VOC emissions being less than 100 TPY. These emissions will not cause a violation of any ambient air quality standard or interfere with reasonable further progress toward attainment of the ozone ambient air quality standard. A Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) determination was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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 fourteen (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 business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Southeast District
1900 S. Congress Avenue, Suite A
West Palm Beach, Florida 33406

Broward County Environmental Quality Control Board
500 SW 14th Court
Ft. Lauderdale Florida 33315

Any person may send written comments on the proposed action to Mr. Barry Andrews at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of buisness on 8-31-90.

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

Kris Faber 8-31-90

Clerk Date

Technical Evaluation
and
Preliminary Determination

Florida Power and Light Company

Lauderdale Plant
Broward County, Florida
File No. AC 06-179848

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

August 31, 1990

I. General Information

A. Applicant

Florida Power & Light Company
Post Office Box 078768
West Palm Beach, FL 33407-0768

B. Request

On May 3, 1990, Vice President J. S. Odom of Florida Power and Light Company submitted an application for a permit to construct the existing Lauderdale plant (SIC 4911) and requested permission to switch the type of fuel stored in an existing tank and asked that restrictions be placed on all sources of air pollution at the facility to limit the allowable volatile organic compounds (VOC) emissions to less that 100 TPY. The application was considered complete on June 22, 1990, when additional information (KBN letter dated June 20, 1990) was received by the Department.

C. Project and Location

The applicant is planning to convert an existing storage tank from No. 6 oil to No. 2 oil service at the Lauderdale Plant which is located on Griffin Road, Dania, Broward County, Florida. The UTM coordinates of this site are Zone 17, 580.2 km E and 2,883.3 km N. They also request restrictions be placed on all existing sources of air pollution at this facility to limit allowable VOC emissions to less than 100 TPY. The restrictions would be based on the type and quantity of organic liquids (solvents, lubricants, and fuels) handled or burned at this facility.

D. Emissions

Using Tank No. 3 to handle No. 2 fuel oil instead of No. 6 fuel oil will increase VOC emissions from this tank to 6.38 TPY. The contemporaneous emission change for the storage tanks Nos. 2, 3, 4 (removed from service), and 5 will be 5.41 TPY VOC. The applicant is also requesting the Department restrict the permitted emissions of all the air pollution sources at this facility to less than 100 TPY VOC. There has never been a federally enforceable VOC emission limit for this facility. As the highest actual VOC emissions from the facility was 54.6 TPY, this represents an increase of less than 45.4 TPY VOC.

The following table summarizes the allowable emissions being requested for the facility.

Source	TPY VOC Emissions	Control
Unit Nos. 4 & 5 FFSG and 24 gas turbines	89.1	Limit fuel consumption
Tank No. 2	0.05	Limited 192,642,943 GPY No. 6 oil
Tank No. 3	6.38	Limited 68,302,094 GPY No. 2 oil
Tank No. 4	0	Removed from service
Tank No. 5	3.38	Limited 343,635,079 GPY No. 2 oil
2 gas turbine tanks	0.003	
3 fuel oil metering tanks	0.011	
1 unleaded gasoline tank	0.106	
1 diesel fuel tank	0.001	
Maintenance solvent	0.893	Limited to 250 GPY solvents
All other stationary sources of air pollution	0	No other sources reported for this facility
TOTAL	99.924 TPY	

The facility will also emit other products of combustion, including PM, SO_2, NO_x and CO. Each of these pollutants is emitted in quantities in excess of 100 TPY. A summary of the emissions for these pollutants reported in the application is shown below.

Pollutant	Maximum Emissions (lbs/hr) SO_2	NO_x	PM	CO
Units 4 and 5	3,630	1,892	330	138
Gas Turbines 1-12	4,164	4,032	297	966
Gas Turbines 13-24	4,164	4,032	297	966

Thus, the Lauderdale Plant is a minor facility for VOC and a major facility for SO_2, NO_x, PM, and CO.

II. Rule Applicability

The proposed project, modification to an existing fuel storage tank (changing type of fuel stored) and limiting the emissions from existing sources of air pollution at the Lauderdale Plant, is subject to preconstruction review under the provisions of Chapter 403, F.S., and F.A.C. Chapter 17-2.

The facility is located in an area designated nonattainment for ozone (F.A.C. Rule 17-2.410), and attainment for the other criteria pollutants (F.A.C. Rule 17-2.420).

The proposed permit will restrict VOC emissions to less than 100 TPY which will make the plant a minor facility for VOC by definition (F.A.C. Rule 17-2.100(124)). The emissions for other criteria pollutants (PM, SO_2, NO_x, and CO) exceed 100 TPY which makes the plant a major source by definition (F.A.C. Rule 17-2.100 (118)) for these pollutants.

The modification to the fuel storage tanks will increase VOC emissions by less than the significant emission rate listed in F.A.C. Rule, Table 500-2. There are no federally enforceable permit restrictions on the emission of other air pollutants from this facility. Therefore, the project is exempt from review under the prevention of significant deterioration (PSD) regulations (F.A.C. Rule 17-2.500) and new source review for nonattainment areas (F.A.C. Rule 17-2.510). It will be permitted under F.A.C. Rule 17-2.520, Sources not Subject to Prevention of Significant Deterioration or Nonattainment Requirements. Emission standards will be set at the values requested by the applicant. The permit restrictions will be federally enforceable which may subject future modifications of this facility to additional regulations.

III. Technical Evaluation

The modification to the existing storage tank involves handling No. 2 fuel oil instead of No. 6 fuel oil. Because of the higher vapor pressure of No. 2 fuel oil, VOC emissions from this tank are estimated to increase up to 6.38 TPY. Tank No. 4 will be removed from service. The contemporaneous increase in emissions from storage tanks Nos. 2, 3, 4, and 5 will be 5.41 TPY VOC. These tanks are not equipped with air pollution control systems.

The facility VOC emission restrictions incorporated in the proposal are, at the request of the applicant, to limit VOC emissions to less than 100 TPY. This may affect rule applicability determinations for future modifications to the facility. Any future relaxation of the restrictions in this permit may subject the facility to F.A.C. Rule 17-2.510, new source review for nonattainment areas (40 CFR 52.21(r), Source Obligation).

Boiler units No. 4 and 5 burn natural gas or No. 6 fuel oil. The 24 gas turbines burn natural gas or No. 2 fuel oil. The emissions of the products of combustion are indirectly restricted by the fuel limitations requested by the applicant. These emissions can be estimated from the fuel consumption and emission factors listed in the EPA publication titled AP-42. The Department has chosen to limit fuel consumption to the units instead of limiting the emissions of the products of combustion directly.

Broward County Environmental Quality Board has objected to the Department issuing a permit for the Lauderdale Plant that will result in it becoming a minor VOC source by definition.

IV. Air Quality Analysis

The increase in VOC emissions associated with this project will not cause a violation of any ambient air quality standard or interfere with reasonable further progress toward attainment of the ozone ambient air quality standard.

V. Conclusion

Based on the information provided by Florida Power and Light Company, the Department has reasonable assurance that the proposed construction and operation of the modified fuel storage tanks and other existing equipment at the Lauderdale Plant, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.

Attachment: BCFCB letter dated May 10, 1990

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

PERMITTEE:
Florida Power & Light Company
P. O. Box 078768
West Palm Beach, FL 33407-0768

Permit Number: AC 06-179848
Expiration Date: June 1, 1991
County: Broward
Latitude/Longitude: 26°04'05"N
80°11'54"W
Project: Lauderdale Plant

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

For modifications to the Lauderdale Plant which contain the following air pollution sources: 80,000 bbl fuel storage tank No. 2 handling No. 6 fuel oil, 150,000 bbl fuel storage tank No. 3 to be converted from No. 6 fuel oil to No. 2 fuel oil service, 55,000 bbl tank No. 4 to be removed from service, 75,000 bbl tank No. 5 handling No. 2 fuel oil, two 1,500 gallon underground gas turbine dump tanks, three 252,000 gallon fuel oil metering tanks, one 4,000 gallon underground unleaded gasoline storage tank, and one 1,000 gallon underground diesel fuel storage tank; fossil fuel steam generating units Nos. 4 and 5, two 161 MW (gross capacity) steam generating units burning a variable combination of natural gas, used oil fuel from FP&L operations, and No. 6 fuel oil with a maximum heat input rate of 1725 MMBtu/hr each, discharging air pollutants through a stack 151 ft. above ground level; 24 gas turbines with 45 ft. high stacks burning natural gas and/or No. 2 fuel oil at a maximum heat input rate of 702 MMBtu/hr for each unit; and, maintenance operations throughout the facility that consume up to 250 GPY solvents.

The UTM coordinates of this facility are Zone 17, 580.2 km E and 2,883.3 km N.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application
2. DER letter dated May 15, 1990
3. KBN letter dated June 20, 1990
4. KBN letter dated July 1, 1990

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither 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. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

a. Have access to and copy any records that must be kept under the conditions of the permit;

b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

a. a description of and cause of non-compliance; and

b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

GENERAL CONDITIONS:

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

Tanks

1. The maximum volatile organic compounds (VOC) emissions and volume of organic liquids handled by the tanks shall not exceed the following:

Vessel	Organic Liquid	Annual Throughput (gallons)	Emissions (TPY VOC)
No. 2 Storage Tank	No. 6 fuel oil	192,642,943	0.050
No. 3 Storage Tank	No. 2 fuel oil	688,302,094	6.380
No. 4 Storage Tank	None	0	0

SPECIFIC CONDITIONS:

Vessel	Organic Liquid	Annual Throughput (gallons)	Emissions (TPY VOC)
No. 5 Storage Tank	No. 2 fuel oil	343,635,079	3.380
Gas Turbine Dump Tanks	No. 2 fuel oil	300,000	0.003
Fuel Oil Metering Tanks	No. 6 fuel oil	192,642,943	0.011
Gasoline Storage Tank	Gasoline	10,000	0.106
Diesel Fuel Storage Tank	Diesel fuel	5,000	0.001

2. The permittee shall keep records of the following for at least three years:

A) The amount of No. 6 fuel oil obtained for the plant.
B) The sulfur content of the No. 6 fuel oil obtained for the plant.
C) The amount of No. 2 fuel oil obtained for the plant.
D) The throughput for fuel storage tank No. 3, fuel storage tank No. 5, gas turbine dump tanks, gasoline storage tank, and diesel fuel storage tank.

3. The VOC emission in TPY from all stationary tanks at this facility shall be calculated annually by the procedure described in AP-42, Emission Factors, Section 4.3, Storage of Organic Liquids. Actual throughput and meteorological data shall be used for these calculations.

Fossil Fuel Steam Generator Units Nos. 4 and 5

4. The maximum heat and fuel inputs to Units Nos. 4 and 5 shall not exceed the following:

	Natural Gas		Oil (No. 6 and FP&L Used Oil)	
Unit	MMCFH	MMBtu/hr	GPH	MMBtu/hr
4	1,643	1,725	10,995	1,650
5	1,643	1,725	10,995	1,650
Total	3,286	3,450	21,991	3,300

When gas and oil are burned together, the allowable heat input and fuel consumption shall be prorated based on the above table.

SPECIFIC CONDITIONS:

5. During steady state operations: A) visible emissions shall not exceed 20% opacity, B) particulate matter emissions shall not exceed 0.1 pounds per million Btu heat input.

6. During soot blowing and load changes: A) visible emissions shall not exceed 60% opacity during the 3 hour period of excess emissions allowed for soot blowing and load changes, B) particulate emissions shall not exceed an average of 0.3 pounds per million Btu heat input during the three hour period of excess emissions allowed for soot blowing and load changes.

7. Sulfur dioxide emissions shall not exceed 1.1 pounds per million Btu heat input.

8. Sulfur content of the No. 6 fuel oil shall not exceed 1%.

9. Sulfur content of the No. 2 fuel oil shall not exceed 0.5%.

10. The VOC emissions from each unit shall not exceed 0.0050 lbs/MMBtu when the boiler is burning No. 6 fuel and used oil, and 0.0013 lbs/MMBtu when the boiler is burning natural gas. When both fuels are burned together, the allowable emissions shall be prorated.

11. Total VOC emissions from both units when operating at their permitted capacity shall not exceed 16.32 lbs/hr when they are burning oil and 4.45 lbs/hr when they are burning natural gas.

12. The emissions of other criteria pollutants shall be calculated by using emission factors listed in AP-42, Emission Factors. Tests will not be required for these pollutants unless the Department believes these rates may have been exceeded.

13. The permittee shall keep records for at least three (3) years of the type, quantity, and sulfur content of fuels, GPH of oil, MMCF/hr of natural gas, and percentage of sulfur used by each boiler.

14. Compliance testing shall be conducted for units Nos. 4 and 5 once each federal fiscal year.

SPECIFIC CONDITIONS:

15. The compliance test shall be conducted by the following methods:

Source/Emission Point Units Nos. 4 and 5	
Pollutant	Test Method
Particulate (Steady State & Soot Blowing)	EPA Method 17* or EPA Method 5
Visible Emissions (Steady State & Soot Blowing)	DER Method 9
SO_2	**
Fuel Oil Sulfur Content	ASTM Method D-129

* EPA Method 17 may be used only if the stack temperature is less than 375°F.

** Stack testing for SO_2 is required if the equivalent sulfur content of the fuel exceeds 1.0%. Sulfur content shall be verified by submittal of monthly fuel analysis reports on a quarterly basis. Certified analysis by oil supplier may be substituted for this test.

16. Emissions compliance testing should be conducted with the source firing No. 6 fuel oil and/or natural gas and operating within ten percent (10%) of its permitted capacity; provided, however, that such testing may be conducted with the source operating at less than ninety percent (90%) of its permitted capacity, in which case the source may subsequently be operated at any capacity up to one hundred ten percent (110%) of the average load at which compliance was demonstrated, and at higher capacities for up to fifteen days for purposes of additional compliance testing. A particulate test to show compliance must be conducted within sixty (60) days of the monthly fuel analysis if the equivalent sulfur content of the fuel burned (fuel oil and/or natural gas) is increased by 0.5 percentage points or more from that used during the previous test.

17. Burning of used oil meeting EPA specifications (40 CFR S266.40) and generated from FPL operations shall be permitted under the following conditions:

SPECIFIC CONDITIONS:

(a) Each batch of used oil to be burned shall be sampled and analyzed for: arsenic, chromium, cadmium, total halogens, and lead using EPA/DER or ASTM approved methods. Split samples of the used oil shall be retained for three (3) months after analysis for further testing if necessary.

(b) Results of used oil sampling and analysis performed pursuant to Specific Condition 17(a) shall be retained by the permittee for at least three (3) years and made available for inspection by DER upon request.

(c) An estimate of the total quantity of used oil burned during the applicable calendar year shall be included in the Annual Operations Report (AOR) for Air Emissions Sources. The permittee will submit with the AOR a summary of the range of values for each constituent analyzed pursuant to Specific Condition 17(a).

Gas Turbines

18. VOC emissions from each gas turbine shall not exceed 0.0013 lbs/MMBtu when the turbine is burning No. 2 fuel oil and 0.0034 lbs/MMBtu when the turbine is burning natural gas. When both fuels (oil and gas) are burned together, the allowable VOC emissions shall be prorated.

19. Total VOC emissions from the 24 gas turbines when operating at the permitted capacity shall not exceed 56.66 lbs/hr when the units are burning natural gas and 20.87 lbs/hr when the units are burning oil. When both fuels are burned in the turbines at the same time, the allowable emissions shall be prorated.

20. Visible emissions shall not exceed 20% opacity.

21. The permittee shall keep records of the type and quantity of fuel, GPH of oil and MMCF/hr of natural gas, used by each turbine for at least three (3) years.

22. The VOC emission factor for the gas turbines shall be confirmed by an EPA Method 25A test as described in 40 CFR 60, Appendix A (July 1, 1988) on any one of the gas turbines every 5 years while it is burning 100% natural gas and 100% No. 2 fuel oil.

SPECIFIC CONDITIONS:

23. Visible emissions from each unit shall be determined annually by EPA Method 9 as described in 40 CFR 60, Appendix A (July 1, 1988). Tests shall be conducted while the turbines are operating near their permitted capacity while burning No. 2 fuel oil.

Maintenance Operation

24. Not more than 250 gallons of solvent per year shall be used for maintenance at this facility.

25. The permittee shall keep records of the type and quantity of solvents, in GPY, used during maintenance throughout this plant for a minimum of three (3) years.

Facility

26. The total VOC emissions from all sources at this facility shall not exceed 99.92 TPY.

27. The VOC emissions shall be determined annually by adding the VOC emissions from each source at this facility during the preceding 12 months.

General Administrative Requirements

28. The Department shall be notified of expected test dates at least fifteen (15) days prior to compliance stack testing.

29. On or before March 1 of each calendar year, a completed DER Form 17-1.202(6), Annual Operations Report Form for Air Emissions Sources, shall be submitted to the Department. This shall include the annual VOC emissions for all air pollution sources at this facility.

30. Copies of all reports, tests, notifications or other submittals required by this permit shall be submitted to both the Department of Environmental Regulation, Southeast District Office and the Broward County Environmental Quality Control Board.

31. In addition to the requirements of General Condition No. 8 of this permit, a written quarterly report shall be submitted to the Department of all opacity exceedances of emission limitations specified in Florida Administrative Code Rules 17-2.250(1) through (4) and 17-2.600(5)(b)1. The report shall state the cause, period

SPECIFIC CONDITIONS:

of noncompliance, and steps taken for corrective action and/or prevention of recurrence. If the opacity level cannot be determined for any reason, the report shall state the cause, duration and action taken. All recorded data shall be maintained on file by Florida Power & Light for no less than three (3) years and made available to the Department upon request.

32. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

33. An application for an operation permit must be submitted to the Southeast District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this _____ day
of _____, 1990

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____
STEVE SMALLWOOD, P.E.
Director
Division of Air Resources
Management

P 280 742 414

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Martin A. Smith, Mgr. Env.
FLA. Power & Light Co.
P.O. Box 078768
West Palm Beach, Fl
33407-0768

4. Article Number
P 280 742 414

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Hamilton S. Oven, Jr.
Power Plant Siting
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 309L
Tallahassee, Florida 32399-2400

Re: Lauderdale Repowering Project AC06-179848

Dear Buck,

I am forwarding to you a copy of the comments received from the consultant the County has had reviewing the Lauderdale Repowering Project Application and modeling, RTP Environmental Associates Inc. (RTP). We will be submitting to Florida Power and Light Company (FPL) a set of formal interrogatories within the next few days based largely on RTP's comments and observations. I thought some of the general observations particularly regarding its modeling analysis would be of interest to you and the reviewers in the Air Bureau.

We will also be exploring in our interrogatories a major regional concern we have which results from fuel switching at existing units. During the proceeding before the Public Service Commission (PSC) we were able to discover that between the Repowered Lauderdale units and proposed new Martin units, FPL will be using most of the natural gas available to it (and more than is available to it during the winter months). This will result in not only the Repowered Lauderdale units routinely burning fuel oil but significantly also forcing existing units to switch from natural gas back to high sulfur oil.

FPL submitted to the PSC an exhibit which showed on a systemwide basis it will be burn **29%** more oil in 1995 than in 1990. The numbers are more dramatic when only looking at Southeast Florida (Dade, Broward and Palm Beach Counties) where the increase is **107%** and in Broward County where the increase is **139%**. The impact of burning this much additional high sulfur oil on the local and regional environment is significant.

In Broward County at Port Everglades, FPL is projecting in 1995 to burn 7,192,000 barrels of 1% sulfur fuel oil. This is an increase over 1990 of **4,181,000 barrels**. This will result in 14,076 tons per year of additional SO_2 emissions in Broward. These projections are based on FPL's optimistic assumptions of

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Department/Floor No.

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Recipient's Phone Number (Very Important) (904) 488-4807

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the amount of natural gas which will be available including no fuel oil usage in the Repowered Lauderdale units. If less gas is available, even more oil will have to be burned. We believe some restrictions on the amount of sulfur in the oil burned by FPL is warranted and will be seeking such restrictions during the September hearings.

I will be on vacation for the next few week. If you have any questions concerning the RTP comments during this time, please call Don Elias directly at (201) 968-9600).

Sincerely yours,

Thomas M. Henderson

Thomas M. Henderson
Project Director

cc: Don Elias
Ron Mills
Noel Pfeffer
A.A. Linero
Patrica Adams
Clair Fancy
Bruce Miller
Wayne Arnson
Ahmed Amanulah

COMMENTS ON FP&L
SITE CERTIFICATION APPLICATION
LAUDERDALE REPOWERING PROJECT
July 18, 1990

1.0 GENERAL COMMENTS

As noted in the July 16, 1990 letter from the Broward County Environmental Quality Control Board, we feel that the overall issue of the project's impact on ozone has not been adequately addressed by the current application. Significant potential increases in ozone precursor emissions (VOCs and NO_x) are requested in the application over the levels currently being emitted. Complex permit conditions are proposed for maintaining VOCs below 100 tons per year (tpy). These will be difficult to track and enforce. Additionally, as noted in the Environmental Quality Control Board response, emission limits should be based on actual stack tests and not AP-42 emission factors, especially since the applicant is requesting conditions that would be within 1/10 of a tpy of the requirement for nonattainment review.

The impact on SO_2 emission rates for the regional area has not been addressed in the application. It has come to the attention of Broward County that, due to pipeline limitations, this project could increase consumption of #6 fuel oil by 136% within Broward County alone. Substantial increases would also occur throughout the region. Although this particular project as proposed will fire the cheapest available fuel (assumed to be natural gas), the impact of the increased utilization of sulfur containing fuel oil throughout the region should be addressed through a modeling study to ensure that no new instances of nonattainment occur through these increases. It is recognized that the increases are likely within the permitted levels for the other facilities; however, many of these sources have older permits. This study should be addressed either directly by FDER as part of their implementation plan updates, or by the applicant as a demonstration of the overall environmental impact of the project.

The calculation of the net emissions increase due to the proposed modification does not follow current USEPA or FDER guidance for PSD and nonattainment New Source Review (NSR) applicability. The application used the previous 20-year period (1969-1988) of boiler operations for determining "contemporaneous emissions decreases" (see Table 2-10, pp. 2-15, Appendix 10.1.5 of PPSA Application). In reviewing the 20-year operations for Units 4 and 5 (which appear to include an anomalous value for Unit 4 in 1981), emissions dropped considerably for both units in 1982 and remained low through 1988. It has been EPA's determination that actual emissions would be represented during a 2-year period prior to the application. 40 CFR 51.24 (b)(21)(ii) defines actual emissions for an existing source as "in general actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two year period which proceeds the particular date and which is representative of normal source operation."

While some leeway is provided with respect to the definition of "representative," contemporaneous emissions are generally limited to emission reductions which occurred within the five years prior to the proposed construction under those same regulations. Since 1982, usage of these units has remained consistently low and fairly consistent at approximately 40% of the 20-year average total heat input. Besides applicability requirements, this issue could also affect the air quality modeling. It is not possible at this time to determine how the use of 20-year averaged emissions decreases would affect the air quality modeling analyses.

Contemporaneous VOC emission decreases from storage tanks #3 and #4 were again calculated using a 20-year average. This approach does not follow current USEPA guidance. Further, on page 3-15, it is stated that VOC emissions of the revised facility will be limited to 99.9 tpy. It is difficult to understand how switching from No. 6 fuel oil used for the boilers to No. 2 fuel oil for the proposed turbines would cause a decrease in project VOC emissions, yet the application states that such a permit condition would reduce facility VOC emissions by 65%. It is our contention that a permit applicant must define a method of source operation that will achieve an emission rate such that emissions would be less than a defined regulatory cut-off level. The applicant requests the agency to do this for them. We believe that this is inappropriate as well as extremely difficult to implement and enforce. It is the applicant's responsibility to specify specific methods and monitoring equipment proposed in order to insure that the facility emissions would remain below the nonattainment NSR value of 100 tpy. Finally, typical determinations require emissions to be less than 99.5 tpy to avoid the nonattainment applicability.

2.0 CONTROL TECHNOLOGY REVIEW

2.1 NO_x BACT

1) p. 4-8 - The first paragraph states that "about 35 operating and permitted...However, none of these installations employ advanced combustion turbines..." Please define inherent differences in the design of the advanced combustion turbine planned for the Lauderdale Repowering project, that SCR would not operate with, since SCR has operated on other combined cycle systems?

   Also, the statement "Almost all of these...located" has no relevance. The only NO_2 nonattainment area in the U.S. is southern California; yet, SCR is being installed in other parts of California as well as New Jersey, Rhode Island, and others. Also, the theory that ozone precursors produce NO_x gives more credence for SCR systems in ozone nonattainment areas as well as NO_2 nonattainment areas.

2) p. 4-8 - In reference to the statement "As noted...BACT," subsection 3.2.3 contains no discussion of the differences between LAER and BACT. In addition, new guidance concerning BACT determination draws

no distinct barriers between BACT and LAER. In the May, 1989 draft memo "Top-Down Best Available Control Technology: A Summary," by the USEPA Office of Air Quality Planning and Standards, it is stated on page 3 that:

> "The control alternatives should include not only existing controls for the source category in question, but also (through technology transfer) controls applied to similar source categories and gas streams, and innovative control technologies. Technologies required under lowest achievable emission rate (LAER) determinations are available for BACT purposes and should also be included as control alternatives."

Furthermore, in EPA's most recent March 15, 1990 draft "Top-Down Best Available Control Technology Guidance Document," the difference between LAER and BACT is reduced further with this statement:

> "Technologies required under lowest achievable emission rate (LAER) determinations are available for BACT purposes and must also be included as control alternatives and usually represent the top alternative."

Hence, stating that SCR and wet injection represents LAER control provides no relief from full examination and subsequent examination of this control option of BACT.

3) p. 4-9, Last Paragraph - Though the NO_x nonattainment situation in southern California has prompted the installation of more SCR systems in that part of the country than in other parts, SCR systems are planned or operating in New Jersey and Rhode Island as well as areas of California that are in attainment of the NO_x standard.

4) p. 4-10, First Paragraph - What information/experience justifies the conclusion that cycling of the combustion turbines will potentially result in SCR catalyst damage? What data from recent SCR applications verify this conclusion? The facility modification as specified in Section 2.1 will consist of four combined cycle units consisting of four combustion turbines (CT), each with its own Heat Recovery Steam Generator (HRSG). Also, Section 2.1 states the following:

> "There will be no bypass stacks on the CTs for simple cycle operation; simple cycle operation will be accomplished by passing the exhaust gases through the HRSGs and diverting steam from the HRSGs directly to the condenser."

The primary obstacle in applying SCR to simple cycle systems is cost effectively cooling the exhaust gases (normally 1000-1100°F) to the nominal operating temperature of the catalyst (550-800°F). As

described in Section 2.1, the HRSG will operate in both the combined and simple cycle modes, hence potentially providing the necessary cooling for SCR operation.

Furthermore, current experience in the U.S. with catalyst systems at combined cycle plants in the U.S., whether baseload or load following facilities, has shown SCR systems to be achieving design specifications and removal efficiencies (Radian, 1989).

5) p. 4-10, Second Paragraph - Has FP&L reviewed newer applications of SCR systems to determine the effect on the catalyst material of utilizing sulfur-containing fuels? The United Airlines cogeneration facility is the first application of an SCR system in the U.S. (having operated since 1986) and should not be considered representative of newer SCR systems and catalyst formulations. Some initial problems would be expected with the startup of an innovative technology. USEPA currently considers SCR with oil-firing as technically feasible ("Top-Down Best Available Control Technology Guidance Document," March 15, 1990). In addition, some catalyst vendors (for example, Steuler GmbH) claims to have numerous SCR systems installed on sources firing distillate oil in Europe with no effective degradation in catalyst activity.

6) p. 4-10, Third Paragraph - Has it been shown in any application that installing corrosion inhibiting materials in the HRSGs would be cost prohibitive for this or any other project?

7) p. 4-13, First Paragraph - Has the applicant investigated newer catalyst formulations and vendor claims for enhanced resistance to sulfur poisoning? Some vendors are offering catalyst life guarantees of 1-2 years for oil fired applications (Radian, 1989).

8) Table 4-3 - What SCR vendors specify such a narrow operable temperature range (i.e., about 100°F)? Experience has shown that most quote a range two to three times higher.

9) p. 4-16, Table 4-4
   a) What bases were used for the engineering estimates for the capital cost components? Were these vendor quotes or literature values?
   b) What does the escalation cost specifically refer to?
   c) What does the contingency cost specifically refer to?
   d) At what percentage of the catalyst beds does the catalyst replacement cost refer to?
   e) At what labor rate is the operating personnel and catalyst changeout estimated at?
   f) At what ammonia to NO_x ratio is ammonia cost estimated from?
   g) What is the cost per Kw-hr and number of Kw-hrs used to estimate startup penalty costs?
   h) What does the pressure drop costs directly refer to and is 4" water gauge across the bed a vendor spec or estimate?
   i) What does the heat rate cost refer to?

j) What calculation was used to levelize annual costs of $4,579,952 and $3,840,389 over 30 years to achieve values of $7,218,479 and $6,119,659, respectively?

10) p. 4-17, Third Paragraph - Please explain the mechanism of pressure drop over the catalyst causing potential lost generation. What is the component breakdown of the energy requirements for the SCR system (i.e., what requires 4,380,000 Kw-hrs/yr)? Also, if the facility will not be baseloaded and will cycle with load, what are the bases for estimating annual lost generation? Finally, what is the basis for the seemingly excessive penalties quoted? Also, see Question #7 concerning the "infeasibility" of SCR with oil-fired applications.

11) p. 4-18, First Paragraph - What is cost breakdown for wet injection? Do the costs for SCR include wet injection (as stated previously)? What control efficiency is used to determine $6,224 per ton of NO_x removed for SCR? What basis is used to determine that $6,424/ton of NO_x removed is an infeasible cost to bear in this project? What is the estimated tons NO_x removed annually for SCR and wet injection? The BACT decision should be based on total as well as incremental costs. Basis for incremental costs (i.e., incremental over what base cost) should be defined.

12) p. 4-19, Third Paragraph - What basis exists to assume that SCR would operate differently, or less efficiently, on the largest model of CT versus the smallest model of CT? Experience has shown that the economy of scale makes SCR more cost-effective on larger units than smaller ones.

13) Table 4-2 shows that some turbines have utilized scrubbers for NO_x control. Why were scrubbers not considered for the BACT analysis if it is shown to be a proven technology?

14) Is water injection an integral part of the design of the proposed combustors and, if so, does water injection constitute a control technology in this case?

2.2 CO BACT

1) p. 4-19, First Paragraph - Has catalytic oxidation for post-combustion CO control been applied only to sources located in CO nonattainment areas? Are there no examples of catalytic oxidation applied as BACT?

2) p. 4-19, Last Paragraph - Oxidation catalysts have been installed on gas turbines firing natural gas as primary fuel and distillate oil as secondary fuel (Radian, 1989). Section 1.0 states "the combined cycle power plant will burn natural gas as the primary fuel and No. 2 fuel oil as an alternate fuel." How does this facility

differ from those presently utilizing a CO catalyst with similar fuel usages? Also, what basis does the applicant have for the statement "oxidation catalysts have not been used on fuel-oil-fired CTs or combined cycle facilities?" Please cite references searched.

3) Table 4-5
   a) What bases were used for the engineering estimates for the capital cost components? Were these vendor quotes for literature values?
   b) What does the escalation cost specifically refer to?
   c) What does the contingency cost specifically refer to?
   d) What percentage of the catalyst beds does the catalyst replacement cost refer to?
   e) At what labor rate is the operating personnel and catalyst changeout estimated at?
   f) What is the cost per Kw-hr and number of Kw-hrs used to estimate startup penalty costs?
   g) What does the pressure drop costs directly refer to and is 2" across the bed a vendor spec or estimate?
   h) What does the heat rate cost refer to?

4) p. 4-22, Energy - Please explain the effect of the pressure drop of 2" water gauge and the resulting energy penalty of 16,004,500 Kw-hr/yr. What is the basis for these seemingly excessive levels?

5) p. 4-22, Environmental - Comment - Air quality impact data has little relevance to BACT determination (see "Top-Down BACT Control Technology Guidance Document," March 15, 1990). However, application of a CO catalyst will remove approximately 750 tpy of CO. An oxidation catalyst will also reduce the amount of VOCs emitted, providing an additional environmental benefit.

2.3 SO_2 BACT

1) p. 4-22, Last Paragraph - Why does Table 4-2 list a scrubber as control for some of the CTs? Do these refer to a flue gas desulfurization system and, if so, how does this effect the BACT determination?

2) p. 4-23, Second Paragraph - Comment - A sulfur limit of 0.2% does not relate to a LAER level in New Jersey. Allowable sulfur percentages are specified in NJAC 27:7-9 and range from 0.2% to 0.3% for all areas within the state. No restriction on operation with fuel oil is required with the specified fuel sulfur contents. Has the applicant identified a cogeneration installation in New Jersey specifying 0.2% sulfur fuel as LAER?

3) p. 4-23, Third Paragraph - A review of the BACT/LAER Clearinghouse (EPA, July, 1989) for natural gas turbines presented values for allowable fuel sulfur contents ranging from 0.05% to 0.37%. The

majority ranged from 0.05% to 0.12%. Given this information, what basis does the applicant cite for stating that "a sulfur content of 0.2 percent was selected as the top-down BACT level since it is near the lowest of sulfur contents contained in the BACT Clearinghouse documents?"

4) p. 4-24, Second paragraph - What is the correct maximum SO_2 emission when utilizing No. 2 fuel oil, 15,082.8 tpy or 12,337.7 as presented on Table 2-6? Also, what is the basis for either estimate?

5) p. 4-23 - Economic Analysis for SO_2 Control
   a) What is the differential cost of purchasing fuel oil with the maximum fuel sulfur contents of 0.05%, 0.1%, 0.15%, and 0.2%?
   b) Is it more cost-effective to blend fuels onsite to achieve 0.2% sulfur fuel as proposed in the SCA rather than simply buy it?
   c) Why is fuel blending necessary? Is it possible to purchase both fuels separately in proportion to achieve an average sulfur content of 0.2%?
   d) What are annual SO_2 emissions based on 0.3% sulfur oil or 0.5% sulfur oil?
   e) Are the capital cost components presented in Table 4-6 based on vendor estimates, literature sources, etc.?
   f) What do the capital escalation and contingency costs relate to in Table 4-6 and why does the contingency cost represent approximately 34% of the capital equipment cost?
   g) In Table 4-6, what basis is used for the estimated fuel cost of $28,646,967? What percentage of annual operation is estimated for this cost? Does the differential price of $0.07 per gallon refer to 0.2% versus 0.5%, or 0.2% versus 0.3%, or 0.2% oil versus kerosene?
   h) What do the operating and maintenance escalation and contingency costs relate to?
   i) What calculation was utilized to produce a 30-year levelized annual cost of $46,479,242 from a total annual cost of $29,168,021?

6) p. 4-24, Third Paragraph - Comment - Cost effectiveness values for control options are based on the maximum allowed sulfur content of the fuel. Therefore, the comparison should be between the 0.2% sulfur and 0.5% sulfur fuels, or the $5,136/ton of SO_2 removed rather than $15,408/ton removed.

7) p. 4-24, Fourth Paragraph - What is basis for stating "significant air quality benefits will not occur by reducing fuel sulfur content below that in No. 2 fuel oil?" The difference in SO_2 emissions utilizing 0.5% fuel versus utilizing 0.2% fuel is approximately 9050 tpy of SO_2. A fuel sulfur limitation of 0.1% would reduce total emissions even more. How can this be considered insignificant?

2.4 PARTICULATE EMISSION/PM_{10} BACT

1) p. 4-26 - Particulate Emission/PM_{10} Section
   a) Why was a top-down BACT analysis not completed for TSP/PM_{10} when Section 4.1 states that the modified source is significant for these pollutants?
   b) What is the proposed emission rate of TSP/PM_{10} from the source based on the percentage of oil use versus natural gas usage?
   c) What alternate control options were considered?

2.5 OTHER POLLUTANT BACT

1) p. 4-27, Section 4.3.5
   a) Why was a top-down BACT analysis not completed for sulfuric acid mist, mercury, beryllium, and arsenic when Section 4.1 states that the modified source is significant for these pollutants?
   b) What is meant by the statement "In addition, the inherent efficiency of the combined cycle configuration of the repowered units minimizes the quality of fuel used relative to steam cycle plants, i.e., by about 20 percent?"
   c) What are the proposed emission rates of the significant pollutants?

3.0 MODELING ANALYSES

A review of the modeling runs for FP&L shows three major areas of potential deficiencies. These deficiencies are the modeled locations of the proposed and existing FP&L Lauderdale sources, the handling of building wake, and the PSD Class I inventory.

3.1 FP&L MODELED SOURCE LOCATIONS

In the modeling assessment, the existing boilers were modeled as a single point source, the four proposed HRSG stacks as a single point source, and the twelve turbine stacks as two point sources. The modeled locations of the existing boilers and proposed HRSG stacks were on an east-west line 50 meters apart. However, the HRSG stacks are oriented north-south with a separation of approximately 100 meters between the outermost stacks. The two existing boiler stacks, separated by approximately 25 meters, are located about 50 meters nearly due east of the southernmost HRSG stack and about 100 meters from the northernmost stack. By modeling these six emission points as two single point sources located only 50 meters apart, it is possible that the offsets created by the boiler shutdown may be overestimated since coincidence

of boiler and HRSG impacts will be enhanced by the modeled stack configuration. (Emissions from the existing boilers were input to ISCST as negative numbers to simulate the offsets created by the boiler shutdown when modeling the proposed modification and PSD increments.)

The existing turbines were modeled at two locations (x,y coordinates in meters): 123,112 and 168,540. Based on information contained in the application, the correct source locations would appear to be approximately 90,100 and 150,100 if these twelve stacks were modeled as two point sources. Thus, it appears that one-half of the existing turbines were incorrectly modeled at a location approximately 400 meters due north of their actual location. This could cause AAQS impacts in the application to be underestimated. Since the twelve existing turbine stacks are located in a rectangular area approximately 60 meters by 90 meters, it would be better to model these stacks individually or to group stacks into a single stack only if they are located in close proximity.

3.2 BUILDING WAKE EFFECTS

With respect to building wakes, it appears that GEP stack heights were evaluated only for the existing boiler building and the proposed CT environmental enclosure. It appears that no GEP analysis of the existing turbines and auxiliary equipment was performed when evaluating the existing 45' turbine stacks. In our experience, for sources of this type, the turbine itself generally causes turbine stacks to be below GEP stack height. This analysis should be factored into the modeling.

GEP stacks for the existing boiler building and proposed CT environmental enclosure, according to information in the application, are about 225' and 186', respectively. However, the proposed HRSG stacks were modeled with building dimensions appropriate for the proposed CT environmental enclosure only. Due to the proximity of the existing boiler building to the proposed HRSG units and its taller GEP stack height, building dimensions for this existing boiler structure should be modeled for the proposed HRSG stacks as well. Thus, it is assumed that the existing boiler structure would be removed prior to HRSG operation. Otherwise, a modeling assessment of the existing structure is necessary.

On page 6-20, it is stated that "for sources subject to Schulman-Scire downwash algorithms, then direction-specific building dimensions are input to the models." However, a review of the model inputs shows that the maximum projected building width for all directions was input to ISCST for any direction assumed to be affected by downwash. This is particularly troublesome in that impacts for the offset sources (i.e., the existing boilers), are subject to Schulman-Scire downwash from the existing boiler building. Modeled as a tall building, the direction-specific building widths are required by ISCST when calculating downwash effects. Thus, offset impacts (i.e., impacts which are SUBTRACTED from other estimated facility and PSD increment impacts) for many directions may be overestimated. This could lead to a serious underestimate

of PSD increment consumption and facility impacts. In addition, it does not appear that the boiler building was properly evaluated as a multi-level structure.

The proposed CT environmental enclosure is stated to cause downwash for two existing gas turbines. A review of the modeling inputs shows that downwash was considered for these two sources only when determining AAQS compliance. However, in our opinion, since these two existing sources are "supposedly" not currently subject to downwash, then the difference in modeled impacts with and without downwash due to the proposed CT environmental enclosure should also be considered when establishing significant impact areas and calculating PSD increment consumption. Also, a review of the modeling inputs shows that building downwash was considered only for the proposed FP&L Lauderdale modifications. Current USEPA guidance is that building downwash must be considered for all "nearby" sources in the inventory, not just for the proposed source only. What steps were taken to consider downwash at nearby facilities?

3.3 CLASS I IMPACTS

A review of the modeling shows numerous violations of the 3-hour and 24-hour PSD Class I SO_2 increments in Everglades National Park when modeling the proposed HRSG stacks only. Only when including offset impacts do these impacts fall below PSD significant impact levels. Many times this offset information is not readily available to persons applying for PSD permits. We therefore would like to formally request that the creditable offset source characteristics be formalized in the Florida emissions inventory system to enable reasonable future growth with respect to the Class I increments.

Also, a review of the modeling shows that the PSD Class I modeling multisource inventory is identical to the inventory used to assess compliance in the vicinity of the proposed source. Based on recent USEPA guidance, Class I increments are to be assessed based on all applicable sources near the Class I area, as well as sources in the vicinity of the proposed source. Hence, we recommend that the Class I increment analysis be redone with an expanded inventory including those PSD sources located near the Class I area.

3.4 OTHER MODELING ISSUES

Other areas of concern related to the modeling involved primarily with the multisource inventories, the definition of onsite areas, and the modeling approach and results for SO_2 AAQS compliance. On page 6-12, the North Carolina Screening Method (used to delete nonsignificant sources from the multisource AAQS/PSD inventories) is given as Q=20D where D is the distance (km) from the particular source to the proposed FP&L source. It must be stressed that this equation is valid only for sources OUTSIDE the proposed FP&L significant impact area and D, for annual averages, is the distance from the particular source to the proposed source's significant impact area rather than the proposed source itself.

Also, a large area of natural habitat, about 0.5 km^2 or more, was excluded from the modeled receptor grid as being onsite. USEPA guidance requires that all areas excluded from modeling be fenced or otherwise made inaccessible to public access. Fencing or the presence of other physical barriers around the entire area excluded from modeling was not described in the application and should be verified.

The modeling presented in the PPSC application is based on a two phase approach. First, the five-year meteorology data set is used with a coarse grid to determine maximum long-term and highest second-high short-term impacts and averaging times. Second, the appropriate single coarse grid receptor was remodeled with a finer receptor grid for only the highest and maximum second-highest meteorological periods for short-term averaging times. Throughout most of the application, modeled concentrations are generally presented based on the screening results rather than the fine grid results. Fine grids were generally not employed to determine the proposed HRSG or modification maxima (i.e, Table 7-1). Rather, fine grids were used only for the short-term AAQS compliance and PSD increment consumption analyses. Fine grids were not employed when determining annual AAQS compliance or PSD Class II increment consumption. Also, the SO_2 fine grid analysis failed to include the high meteorology and receptor for the 24-hour PSD Class II increment consumption. Finally, the 24-hour SO_2 AAQS highest second-high value occurred on the edge of the fine grid.

While the PSC approach may be appropriate for projects with impacts much less that the AAQS and PSD increments, we feel that a more detailed and inclusive receptor grid should be modeled in the second step with all five years of meteorology for this project. Specifically, we are concerned with the AAQS analysis which shows that 3-hour and 24-hour SO_2 and annual NO_2 concentrations will be 79%, 97%, and 81% of the applicable standards. We believe that more detail may show predicted violations of the 24-hour SO_4 standard, which may not be addressed until some future PSD application is submitted. Remodeling with the screening receptor grid and only the days of high and highest second-high SO_2 AAQS impacts, when separating individual stacks and correcting the existing turbine stack locations, gave a predicted 24-hour SO_2 highest second-high impact of 102% of standard after adding background. Due to a lack of appropriate data, we were unable to determine the direction-specific building dimensions appropriate for each stack. Therefore, we feel that the modeling analyses should be performed with all five years of meteorological data for both screening and fine receptor grids with corrected direction-specific building dimensions (and source locations).

3.5 OTHER MODELING COMMENTS

A check of the air quality modeling results provided by FP&L against the tables contained in Section 7 of the PPSA application, revision 1, showed the following typographical errors:

1) p. 7-5 - Table 7-3 distance for 1984 should be 2.0 km rather than 2.5 km.

2) p. 7-7 - Annual average SO_2 and NO_2 PSD increments were based on the "Screening" receptor results. No refined (i.e., "fine") receptor grid was analyzed as indicated in the text for NO_2.

3) p. 7-8 - Table 7-5 3-hour SO_2 impacts due to modeled sources were 442, 459, and 447 for 1982, 1983 and 1984, respectively, rather than 459, 447, and 410. Also on Table 7-5, the distance for the annual 1986 SO_2 maximum should be 4.0 km rather than 7.0 km.

4) p. 7-11 - The discussion for the 24-hour SO_2 AAQS impact which was 97% of standard indicated that the repowering project contributes less than 20% of this concentration. However, the text fails to state that the downwash due to the proposed CT environmental enclosure on an existing FP&L Lauderdale turbine contributes an additional 68% of this concentration. The final breakdown of the 253 ug/m^3 impact is:

FP&L-Lauderdale	= 78%
FP&L-Post Everglades	= 5%
Background	= 17%

It should be therefore noted that the total modeled impact was caused only by FP&L sources.

5) p. 7-14 - The annual Class I SO_2 increment consumed by all PSD sources was 0.7 ug/m^3 (see Table 7-8), not <0.15 ug/m^3 as indicated in the text.

4.0 ADDITIONAL DATA REQUEST

1) Please describe what analyses were performed to address the potential for facility impacts under fumigation conditions as described in the Guideline on Air Quality Models (GAQM).

2) Based on a review of aerial photographs presented in the PPSC application, a potentially significant portion of the project vicinity could be considered to be compact residential or commercial/industrial properties. Therefore, please describe the actual steps used in the Auer land use classification and the specific percentages of urban versus rural areas thus determined. Also, please describe how the potential for future growth was addressed in this land use analysis since the project will probably have a projected lifetime in excess of 20 or 30 years.

3) Please describe how quarterly averages of Pb were calculated since ISCST normally only provides short-term (1-hour through 24-hour) or annual averages.

4) Please describe what analyses were performed to determine mobile source consumption of the NO_2 increment.

5) For the proposed turbine modeling analyses, it appears that only the 100% load factor was considered. Please describe what screening analyses were performed for the proposed turbines to insure that the 100% load condition represented the worst-case air dispersion condition. If excess load conditions (i.e., greater than 100%) are not considered in these modeling analyses, permit restrictions will be required to limit the maximum load of the proposed repowering project.

5.0 TECHNICAL RESPONSE TO USEPA COMMENTS DATED 4/18/90

1) p. EPA-2, First Paragraph - What basis does the applicant have for assuming that zeolite catalyst would be less effective on its large gas turbines than on smaller gas turbines? Also, EPA defines a demonstrated technology as one that has been applied to full scale operations and can be readily purchased or constructed (EPA, March, 1990). What basis does the applicant have for determining that zeolite catalysts are an "undemonstrated technology?"

2) p. EPA-2, Second Paragraph - What data does the applicant cite, utilize, or reference indicating that ammonium bisulfate formation is particularly problematic and costly at facilities utilizing SCR?

3) p. EPA-3, First paragraph - If emissions and environmental impacts will be minimized when burning natural gas as fuel, under what conditions will distillate oil be used as fuel; regardless of whether natural gas is available? Furthermore, what criteria will be used in determining whether the increased environmental impacts from burning distillate oil will be offset by whatever benefit will be gained from choosing to burn distillate oil instead of available natural gas?

4) p. EPA-3, Third Paragraph - Is the cost/ton value for SCR presented in the BACT a total cost effectiveness (TCE) value related to a base (the NSPS), or an Incremental Cost Effectiveness (ICE) relative to a base (water injection)? The BACT analysis claims water injection as the proposed control method (Appendix 10, p. 4-17); thus, the costs for SCR presented should be incremental as well as total costs.

5) p. EPA-4, Second Paragraph - Table 2-6 of Appendix 10 of the FP&L application states that the total emissions of NO_x from the facility will be 6,050.6 tons per year. Using Table 2-2 to calculate annual NO_x emissions based on stated maximum emissions of 1972.1 tpy yields annual maximum NO_x emissions of 7888.4 tpy. Finally, Section 4.3.1.3 of Appendix 10 (page 4-15) states that annual NO_x emissions will be 3329 tpy utilizing the proposed control of wet injection. What are

the actual estimated NO_x emissions from the new sources and how do these compare with emissions from Units 4 and 5 (6640 tpy)? Regarding the estimated emissions from Units 4 and 5 (6640 tpy), is this an artificially high permitted level, or an average value based on actual past operations?

6) p. EPA-5, Third Paragraph - What is the basis for the energy impact cost estimates? Are these applicable to a load following facility, as this is described? Are the energy penalty estimates based on percentage of gross heat input or net electrical output? Finally, 325,900,000 cubic feet of natural gas equates to approximately 100.2 x 10^6 Kw-hrs. This does not appear to equate to the 32,009,004 Kw-hr value presented.

7) p. EPA-5, Fourth Paragraph - Will the repowered units annually emit almost an equivalent amount of NO_x or more NO_x than the existing units? It is stated that "the repowered units will emit almost 4 times less [NO_x] than the existing units for each MW produced."

8) p. EPA-7, Second Paragraph - What data from existing facilities utilizing SCR systems has indicated that ammonium bisulfate formation and emissions are particularly problematic?

9) p. EPA-8, Third Paragraph - Given that formation of ammonium bisulfate and sulfate is a complex function of gas composition and temperature, what competing reactions were considered by Exxon's model? Is it feasible to assume that all unreacted NH_3 forms ammonium bisulfate or ammonium sulfate? Could a compound be added to interfere with the formation of these sulfates? What data does Exxon provide validating the model's predictions?

10) p. EPA-9, Second Paragraph - What is the incremental cost difference of installing corrosion inhibiting compounds?

11) p. EPA-9, Third Paragraph - What is the incremental cost difference of utilizing very low sulfur fuel, such as sulfur percent less than 0.1%?

12) p. EPA-9, Fourth Paragraph - What is the environmental tradeoff of reducing NO_x emissions at the price of increasing TSP/PM_{10} emissions?

13) p. EPA-13, First Paragraph - Did the applicant review the operating experience of more recent, as well as more relevant, facilities than the United Airlines facility, which was one of the first SCR installation in the U.S.?

14) p. EPA-14, First Paragraph - What is the incremental cost difference of firing kerosene rather than No. 2 fuel oil?

15) p. EPA-14, Second Paragraph - What data, literature, references, etc. did the applicant utilize to make the assumptions that:

a) The Japanese JNR system is subject to "entirely" different regulatory and economic conditions than the Lauderdale Repowering Project Facility (LRPF)?
b) The JNR facility is not required to limit ammonia slip?
c) The JNR facility is not required to limit CO or particulate emissions?
d) The JNR facility is likely subject to much lower economic constraints than the LRPF?
e) That JNR operating experience is not applicable to the LRPF?

16) p. EPA-15, Third Paragraph - What extra precautions would be necessary at the facility to handle/dispose of catalyst material considered hazardous above those necessary for other hazardous compounds utilized at the facility such as lubricating oils, transformer fluids, or machine solvents?

6.0 TECHNICAL RESPONSE TO BCEQC DATED 4/18/90

7.1 BCEQCB-6

What is the significance of the BACT limitations for Tampa Electric Company's Big Bend 41, Jacksonville Electric's St. John's River Power Park, and Orlando Utilities' Stanton Energy Center, when more recent facilities such as the Alaska Electrical Generation and Transmission Project, the American Cogeneration Project, or the Cogeneration Technologies' New Jersey Joint Venture have been permitted to fire fuels containing 0.06%, 0.05%, and 0.15% sulfur, respectively, as presented in the EPA BACT/LAER Clearinghouse (EPA, July, 1988)?

PM
7/16/90
Ft. Lauderdale, FL

File Copy

BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD
500 S.W. 14th Court
Fort Lauderdale, FL 33315
(305) 765-4900

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DER - BAQM

July 16, 1990

Hamilton S. Oven Jr., P.E.
Administrator, Siting Coordination Section
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 309L
Tallahassee, Florida 32399-2400

Re: FPL Lauderdale Repowering Project
Site Certification Application (SCA) AC 06-179848

Dear Sir:

We just received the revisions to the SCA for the referenced project along with the "Responses to Agency Comments". Herewith are some further comments regarding Air Quality matters related to the referenced project.

Please add to the record of our comments the attached letters which were previously sent to the DER (and copied to your office). These letters addressed a separate Air Construction Permit Application at the same site which may have an important bearing on the referenced project. The result is that it will allow FPL's Lauderdale Plant to be redesignated as a Minor Source of Volatile Organic Compounds (VOC's) prior to the Repowering Project. FPL already avoided a Prevention of Significant Deterioration (PSD) Review and a Best Available Control Technology (BACT) Determination due to our existing marginal Ozone Non-Attainment (NA) status. The Minor Source designation would open the way for avoidance of a New Source Review (NSR) and a Lowest Achievable Emission Rate (LAER) Determination normally applicable in NA situations.

We again request an NSR for ozone. If LAER is impractical or there is no way to find Offsets it should be documented in the SCA and economic and environmental arguments made for waiving the requirements. Maybe environmental projects to improve the Port Everglades Plant (the most visible air pollution source in Broward County) can be considered in lieu of NSR/LAER at the Lauderdale Plant. We are only marginally in NA for Ozone (e.g. no exceedances in the past year) and the Vehicle I/M program may even bring Southeast Florida back into Attainment. Perhaps FPL can look at PSD/BACT analysis and apply for a waiver on the increment which, if their arguments are correct, might be small.

As mentioned in our most recent letters, NOx influences ozone formation so the ozone matter should not be looked at solely from the standpoint of VOC emissions. Even though the Repowered facility apparently will emit less NOx per unit of Heat Input, it will have a higher capacity and operate at a much higher level than has the existing facility in recent years. Thus the project must have some impact on ozone levels.

As a final comment we wish to point out that the historical VOC emissions estimates derived from Document AP-42 supporting the arguments for small source designation are not accurate to better than a single significant figure. Thus there will be similar uncertainties in controlling those factors designed to keep the Repowered Plant below 200 TPY of VOC's and enforcing the conditions of the referenced permit(s).

We may also have a few further comments on some of the other SCA sections which we will send you in about a week. If you have any questions regarding this matter please call me at Suncom 497-4436 or (305) 765-4436.

Sincerely,

A A Linero 7/16

A.A. Linero, P.E.
Chief, Air Section

cc: Ahmad Amanulah, EPA, Atlanta
Clair Fancy, DER, Tallahassee
Isidore Goldman, DER, W. Palm Beach
Victor Howard, EQCB
Gary Carlson, EQCB
Tom Henderson, BC Resource Recovery

Willard Hanks
BA/CHF } 7/24/90 AA

July 1, 1990

Mr. C. H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: AC06-179848, FPL Lauderdale Plant Modification

Dear Mr. Fancy:

It has come to our attention that there was a minor error in Table 1 contained in my letter of June 20, 1990, regarding the above-referenced permit application. The error was in the calculation of VOC emissions for the unleaded gasoline tank at Lauderdale. An incorrect vapor pressure was used in the table and associated calculation of VOC emissions. This caused an underestimation of VOC emissions from this tank.

A corrected Table 1 is attached, which shows the revised VOC emissions. Since the unleaded gasoline tank is located underground, the average diurnal temperature change experienced by the tank was assumed to be zero. This eliminates breathing losses from the tank. The revised working loss, and total VOC emissions, from the tank is 0.106 tons per year (TPY). This revises the total VOC emissions due to all the miscellaneous tanks shown in Table 1 to 0.121 TPY.

All other VOC emission calculations presented in the June 20 letter remain unchanged. However, the above change again necessitates a slight revision in the proposed VOC permit limitation equation for the Lauderdale facility. The revised permit limitation for existing Units 4 and 5 and GTs 1 to 24 becomes 89.1 TPY (99.9 - 9.8 - 0.121 - 0.893).

The permit limitation in equation form thus becomes:

$$(HI_{U4\&5NG} \times EF_{U4\&5NG}) + (HI_{U4\&5OIL} \times EF_{U4\&5OIL}) + (HI_{GTNG} \times EF_{GTNG}) + (HI_{GTOIL} \times EF_{GTOIL}) \leq 89.1 \text{ TPY}$$

where:
$HI_{4\&5NG}$ = Heat Input to Units 4 and 5 due to natural gas firing,
$HI_{U4\&5OIL}$ = Heat Input to Units 4 and 5 due to No. 6 oil firing,
HI_{GTNG} = Heat Input to GT's 1-24 due to natural gas firing,
HI_{GTOIL} = Heat Input to GT's 1-24 due to No. 2 oil firing,
$EF_{U4\&5NG}$ = VOC emission factor for Units 4 & 5 for natural gas firing,
$EF_{U4\&5OIL}$ = VOC emission factor for Units 4 & 5 for No. 6 oil firing,
EF_{GTNG} = VOC emission factor for GT's 1-24 for natural gas firing,
EF_{GTOIL} = VOC emission factor for GT's 1-24 for No. 2 oil firing.

82813A1/7 KBN ENGINEERING AND APPLIED SCIENCES, INC.
1034 Northwest 57th Street Gainesville, Florida 32605 904/331-9000 FAX: 904/332-4189

KBN

I apologize for any inconvenience this may have caused you. Please call if you have any questions.

Sincerely,

David A. Buff

David A. Buff, M.E., P.E.
Principal Engineer

DAB/mah

cc: M.A. Smith
C.D. Henderson
P.C. Cunningham
R. Harbo
I. Goldmas, SE Dist,
A. Linero, BCE QCB
CHF/13A

Table 1. Maximum Potential Emissions of VOCs from Miscellaneous Storage Tanks, FPL Lauderdale

Parameter	Gas Turbine Dump Tanks[a] (2)	Fuel Oil Metering Tanks (3)	Unleaded Gasoline[a] (1)	Diesel Fuel[a] (1)
Type of Liquid Stored	No. 2 Fuel Oil	No. 6 Fuel Oil	Unleaded Gas	No. 2 Oil
Tank Volume (gallons)	1,500	252,000	4,000	1,000
Total Annual Throughput (gallons)	300,000	192,642,943	10,000	5,000
Turnovers Per Year	200.0	764.5	2.5	5.0
Molecular Weight of Vapor	130	190	130	130
Storage Temperature (°F)	75	75	75	75
Vapor Pressure at Storage Temperature (psia)	0.0105	0.000075	6.8	0.0105
Tank Diameter (ft)	5.3	30.0	8.0	4.0
Average Vapor Space Hgt. (ft)	2.0	6.0	2.0	1.5
Average Diurnal Temperature Change (°F)	20	20	20	20
Paint Factor	1.30	1.40	1.33	1.33
Product Factor	1.0	1.0	1.0	1.0
Turnover Factor	0.30	0.23	1.0	1.0
Breathing Losses (lb/yr)	3.2	6.1	0.0	1.7
(TPY)	0.002	0.003	0.000	0.001
Working Losses (lb/yr)	2.9	15.2	212.2	0.2
(TPY)	0.001	0.008	0.106	0.000
Total Emissions (TPY)	0.003	0.011	0.106	0.001

[a]Underground tanks.

KBN

June 20, 1990

Mr. C.H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: AC06-179848, FPL Lauderdale Plant Modification

Dear Mr. Fancy:

FPL has received the Department's completeness letter dated May 15, 1990, concerning the above-referenced permit application. FPL's responses to these questions are contained herein. Before responding to the Department's specific questions, a few points of clarification are first offered.

The first point of clarification is that FPL is not requesting an increase of 99.9 tons per year (TPY), as stated by the Department in the letter. The application only requests a 5.41 TPY increase in VOC emissions (page 2 of Attachment A). This increase is the result of comparing present actual to future potential emissions for only the tanks which are being "modified" (Tank No. 3 and Tank No. 4). "Modified" in this sense refers to the definition of modification in F.A.C. 17-2.100: a physical change or change in the method of operation which increases emissions. Increases in the hours of operation or in the production rate of a source are excluded from the term modification. This is why Tank No. 2 and Tank No. 5 were not included in the calculation of the increase in emissions; these tanks are not undergoing a physical change or change in the method of operation, they are only potentially changing production rate. Currently, the tanks have no federally enforceable restrictions on operating hours or production rate.

It is further noted that the approach of comparing present actual to future potential emissions is currently mandated by EPA, and therefore this approach was used. However, the courts have recently ruled that this approach may not be appropriate (WEPCO decision).

The 5.41 TPY increase in VOC emissions is well below the nonattainment new source review thresholds of 40 TPY if the modification is to an existing major source or 100 TPY if the modification is to an existing minor source.

The second point of clarification is that the primary reason for submitting the permit application is to impose a federally enforceable permit limit of 99.9 TPY VOC on the facility. This will render the existing facility as a "minor" source. The Lauderdale facility has always been a minor VOC source, as documented in the application; however, there are no federally enforceable

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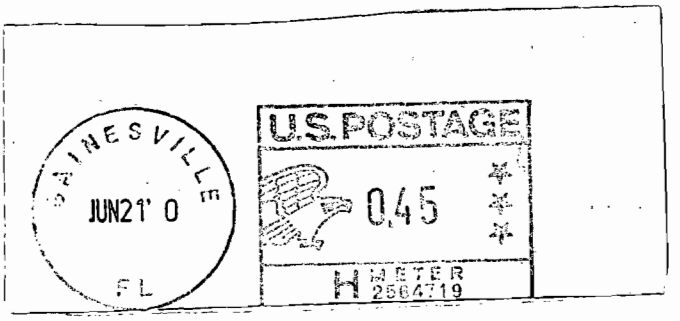

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Chief, Bureau of Air Regulation
Florida Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

permit limitations to limit emissions to this level. The 99.9 TPY rate stated in the application does not represent an "increase" but merely limits future emissions to this level.

Responses to FDER's specific questions are provided below:

1. A listing of auxiliary storage tanks at Lauderdale is presented in Table 1. The additional tanks consist of the existing gas turbine dump tanks, the fuel oil metering tanks for Units 4 and 5, and two underground storage tanks for vehicle fuel. None of these tanks is being modified (i.e., no physical change or change in the method of operation) at this time; therefore, there is no increase in VOC emissions from these tanks. (Note: the two underground tanks will be removed and replaced with similar tanks at another on-site location). However, VOC emissions from the auxiliary tanks would be included in determining if the existing facility is a minor source (i.e., less than 100 TPY). To this end, maximum potential VOC emissions from these tanks are quantified in Table 1. As shown, the potential VOC emission rate from these sources is 0.018 TPY.

2. As described in the comments above, Tank No. 5 at Lauderdale is not being modified; therefore, this tank is not considered in determining the net emissions increase. This is also explained on Page 2 of Attachment A in the application.

3. FPL uses mineral spirits and Penetone 58 at several locations within the Lauderdale facility. All uses are for parts cleaning. A list of these areas and maximum solvent usage for each is provided below:

a.	GT machine shop (mineral spirits)	10 gal	65 lb	0.033 TPY
b.	Filter cleaning station (mineral spirits)	20 gal	129 lb	0.065 TPY
c.	Burner cleaning area (Penetone 58)	50 gal	495 lb	0.248 TPY
d.	R/R track area (mineral spirits)	90 gal	581 lb	0.290 TPY
e.	Fuel Blowback- plant (mineral sprts)	15 gal	97 lb	0.048 TPY
f.	Fuel blowback- site 2 (mineral sprts)	65 gal	419 lb	0.210 TPY
	TOTALS	250 gal	1786 lb	0.893 TPY

It can be conservatively assumed that all solvent used escapes to the atmosphere. As a result, the maximum VOC emission rate from the solvent cleaning operations is 0.893 TPY.

The solvent cleaning operations are not being modified and, therefore, do not enter into the calculations of net VOC emission increase.

4. All known VOC sources at the Lauderdale site are described above and in the application. There are no other known VOC sources at the site.

5. Based upon the above discussion, the VOC emission increase of 5.41 TPY documented in the permit application remains correct. However, the permit

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limitation for the Lauderdale facility does change based on the additional VOC emissions from the miscellaneous operations. Since future potential VOC emissions from the fuel storage tanks (Nos. 2, 3, and 5) have been calculated to be 9.8 TPY (see permit application Table 1) and potential VOC emissions from the miscellaneous tanks and solvent cleaning operations have been calculated to be 0.018 TPY and 0.893 TPY, respectively, the permit limitation requested by FPL for existing Units 4 and 5 and GTs 1-24 is 89.2 TPY (99.9 - 9.8 - 0.018 - 0.893). The permit limitation thus becomes:

$$(HI_{U4\&5NG} \times EF_{U4\&5NG}) + (HI_{U4\&5OIL} \times EF_{U4\&5OIL}) + (HI_{GTNG} \times EF_{GTNG}) + (HI_{GTOIL} \times EF_{GTOIL}) \leq 89.2 \text{ TPY}$$

where:

$HI_{4\&5NG}$ = Heat Input to Units 4 and 5 due to natural gas firing,
$HI_{U4\&5OIL}$ = Heat Input to Units 4 and 5 due to No. 6 oil firing,
HI_{GTNG} = Heat Input to GT's 1-24 due to natural gas firing,
HI_{GTOIL} = Heat Input to GT's 1-24 due to No. 2 oil firing,
$EF_{U4\&5NG}$ = VOC emission factor for Units 4 & 5 for natural gas firing,
$EF_{U4\&5OIL}$ = VOC emission factor for Units 4 & 5 for No. 6 oil firing,
EF_{GTNG} = VOC emission factor for GT's 1-24 for natural gas firing,
EF_{GTOIL} = VOC emission factor for GT's 1-24 for No. 2 oil firing.

Please call if you have any questions concerning this additional information.

Sincerely,

David A. Buff

David A. Buff, P.E.
Principal Engineer

DAB/tyf

cc: M.A. Smith, Ph.D. (FPL)
C.D. Henderson, P.E. (FPL)
P. Cunningham, Esq. (HBG&S)
T. Hanks
J. Goldman, SE Dist
A. Linero, BCEQCB
CHF/BA

82813A1/6/6

Table 1. Maximum Potential Emissions of VOCs from Miscellaneous Storage Tanks, FPL Lauderdale

Parameter	Gas Turbine Dump Tanks[a] (2)	Fuel Oil Metering Tanks (3)	Unleaded Gasoline[a] (1)	Diesel Fuel[a] (1)
Type of Liquid Stored	No. 2 Fuel Oil	No. 6 Fuel Oil	No. 2 Oil	No. 2 Oil
Tank Volume (gallons)	1,500	252,000	4,000	1,000
Total Annual Throughput (gallons)	300,000	192,642,943	10,000	5,000
Turnovers Per Year	200.0	764.5	2.5	5.0
Molecular Weight of Vapor	130	190	130	130
Storage Temperature (°F)	75	75	75	75
Vapor Pressure at Storage Temperature (psia)	0.0105	0.000075	0.0105	0.0105
Tank Diameter (ft)	5.3	30.0	8.0	4.0
Average Vapor Space Hgt. (ft)	2.0	6.0	2.0	1.5
Average Diurnal Temperature Change (°F)	20	20	20	20
Paint Factor	1.30	1.40	1.33	1.33
Product Factor	1.0	1.0	1.0	1.0
Turnover Factor	0.30	0.23	1.0	1.0
Breathing Losses (lb/yr)	3.2	6.1	6.6	1.7
(TPY)	0.002	0.003	0.003	0.001
Working Losses (lb/yr)	2.9	15.2	0.3	0.2
(TPY)	0.001	0.008	0.000	0.000
Total Emissions (TPY)	0.003	0.011	0.003	0.001

[a]Underground tanks.

BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD

500 S.W. 14th Court
Fort Lauderdale, FL 33315
(305) 765-4900

June 4, 1990

Mr. Clair Fancy, P.E.
Chief, Bureau of Air Regulation
Division of Air Resources Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Application to Construct and SCA
Repowering Project, FPL
S.W. 42nd Street, Ft. Lauderdale

Dear Mr. Fancy:

Further to our previous letter and conversations on the subject, we wish to add the following observations:

1) In both the SCA for the Repowering at Ft. Lauderdale, and the referenced Application to Construct, all attention has been paid to VOC's with respect to ozone. We note that NO_x is clearly a precursor to ozone (reference S.E. Regional Oxidant Network Report, March 1990).

2) Whereas the amount of VOC issued from the present and future facility may be small, the amount of NO_x is large and might well be controlling in ozone formation.

3) The "low" VOC emissions is insufficient reason to avoid doing the Nonattainment Review for ozone.

4) Our ozone nonattainment status is marginal and we have had no exceedances this year. Our worst period (April) has passed. The motor vehicle I/M program may even bring us back into attainment. The nonattainment situation was used by FPL as the rationale for not doing a PSD review in the SCA. Since our ozone situation is in the balance, the subject deserves more attention.

Issuance of the Construction Permit on the Tank Dismantling has an impact on the SCA. The effects of FPL's future operations upon ozone should be

addressed in either the Construction Permit or the SCA. We do not insist that the subject be addressed in the context of a PSD or Nonattainment Review -- just that it be addressed in a professional manner.

If you have any questions regarding this matter, please call me at (305) 765-4436.

Sincerely,

A. A. Linero, P.E.
Chief, Air Program

AAL/mr

cc: Steve Smallwood
Hamilton Oven
Isidore Goldman
Daniela Banu
R. Hanks
CHF/BT

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400
Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

May 15, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Martin A. Smith
Environmental Manager
Florida Power & Light Company
P. O. Box 078768
West Palm Beach, Florida 33407-0768

Dear Mr. Smith:

Re: File No. AC 06-179848, FP&L Ft. Lauderdale Plant Modification

The Department has made a preliminary review of your application for permits to construct fossil-fuel-fired steam units Nos. 4 and 5, 24 gas turbines, and 3 fuel storage tanks at FP&L Ft. Lauderdale Plant. Although we agree in principal with your request to obtain construction permits for a minor modification to a minor facility, the Department does not have reasonable assurance the the increase in facility emissions will be less than 100 TPY VOC. As presently proposed, an additional 0.1 TPY VOC emission increase would make the project a major modification and subject it to additional regulations. Therefore, we request you address the VOC emissions from the following sources.

1. Please provide a list of the auxiliary tanks at this facility and estimate the maximum VOC emissions from the tanks before and after the proposed project by the procedures described in the AP-42 manual, Section 4.3.

2. The VOC emissions for the 75,000 bbl. No. 5 storage tank listed in the application are based on 109.1 turnovers per year. Based on the fuel usage listed in Table 3, the actual number of turnovers were less. Please calculate what the actual emissions have been for the No. 5 storage tank and the increase in VOC emissions from this tank for this project.

3. Are there any VOC emissions from the maintenance building? If solvents are used in the repair of the equipment, we would expect some VOC emissions.

4. Are there any other sources of VOC emissions at this facility? If so, please quantify their emissions.

5. Based on the answers to the questions above, please recalculate the VOC emissions increase for the project.

We will resume processing the application after we receive the requested information. If you have any questions on this matter, please write to me or call Willard Hanks at (904)488-1344.

Sincerely,

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

CHF/plm

c: Isidore Goldman, SE District
Daniela Banu, Broward Co.
David Buff, P.E.

P 052 482 258

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to Martin Smith	
Street and No. Fla. Power & Light	
P.O., State and ZIP Code P.O. BOX 078768 - WPB	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 5-15-90 AC06-179848	

PS Form 3800, June 1985

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)*
2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Martin A. Smith
Env. Mgr.
Fla. Power & Light Co.
P.O. BOX 078768
West Palm Beach, Fl
33407-0768

4. Article Number
P 052 482 258

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Address
X

6. Signature — Agent
X L Leakins

7. Date of Delivery
5/18/90

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD
500 S.W. 14th Court
Fort Lauderdale, FL 33315
(305) 765-4900

May 10, 1990

Clair Fancy, P.E.
Chief, Bureau of Air Regulation
Division of Air Resources Management
Florida Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Application to Contruct at
S.W. 42nd Street, Ft. Lauderdale

Dear Sir:

We have reviewed the subject application which you sent us and have the following comments:

1) The application is to Construct. There is a dismantling of existing Tank #3 which should not require a permit.

2) Tank #4 will in the future store Fuel Oil #2 instead of Fuel Oil #6. We see nothing however, indicating any modifications (e.g. drawings, vapor recovery, etc.) indicative of a construction project.

3) Neither Tanks 3 nor 4 have any permits anyway, perhaps due to their storage of relatively heavy fuel. Perhaps they and all such storage tanks should be permitted.

4) The fuel burned by all the power generating units will apparently remain the same and within the terms of their existing permits.

5) This construction permit does not appear to us to be the proper place to limit (at FPL's request) their VOC emissions to 99.9 TPY resulting in a "Synthetic Minor Source."

6) Our opinions regarding the limiting of their VOC emissions were previously provided under our comments on the SCA. A copy of the relevant comments is attached.

If you have any questions regarding this matter, please call me at (305) 765-4436.

Sincerely,

AA Linero 5/10/90

A. A. Linero, P.E.
Chief, Air Section

AAL/mgs

cc: I. Goldman, DER, W. Palm Beach
S. Smallwood, DER, Tallahassee
H. Oven, DER, Tallahassee
D. Banu, Air Section
H. Hanks
B. Andrews/C. Fancy

FPL

P. O. Box 078768, West Palm Beach, FL 33407-0768
6001 Village Blvd.

July 14, 1989

Mr. Dale Twachtmann, Secretary
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Dear Mr. Twachtmann:

This correspondence is to certify that Dr. Martin A. Smith, Manager of Environmental Permitting and Programs in the Environmental Affairs Department of Florida Power & Light Company, is authorized to act as an agent and representative for Florida Power & Light Company in DER permit actions. Correspondence from DER to FPL, including inspection reports, notices of violation, requests for information, etc., can be addressed to Dr. Smith at the following address:

Dr. Martin A. Smith
Environmental Affairs Department
Florida Power & Light Company
P. O. Box 078768
West Palm Beach, Fl 33407-0768
(407) 640-2030

Sincerely,

J. S. Odom
Vice President

JSO:eh

cc: Ernest Frey - DER Northeast District
Alexander - DER Central District
Scott Benyon - DER Southeast District
Richard Garrity - DER Southwest District
Philip Edwards - DER South District

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

$5,200 pd. 5-3-90 Recpt. # 151115

AC 06-179808

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Electrical Generating Plant [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Florida Power & Light Company COUNTY: Broward

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Lauderdale Plant Units 4 & 5, GTs. 1-24, and 3 fuel tanks

SOURCE LOCATION: Street SW 42nd St., 2 miles west of Ravenswood Rd City N.A.

UTM: East 580,200 North 2,883,300

Latitude 26 ° 4 ' 5 "N Longitude 80 ° 11 ' 54 "W

APPLICANT NAME AND TITLE: Florida Power & Light Company

APPLICANT ADDRESS: P.O. Box 078768, West Palm Beach, FL 33407-0768

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Power & Light Company

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Martin A. Smith

Martin A. Smith, Ph.D., Manager Environmental Permitting and Programs
Name and Title (Please Type)

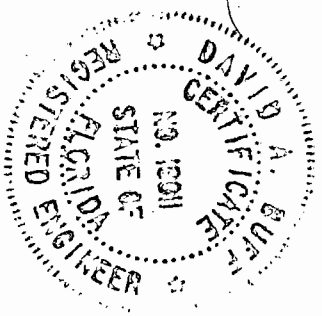
Date: 5/3/90 Telephone No. (407) 640-2030

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been ~~designed~~/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

[1] See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

1034 NW 57th Street, Gainesville, FL 32605
Mailing Address (Please Type)

Florida Registration No. 19011 Date: 5/2/90 Telephone No. (904) 331-9000

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

FDER is requested to issue a construction permit to allow changes in the type of fuel being stored in existing tanks and to limit maximum potential VOC emissions from the Lauderdale Plant to less than 100 TPY. One existing fuel storage tank will also be removed. These changes will increase potential VOC emissions from the tanks. Attachment A presents a discussion of these changes and the permit limitation requested for the plant.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction June 1990 Completion of Construction December 1991

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Not applicable.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

AO-06-146594, AO-06-143213, AO-06-148760, and AO-06-148761. Copies of these permits are and corresponding permit applications are attached. (See attachment B).

E. Requested permitted equipment operating time: hrs/day_____; days/wk_____; wks/yr_____;

if power plant, hrs/yr_____; if seasonal, describe:_____

Refer to response to A above

F. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? Yes

   a. If yes, has "offset" been applied? No

   b. If yes, has "Lowest Achievable Emission Rate" been applied? No

   c. If yes, list non-attainment pollutants. Ozone-Applicable pollutant is Volatile Organic Compounds

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? No

   a. If yes, for what pollutants?_____

   b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Not Applicable

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): _____

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Refer to Attachment A

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard.

[4]Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr*	
Unit 4 and 5 Natural Gas		3,286 MMcf/hr	3,450 total
" " No. 6 Fuel Oil		21,991 gal/hr	3,300 total
GTs 1-24 Natural Gas		16,046 MMcf/hr	16,848 total
GTs 1-24 No. 2 Fuel Oil		117,801 gal/hr	16,200 total

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: 1.0 Percent Ash: < 0.1

Density: No. 6=8.2; No. 2=7.2 lbs/gal Typical Percent Nitrogen: No.6-0.35; No.2-0.015

Heat Capacity: No.6=18,300; No.2=19,100 BTU/lb Natural Gas - 1,050 BTU/cf BTU/gal
150,060 Btu/gal; 137,520 Btu/gal

Other Fuel Contaminants (which may cause air pollution):

F. If applicable, indicate the percent of fuel used for space heating. Not Applicable

Annual Average Maximum

G. Indicate liquid or solid wastes generated and method of disposal.

Liquid wastes are authorized under FDER permit IO-06-158722

Solid wastes are disposed of offsite in an approved sanitary landfill.

See Table 6 attached

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: _____ ft. Stack Diameter: _____ ft.

Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.

Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diamter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
   Previous FDER Air Permits - Attached
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
   See Attached Tables 1 through 6.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
   See Attached Tables 1 through 6.
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
   Not Applicable
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
   Not Applicable
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained. Not Applicable
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
   See Attached Figure 1.
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
   See Attached Figure 1.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

This section is not applicable

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Deacribe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

[1]Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

This section is not applicable

A. Company Monitored Data

1. _____no. sites _____ TSP _____( ) SO^2* _____ Wind spd/dir

Period of Monitoring _____/_____/_____ to _____/_____/_____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from ____/____/____ to ____/____/____
month day year month day year

2. Surface data obtained from (location)_____

3. Upper air (mixing height) data obtained from (location)_____

4. Stability wind rose (STAR) data obtained from (location)_____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

ATTACHMENT A

The existing FPL Lauderdale Plant site is located in eastern Broward County. The plant site lies about 1 mile east of the Florida Turnpike and 1 mile west of Interstate 95 (I-95). The Fort Lauderdale-Hollywood International Airport is immediately east of I-95. State Road 84 and I-595, which is under construction, are north of the plant site. Griffin Road is about one-half of a mile south of the site.

Electric generating units have been operating at this site since the 1920s. The two original generating units and a third unit placed in service in 1941 have been retired. Currently, the Lauderdale Plant consists of two fossil-fuel-fired steam units and 24 gas turbine (GT) units. A site plan of the facility is presented in Figure 1.

The fossil-fuel-fired steam units, Units 4 and 5, burn natural gas and/or No. 6 fuel oil. Units 4 and 5 have a maximum heat input of $1,725 \times 10^6$ Btu/hour/unit when burning natural gas, and $1,650 \times 10^6$ Btu/hour/unit when burning No. 6 fuel oil. These units are authorized to operate under Florida Department of Environmental Regulation (FDER) air pollution permit numbers AO-06-146594 and AO-06-143213, respectively.

GTs 1-24 burn natural gas or No. 2 fuel oil and have a maximum heat input of 702×10^6 Btu/hour/unit when burning natural gas, and 675×10^6 Btu/hour/unit when burning No. 2 fuel oil. GTs 1-12 and GTs 13-24 are authorized to operate by FDER air pollution permit numbers AO-06-148760 and AO-06-148761, respectively.

Currently, there are four fuel oil storage tanks at the Lauderdale Plant which store No. 2 and No. 6 fuel oil for use in GTs 1 through 24 and Units 4 and 5, respectively. The designation, size, and fuel currently stored in each tank are presented below.

Designation	Size (bbl)	Fuel Stored
Tank No. 2	80,000	No. 6 Fuel Oil
Tank No. 3	150,000	No. 6 Fuel Oil
Tank No. 4	55,000	No. 2 Fuel Oil
Tank No. 5	75,000	No. 2 Fuel Oil

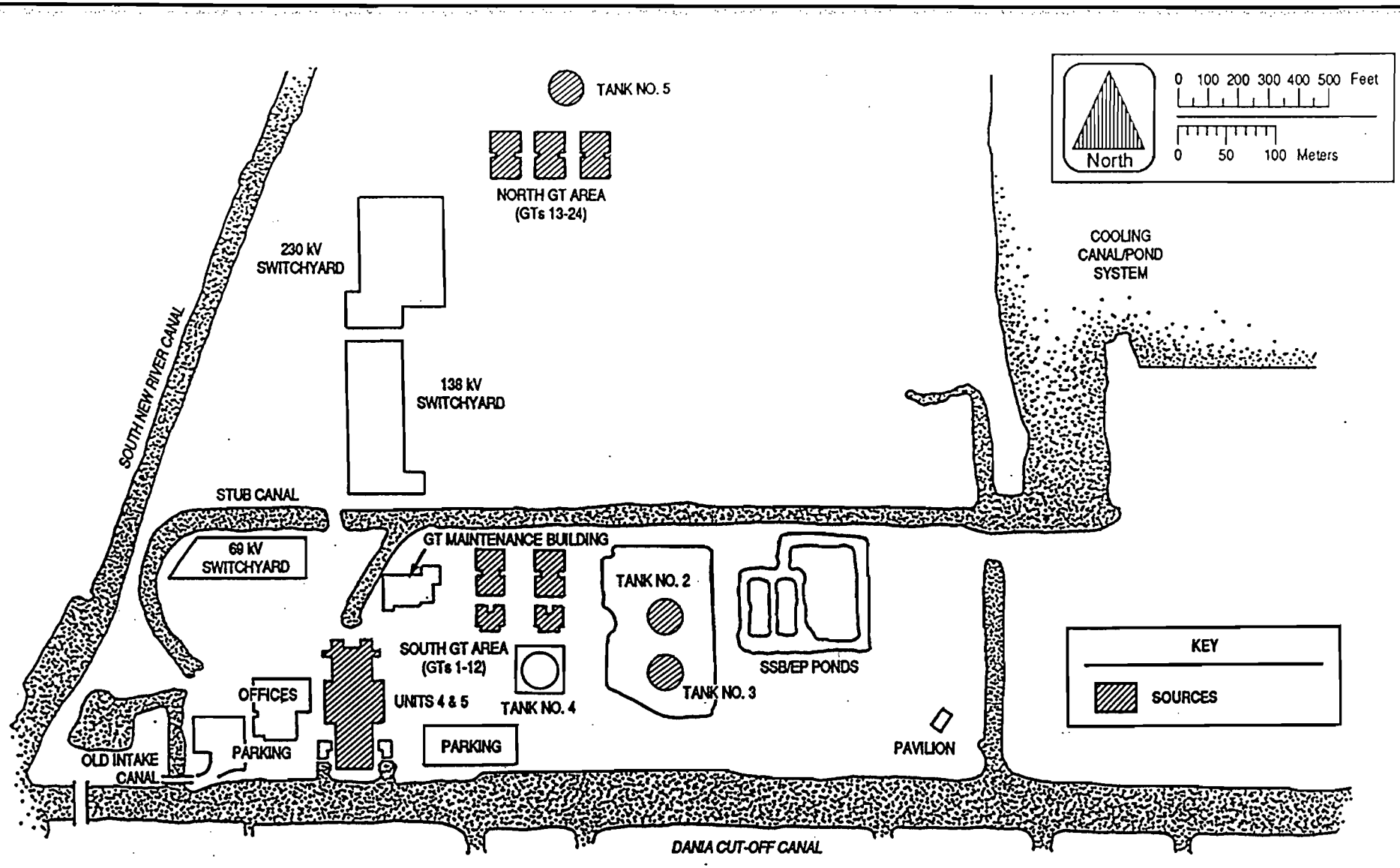


Figure 1 SOURCES OF AIRBORNE EMISSIONS

Lauderdale Repowering Project

FPL

The existing 150,000-barrel (bbl) tank (Tank No. 3), which is used for No. 6 fuel oil storage, will be converted for storage of No. 2 fuel oil. The 55,000-bbl tank (Tank No. 4) which currently is used to store No. 2 fuel oil for the GTs, will be removed. Two other existing tanks with capacities of 80,000 bbl (Tank No. 2) and 75,000 bbl (Tank No. 5) will continue to be used for No. 6 and No. 2 fuel oil storage, respectively.

There are also a number of small auxiliary storage tanks located at the Lauderdale plant, including metering tanks, lube oil tanks, and a diesel fuel and gasoline tank. All these are 6,000 gal capacity or less. Because of the small size and throughput associated with these tanks, they are considered insignificant sources of VOC emissions.

The changes in the tanks at Lauderdale are planned for early 1991. Table 1 presents the estimated emissions of volatile organic compounds (VOCs) from the storage tanks. VOCs are the only pollutant emitted from the tanks. These emissions result from working and breathing vapor losses. Maximum potential emissions are presented for the Nos. 2, 3, and 5 tanks operating in their future mode. Actual VOC emissions based on historic operating data are presented for the existing Tanks No. 3 and No. 4. The total potential VOC emissions from the tanks after the proposed changes are implemented are 9.81 tons per year (TPY) (0.05 + 6.38 + 3.38).

For VOC nonattainment applicability purposes, the net charge in VOC emissions due to the changes in the tanks must be based on those tanks which are being physically modified or are changing their method of operation. Therefore, in the case of the proposed changes, only Tanks No. 3 and 4 are considered. For Tank No. 3, the net change in VOC must be based upon future maximum potential emissions minus current actual emissions. Tank No. 4 is being removed, and therefore current actual emissions are credited as a decrease. As a result, for nonattainment applicability purposes, the net change in VOC emissions resulting from the tank changes is 5.41 TPY (6.38 - 0.10 - 0.87).

The Lauderdale Plant has historically been a minor source of VOCs. Fuel usage and corresponding VOC emission data for the period 1969 through 1989

are presented in Table 2 for Units 4 and 5 and in Table 3 for GTs 1-24. Table 4 presents a summary of total historic VOC emissions, exclusive of tank emissions, from the Lauderdale Plant.

During the previous 20 years, the maximum VOC emission rate for GTs 1-24 plus Units 4 and 5 was 54.6 TPY, which occurred in 1973. The maximum VOC emission rate, including breathing and working losses from tanks, was 56.9 TPY. For each of the last 15 years, the annual VOC emission rate from GTs 1-24 plus Units 4 and 5 has been less than 40 TPY (see Table 4). This emission level is considerably below the 100 TPY rate which classifies a source as "major" based on potential emissions.

The purpose of this permit application is to limit potential VOC emissions from the existing Lauderdale Plant to 99.9 tons per year, thereby making the existing facility a "minor" source of VOC emissions for regulatory purposes. Historic plant operating data show that the facility has in fact been a minor source of VOCs. Since future VOC emissions from the fuel storage tanks (Nos. 2, 3, and 5) have been calculated to be 9.8 TPY (see Table 1), the permit limitation requested by FPL for existing Units 4 and 5 and GTs 1-24 is 90.1 TPY (99.9 - 9.8). The permit limitation may be expressed as:

$$\text{VOC emissions Units 4\&5} + \text{VOC emissions GTs 1-24} \leq 90.1 \text{ TPY} \quad (1)$$

Since Units 4 and 5 use either natural gas or No. 6 fuel oil and GTs 1-24 use either natural gas or No. 2 fuel oil, Equation 1 can be written as:

$$\text{VOC emissions Units 4\&5 nat. gas} + \text{VOC emissions Units 4\&5 oil} + \text{VOC emissions GTs 1-24 nat. gas} + \text{VOC emissions GTs 1-24 oil} \leq 90.1 \quad (2)$$

Actual VOC emissions are calculated on an annual or monthly basis by using the actual heat input (HI), derived from the amount of fuel actually used and its actual heating value, and multiplying the HI by the VOC emission factor (EF) for each source and fuel fired.

The permit limitation thus becomes:

$$(HI_{U4\&5NG} \times EF_{U4\&5NG}) + (HI_{U4\&5OIL} \times EF_{U4\&5OIL}) + (HI_{GTNG} \times EF_{GTNG}) + (HI_{GTOIL} \times EF_{GTOIL}) \leq 90.1 \text{ TPY}$$

where:

$HI_{4\&5NG}$ = Heat Input to Units 4 and 5 due to natural gas firing,

$HI_{U4\&5OIL}$ = Heat Input to Units 4 and 5 due to No. 6 oil firing,

HI_{GTNG} = Heat Input to GT's 1-24 due to natural gas firing,

HI_{GTOIL} = Heat Input to GT's 1-24 due to No. 2 oil firing,

$EF_{U4\&5NG}$ = VOC emission factor for Units 4 & 5 for natural gas firing,

$EF_{U4\&5OIL}$ = VOC emission factor for Units 4 & 5 for No. 6 oil firing,

EF_{GTNG} = VOC emission factor for GT's 1-24 for natural gas firing,

EF_{GTOIL} = VOC emission factor for GT's 1-24 for No. 2 oil firing.

Emission factors for each source and fuel fired are presented in Table 5.

Tables 2, 3, and 4 demonstrate that the Lauderdale Plant has been a minor source for VOC in the past, and the requested permit limitation will assure that it will continue to be a minor source in the future. In addition to limiting VOCs, the requested permit limitation will also reduce potential emissions of sulfur dioxide, nitrogen oxides, carbon monoxide, and PM10 from the existing Lauderdale Plant.

Table 1. VOC Emissions from Storage Tanks At FPL Lauderdale Plant

Description	No. 2 Tank (Future potential)	No. 3 Tank (Future potential)	No. 5 Tank (Future potential)	No. 3 Tank (Current actual)	No. 4 Tank (Current actual)
Type of Liquid Stored	No. 6 Fuel Oil	No. 2 Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil	No. 2 Fuel Oil
Tank Volume (gallons)	3,360,000	6,300,000	3,150,000	6,300,000	2,310,000
Total Annual Throughput (gallons)	192,642,943[a]	688,302,094[b]	343,635,079[c]	19,751,871[d]	1,656,000[e]
Turnovers Per Year	57.3	109.3	109.1	3.1	0.72
Molecular Weight of Vapor	130.0	130.0	130.0	190.0	130.0
Storage Temperature (oF)	75.0	75.0	75.0	75.0	75.0
Vapor Press. @ Storage Temperature (psia)	0.0001	0.0105	0.0105	0.0001	0.0105
Tank Diameter (ft)	120.0	150.0	120.0	150.0	100.0
Average Vapor Space Height (ft)	20.0	24.0	19.0	24.0	20.0
Average Diurnal Temperature Change (oF)	20.0	20.0	20.0	20.0	20.0
Paint Factor	1.33	1.33	1.33	1.33	1.33
Product Factor	1.0	1.0	1.0	1.0	1.0
Turnover Factor	0.6	0.4	0.4	1.0	1.0
Breathing Losses (lb/yr)	80.2	3730.9	2251.2	189.3	1685.7
(tons/yr)	0.04	1.87	1.13	0.09	0.84
Working Losses (lb/yr)	27.0	9019.5	4503.0	6.8	54.3
(tons/yr)	0.01	4.51	2.25	0.003	0.03
Total Emissions (tons/yr)	0.05	6.38	3.38	0.10	0.87

[a]Assumes 100 percent of the potential No. 6 fuel oil usage of Units 4 and 5.
[b]Assumes 66.7 percent of the potential No. 2 fuel oil usage required for GTs 1-24.
[c]Assumes 33.3 percent of the potential No. 2 fuel oil usage required for GTs 1-24.
[d]Creditable emission decrease for ceasing No. 6 fuel oil use; assumes 66.7 percent of the 1969 through 1989 average fuel usage for Units 4 and 5 (see Table 2).
[e]Creditable emission decrease for removing Tank No. 4; annual throughput is the 1970 through 1989 average for GTs 1-12 which are located adjacent to the tank.

Table 2. Fuel Usage and VOC Emissions for Lauderdale Units 4 and 5

Year	Unit 4 Natural Gas (10^6 ft^3)	Unit 4 No. 6 Fuel Oil (10^3 gal.)	Unit 5 Natural Gas (10^6 ft^3)	Unit 5 No. 6 Fuel Oil (10^3 gal.)	VOC Emissions (TPY)
1989	2,451	6,272	868	3,283	5.95
1988	1,279	3,460	1,937	3,948	5.07
1987	2,110	993	2,089	1,785	3.99
1986	1,857	0	2,356	468	3.13
1985	2,103	983	1,309	1,343	3.27
1984	938	6,268	818	5,498	5.70
1983	1,049	7,208	792	6,871	6.64
1982	1,611	3,397	1,957	5,481	5.87
1981	402	16,884	259	20,803	14.78
1980	2,161	20,301	1,788	21,098	18.50
1979	2,796	22,605	1,870	25,203	21.43
1978	1,937	20,983	4,046	20,849	20.08
1977	2,220	15,103	3,990	11,147	14.32
1976	2,958	18,766	4,991	18,472	19.71
1975	3,160	23,507	3,609	19,736	21.17
1974	2,756	29,413	2,367	31,794	26.84
1973	2,281	43,285	1,799	48,808	37.85
1972	5,979	36,036	4,434	32,928	33.50
1971	4,525	403	5,610	22,384	15.75
1970	6,015	18,358	6,769	328	16.05
1969	3,753	13,440	3,811	11,970	14.95
Average	2,588	14,651	2,737	14,962	14.98

Note: VOC emissions based on actual fuel usage and emission factors given in Table 5.

10^6 ft^3 = million cubic feet.
10^3 gal = thousand gallons.
TPY = tons per year.

Table 3. Fuel Usage and VOC Emissions for Lauderdale GTs 1-24

Year	GTs 1-12 Natural Gas (10^6 ft^3)	GTs 1-12 No. 2 Fuel Oil (10^3 gal)	GTs 13-24 Natural Gas (10^6 ft^3)	GTs 13-24 No. 2 Fuel Oil (10^3 gal)	VOC Emissions (TPY)
1989	812	1795	1,097	3,144	3.85
1988	169	276	372	435	1.03
1987	265	82	1,256	702	2.78
1986	69	29	229	414	0.57
1985	296	283	555	534	1.59
1984	384	169	263	138	1.18
1983	281	375	188	265	0.89
1982	539	151	188	158	1.33
1981	488	1,323	1,080	1,418	3.04
1980	2,289	4,716	5,566	3,782	14.78
1979	2,760	3,354	3,273	7,853	11.77
1978	1,355	2,405	3,841	4,333	9.87
1977	861	1,817	2,534	4,176	6.59
1976	493	1,205	1,834	2,225	4.46
1975	1,156	7,296	421	3,727	3.80
1974	4,872	1,735	3,984	586	16.01
1973	2,763	5,032	6,064	6,338	16.77
1972	1,841	719	4,440	505	11.32
1971	4,910	360	0	0	8.80
1970	3,708	0	0	0	6.62
Average	1,516	1,656	2,066	2,269	6.34

Note: VOC emissions based on actual fuel usage and emission factors given in Table 5. Heat content of natural gas and No. 2 fuel oil assumed to be 1,050 Btu/ft^3 and 136,800 Btu/gal, respectively.

10^6 ft^3 = million cubic feet.
10^3 gal = thousand gallons.
TPY = tons per year.

Table 4. Actual VOC Emissions for Lauderdale Units 4 and 5 and GTs 1-24

Year	Units 4 and 5 VOC Emissions (TPY)	GTs 1-24 VOC Emissions (TPY)	Total VOC Emissions[a] (TPY)
1989	5.95	3.85	9.80
1988	5.07	1.03	6.10
1987	3.99	2.78	6.77
1986	3.13	0.57	3.70
1985	3.27	1.59	4.86
1984	5.70	1.18	6.88
1983	6.64	0.89	7.53
1982	5.87	1.33	7.20
1981	14.78	3.04	17.82
1980	18.50	14.78	33.28
1979	21.43	11.77	33.20
1978	20.08	9.87	29.95
1977	14.32	6.59	20.91
1976	19.71	4.46	24.17
1975	21.17	3.80	24.97
1974	26.84	16.01	42.85
1973	37.85	16.77	54.62
1972	33.50	11.32	44.82
1971	15.75	8.80	24.55
1970	16.05	6.62	22.67
1969	14.95	0	14.95
Average	14.98	6.04	21.03

[a]Maximum actual VOC emissions from storage tanks during this period were 2.3 TPY which occurred in 1973.

Table 5. Reference Information for VOC Emissions for Existing Lauderdale Plant

Parameter	Units	Source	Data
VOC Emission Factor			
Fossil Steam--Oil	$lb/10^3$ gal	AP-42	0.76
	$lb/10^6$ Btu	AP-42	0.0050
Fossil Steam--Gas	$lb/10^6$ cf	AP-42	1.4
	$lb/10^6$ Btu	AP-42	0.0013
Gas Turbine--Oil	$lb/10^6$ Btu	Testing	0.0013[a]
Gas Turbine--Gas	$lb/10^6$ Btu	Testing	0.0034[a]
Heat Input			
Units 4 & 5--per Unit--Oil	10^6 Btu/hr	FPL	1,650
Units 4 & 5--per Unit--Gas	10^6 Btu/hr	FDER Permit	1,725
GTs 1-24--per Unit--Oil	10^6 Btu/hr	FDER Permit	675
GTs 1-24--per Unit--Gas	10^6 Btu/hr	FPL	702
Maximum VOC Emissions			
Units 4 & 5--Oil Total--both units	lb/hr		16.5
Units 4 & 5--Gas Total--both units	lb/hr		4.5
GTs 1-24--Oil Total--24 units	lb/hr		21.1
GTs 1-24--Gas Total--24 units	lb/hr		57.3

[a]Developed from testing (see Attachment B).

Table 6. Summary of Existing Air Emission Sources at the FPL Lauderdale Plant

Source	Location (m)[a]		Stack Data (ft)		Operating Data		Maximum Emissions[b] (lb/hr)			
	X	Y	Height	Diameter	Temperature (°F)	Velocity (ft/sec)	SO_2	NO_x	PM	CO
Units 4 and 5	-50	0.0	151.0	14.0	300	58	3,630	1,892	330	138
Gas Turbines 1 - 12	0.0	110.0	43.5	18.0[c]	860	70	4,164	4,032	297	966
Gas Turbines 13 - 24	0.0	540.0	43.5	18.0[c]	860	70	4,164	4,032	297	966

[a]Relative to UTM: 580,200E and 2,883,300N; Zone 17.

[b]Total emissions from identified units. Calculation of maximum emissions besed on the following:

SO_2 - Units 4 and 5: 0.964 percent sulfur
GTs 1-24: 0.5 percent sulfur

NO_x - Units 4 and 5: Based on AP-42 for natural gas
GTs 1-24: Based on AP-42 for fuel oil

PM - Units 4 and 5: Based on AP-42 for fuel oil
GTs 1-24: Based on AP-42 for fuel oil.

CO - Units 4 and 5: Based on AP-42 for natural gas
GTs 1-24: Based on AP-42 for natural gas

[c]Effective stack diameter based on actual stack area.

Note: All operational and emissions data based on FDER permitted rates. The following permits are relevant: Unit 4-AO-06-146594; Unit 5-AO-06-143213; GT Units 1-2 AO-06-148760 and GT Units 13-24 AO-06-148761.

82813B5/VOC1
11/24/89

ATTACHMENT B

VOC EMISSION ESTIMATES FOR GAS TURBINES 1-24

Emission estimates for VOCs from gas turbines contained in EPA Air Pollutant Emission Factors ,i.e., AP-42 are for unburned hydrocarbons. Investigations into the possible VOC emissions for the type of gas turbine unit at the Lauderdale Plant were unsuccessful in determining the amount of unreactive hydrocarbons, i.e., methane and ethane, that may be in the amount of unburned hydrocarbons. As a result, source testing which excluded these nonreactive hydrocarbons was performed as allowed by FDER Rule 17-2.100(223) F.A.C. The results of these tests are presented in the following report.

The emissions from the tests were evaluated statistically to determine an upper limit that would be applicable to all 24 gas turbines. The results of this evaluation indicated an upper bound for the emissions as follows:

Natural Gas - 0.0034 lb VOC per million Btu heat input
No. 2 Fuel Oil - 0.0013 lb VOC per million Btu heat input

The natural gas emission factor reflects an upper confidence limit of 95 percent. This confidence limit was chosen to account the generally higher VOC emissions on natural gas relative to fuel oil and the greater operating usage on natural gas. In addition, natural gas can contain minute quantities of ethylene, propane, butane and, hexane and higher molecular weight gases that are considered VOCs. The fuel oil emission factor was based on a 90 percent confidence limit. All statistics were based on the t distribution.

SOURCE TEST REPORT

VOLATILE ORGANIC COMPOUND EMISSIONS EXCLUDING METHANE AND ETHANE

FLORIDA POWER AND LIGHT COMPANY
LAUDERDALE POWER PLANT
GAS TURBINE PEAKING UNITS 8 AND 23

NOVEMBER 8 AND 10, 1989

Prepared for:

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163-89-05

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air Consulting and Engineering, Inc.

REPORT CERTIFICATION

To the best of my knowledge, all applicable field and analytical procedures comply with Florida Department of Environmental Regulation requirements and all test data and plant operating data are true and correct.

Stephen L. Neck

Stephen L. Neck, P.E.

State of Florida
Registration No. 20020

November 22, 1989

Date

SEAL

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1.0 INTRODUCTION

A study of non-methane/ethane emissions of Volatile Organic Compounds (VOC) was performed at the Florida Power and Light's Lauderdale Power Plant. Testing was performed on November 8 and 10, 1989. This study of gas turbine emissions supplements a previous test report of August-September 1989, in which emissions of total VOC's and non-methane organics were quantified.

A Byron 301 mon-methane VOC analyzer with a flame ionization detector (FID) was utilized for testing. The gas chromatograph column temperature and carrier flow were raised above the normal settings to enable seperation of both methane and ethane from the remainder of the volatile organics. A more detailed description of the technique is provided in Section 5.0.

Emissions from the two units were monitored during both natural gas and distillate fuel firing.

2.0 SUMMARY AND DISCUSSION OF RESULTS

Results of the testing are summarized in Table 1. Complete emission results and strip chart records are provided in Appendix B.

Table 1 Emission Summary
Florida Power and Light Company
Ft. Lauderdale Power Plant
November 8 and 10, 1989

Date	Fuel	Load MW	C_aH_a ppm	O_2 %	Fuel Factor	Emission Rate* lb/MMBTU Carbon
Unit 8						
11/8/89	Natural gas	32.5	0.41	16.82	8710	0.0017
11/8/89	Distillate	32.5	0.20	16.51	9190	0.0008
Unit 23						
11/10/89	Distillate	33.0	0.46	16.90	8710	0.0020
11/10/89	Oil	32.5	0.11	16.75	9190	0.0005

* $E = (\text{ppm } C_aH_a)\ (2.595 \times 10^{-9})\ (\text{Fuel Factor}) \left(\frac{20.9}{20.9 - \%O_2}\right) (36)$

Where 36 = molecular weight of carbon in C_aH_a

3.0 PROCESS DESCRIPTION AND OPERATION

Each of the 24 gas turbine generators is fired with two Rolls-Royce engines. The exhaust from each engine is expanded through a common turbine generator.

4.0 SAMPLING POINT LOCATION

Because the exhaust stack is filled with baffling material for noise control, there is no place to measure volumetric flows.

All samples were taken from a tee to the "combustibles analyzer" sample line provided for each unit.

5.0 FIELD AND ANALYTICAL PROCEDURES

The Byron 301 utilizes a Chromosorb 106 column to seperate methane from the remainder of VOC compounds. Since the constituents of natural gas are mainly methane and ethane, it is desireable to modify the analyzer to allow for the additional seperation of ethane, which, along with methane, is excluded from the VOC list by statute. During normal operation, the 301 column temperature is maintained at 50°C at a flame air pressure of 16 psi and a carrier pressure of 13 psi. To enable the column to seperate ethane as well as methane from the total, it was necessary to raise the column temperature to 71°C and to raise the flame air and carrier pressures to 31 and 29 psi, respectively.

The 301 analyzer operates on three minute cycles. A sample is continuously withdrawn from the stack and passes through a sample loop. Every three minutes the contents of the sample loop are injected into the G/C column. After a few seconds the methane, and in this case ethane, are passed through the column and into the FID. After approximately one minute, the analysis "window" is closed and the column is back flushed to pass the remainder of the VOC contents into the FID. Approximately two minutes is allowed for this analysis. To demonstrate performance of the analyzer, calibration gases of ≈25 ppm CH_4, ≈25 ppm C_2H_6, and three protocol 1 gases of C_3H_8 (3, 5, and 8.3 ppm C_3H_8/air) were utilized. It was demonstrated that the C_2H_6 was totally evolved during the normal methane analysis "window" after changing column operating parameters as previously mentioned.

The only complication to the testing arose from the fact that the new column operating parameters allowed the evolution of some very heavy organics that had previously been trapped in the column over its lifetime. This "background" was very constant, however, and was demonstrated by use of zero air response. Calibrations were made over this 0.5 ppm C_3H_8 response and almost perfect linearity was demonstrated.

APPENDIX A

COMPLETE EMISSION DATA

FPL-LAUDERDALE
UNIT 8
FT. LAUDERDALE, FLORIDA

NOVEMBER 8, 1989

LOAD	TIME	PPM C3H8	% O2	lb C/mmBTU	"F" FACTOR
32.5 MW	1203	0.30	16.425	0.0011	8710
NATURAL GAS	1206	0.50	16.425	0.0019	
	1209	0.45	16.425	0.0017	
	1212	0.45	16.350	0.0017	
	*	--	--	--	
	1223	0.35	16.350	0.0013	
	1226	0.40	16.350	0.0015	
	1229	0.40	16.350	0.0015	
	1232	0.40	16.325	0.0015	
	1235	0.40	16.325	0.0015	
	1238	0.45	16.325	0.0017	
	1241	0.45	16.275	0.0017	
	1244	0.40	16.275	0.0015	
	1247	0.40	16.275	0.0015	
	1250	0.45	16.275	0.0017	
	1253	0.40	16.275	0.0015	
	1256	0.45	16.275	0.0017	
	1259	0.40	16.275	0.0015	
	1302	0.40	16.275	0.0015	
	1305	0.40	16.250	0.0015	
AVERAGES:		0.41	16.321	0.0015	
			16.821**	0.0017**	

* Wait for zero air pressure

** Add 0.5 for drift

SOURCE: ACE, Inc., 1989

FPL-LAUDERDALE
UNIT 8
FT. LAUDERDALE, FLORIDA

NOVEMBER 8, 1989

LOAD	TIME	PPM C3H8	% O2	lb C/mmBTU	"F" FACTOR
32.5 MW	1340	0.30	16.575	0.0012	9190
OIL FIRING	1343	0.30	16.525	0.0012	
	1346	0.30	16.525	0.0012	
	1349	0.25	16.525	0.0010	
	1352	0.25	16.525	0.0010	
	1355	0.20	16.525	0.0008	
	1358	0.20	16.525	0.0008	
	1401	0.15	16.500	0.0006	
	1404	0.20	16.500	0.0008	
	1407	0.20	16.500	0.0008	
	1410	0.20	16.500	0.0008	
	1413	0.20	16.500	0.0008	
	*	--	--	--	
	1422	0.30	16.500	0.0012	
	1425	0.10	16.500	0.0004	
	1428	0.20	16.500	0.0008	
	1431	0.15	16.500	0.0006	
	1434	0.15	16.500	0.0006	
	1437	0.15	16.500	0.0006	
	1440	0.15	16.500	0.0006	
	1443	0.15	16.500	0.0006	
AVERAGES:		0.20	16.508	0.0008	

* Wait for air supply

SOURCE: ACE, Inc., 1989

FPL-LAUDERDALE
UNIT 23
FT. LAUDERDALE, FLORIDA

NOVEMBER 10, 1989

LOAD	TIME	PPM C3H8	% O2	lb C/mmBTU	"F" FACTOR
33.0 MW	1220	.55	16.900	0.0023	8710
NATURAL GAS	1223	.50	16.900	0.0021	
	1226	.55	16.900	0.0023	
	1229	.45	16.900	0.0019	
	1232	.45	16.900	0.0019	
	1235	.45	16.900	0.0019	
	1238	.45	16.900	0.0019	
	1241	.45	16.900	0.0019	
	1244	.45	16.900	0.0019	
	1247	.55	16.900	0.0023	
	1250	.45	16.900	0.0019	
	1253	.45	16.900	0.0019	
	1256	.45	16.900	0.0019	
	1259	.45	16.900	0.0019	
	1302	.45	16.900	0.0019	
	1305	.45	16.900	0.0019	
	1308	.45	16.900	0.0019	
	1311	.45	16.900	0.0019	
	1314	.45	16.900	0.0019	
	1317	.45	16.900	0.0019	
	1320	.45	16.900	0.0019	
AVERAGES:		0.46	16.900	0.0020	

SOURCE: ACE, Inc., 1989

FPL-LAUDERDALE
UNIT 23
FT. LAUDERDALE, FLORIDA

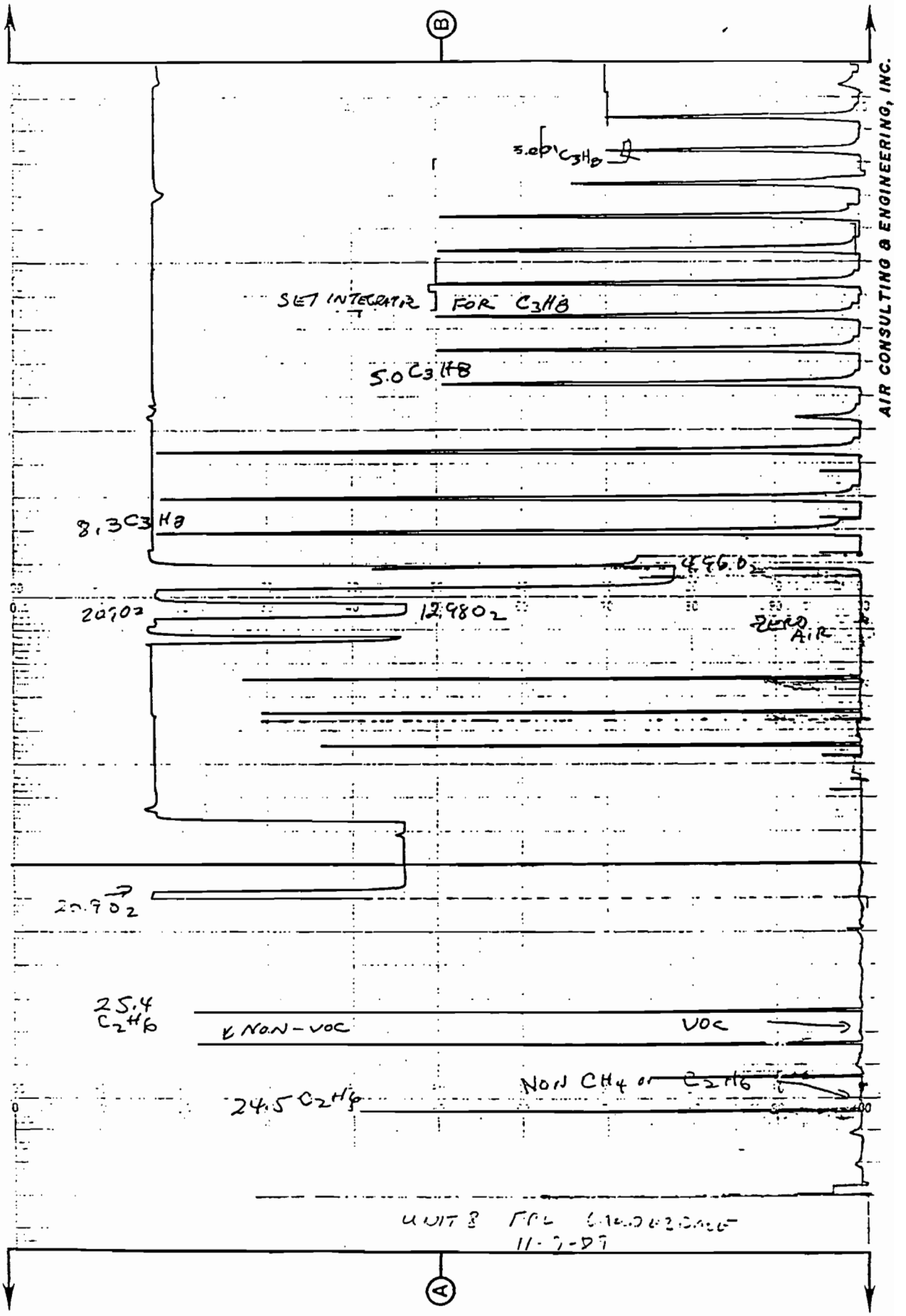
NOVEMBER 10, 1989

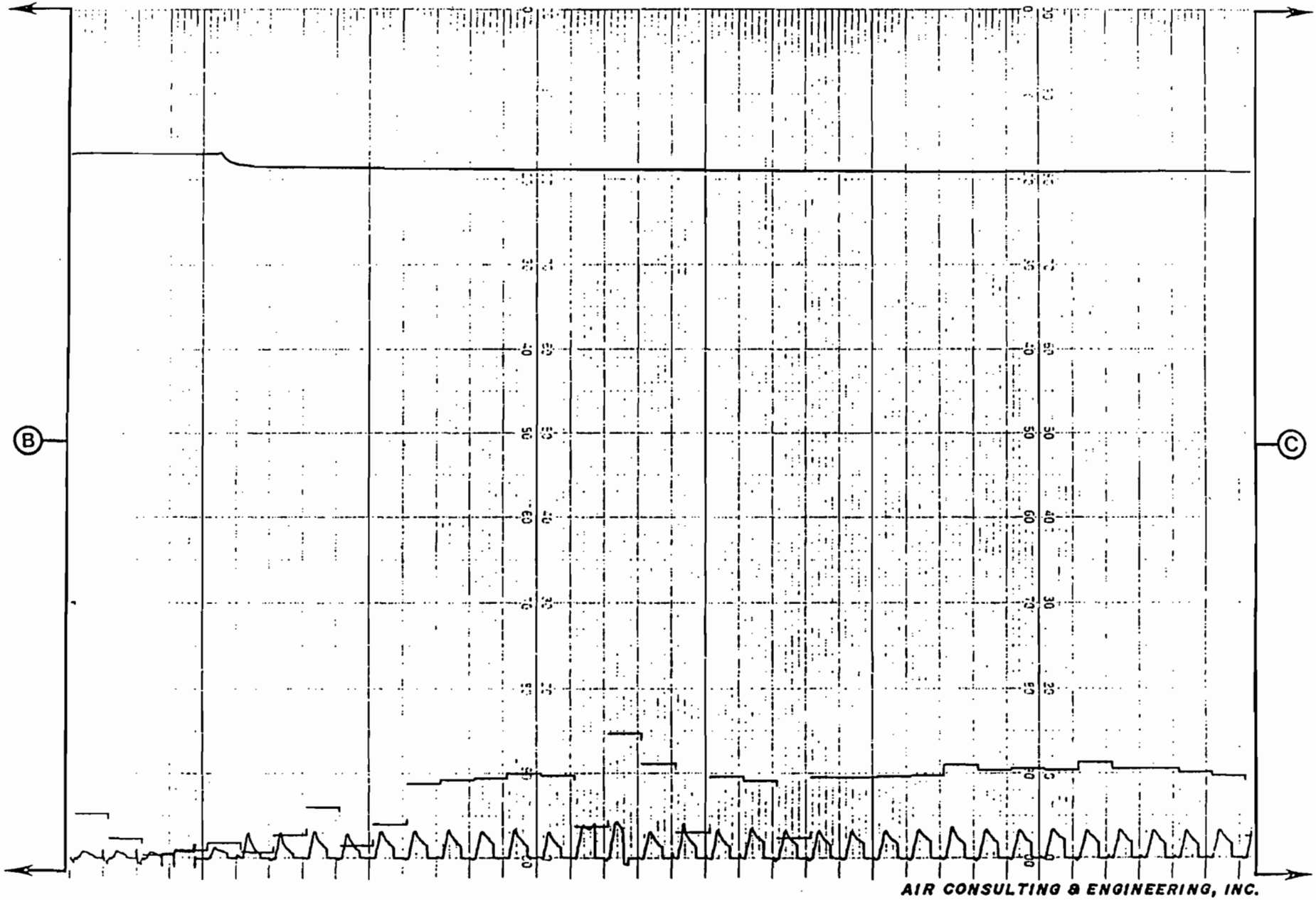
LOAD	TIME	PPM C3H8	% O2	lb C/mmBTU	"F" FACTOR
32.5 MW	1346	0.10	16.750	0.0004	9190
OIL FIRING	1349	0.10	16.750	0.0004	
	1352	0.15	16.750	0.0006	
	1355	0.10	16.750	0.0004	
	1358	0.15	16.750	0.0006	
	1401	0.10	16.750	0.0004	
	1404	0.15	16.750	0.0006	
	1407	0.10	16.750	0.0004	
	1410	0.10	16.750	0.0004	
	1413	0.10	16.750	0.0004	
	1417	0.10	16.750	0.0004	
	1420	0.10	16.750	0.0004	
	1423	0.15	16.750	0.0006	
	1426	0.10	16.750	0.0004	
	1429	0.10	16.750	0.0004	
	1432	0.10	16.750	0.0004	
	1435	0.10	16.750	0.0004	
	1438	0.15	16.750	0.0006	
	1441	0.10	16.750	0.0004	
	1443	0.10	16.750	0.0004	
	1446	0.10	16.750	0.0004	
AVERAGES:		0.11	16.750	0.0005	

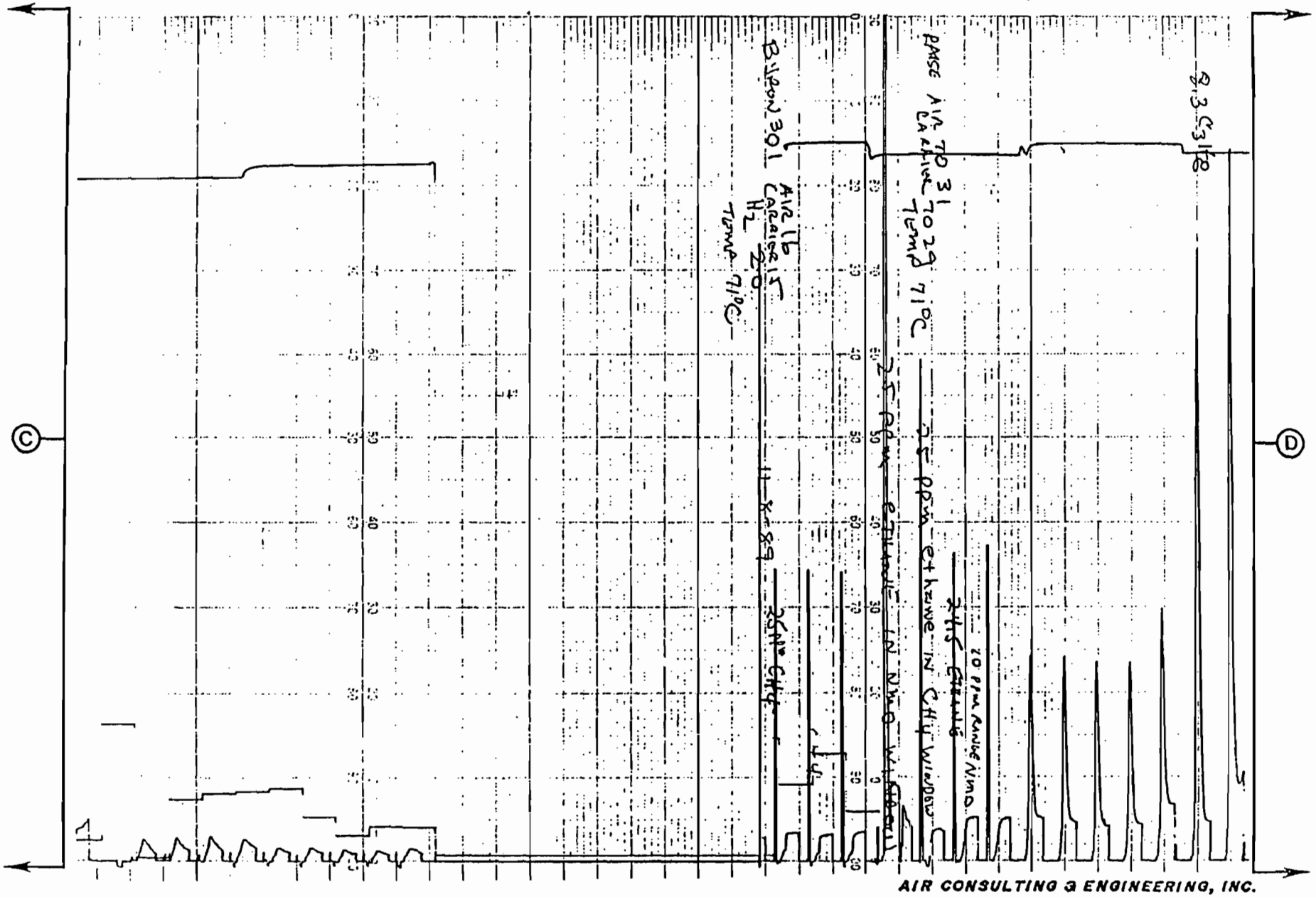
SOURCE: ACE, Inc., 1989

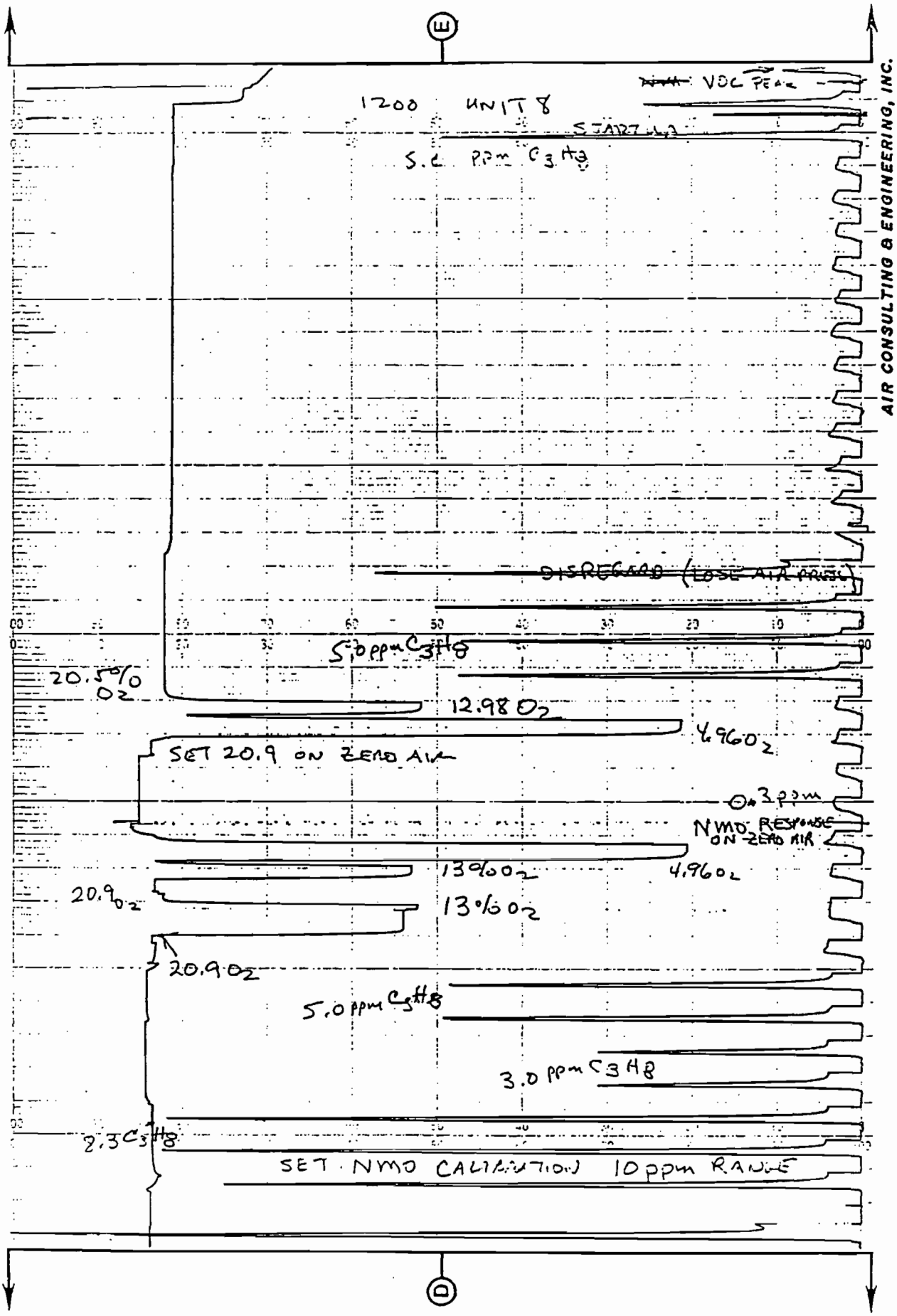
APPENDIX B

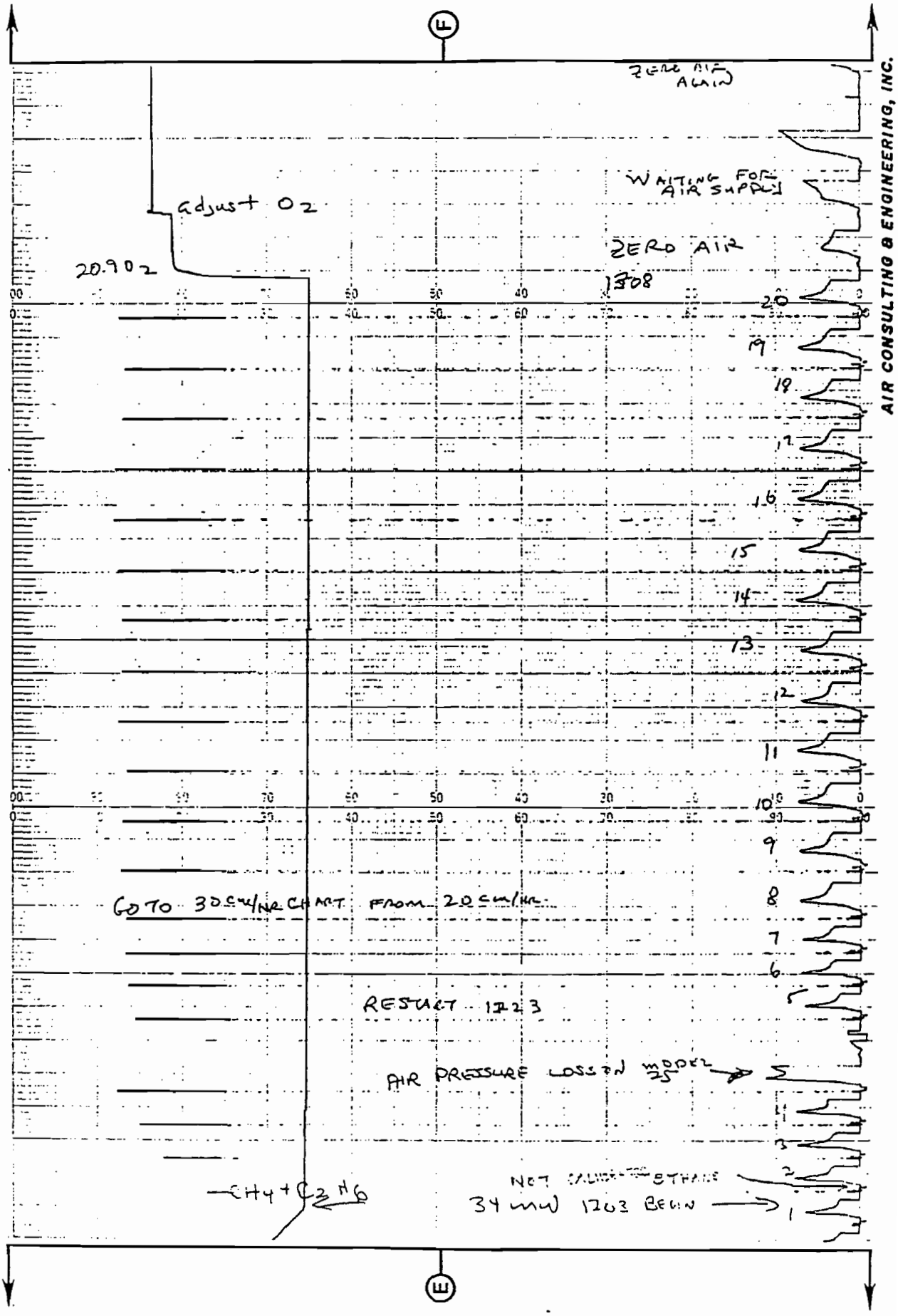
STRIP CHART RECORDS
CALIBRATION GAS CERTIFICATIONS

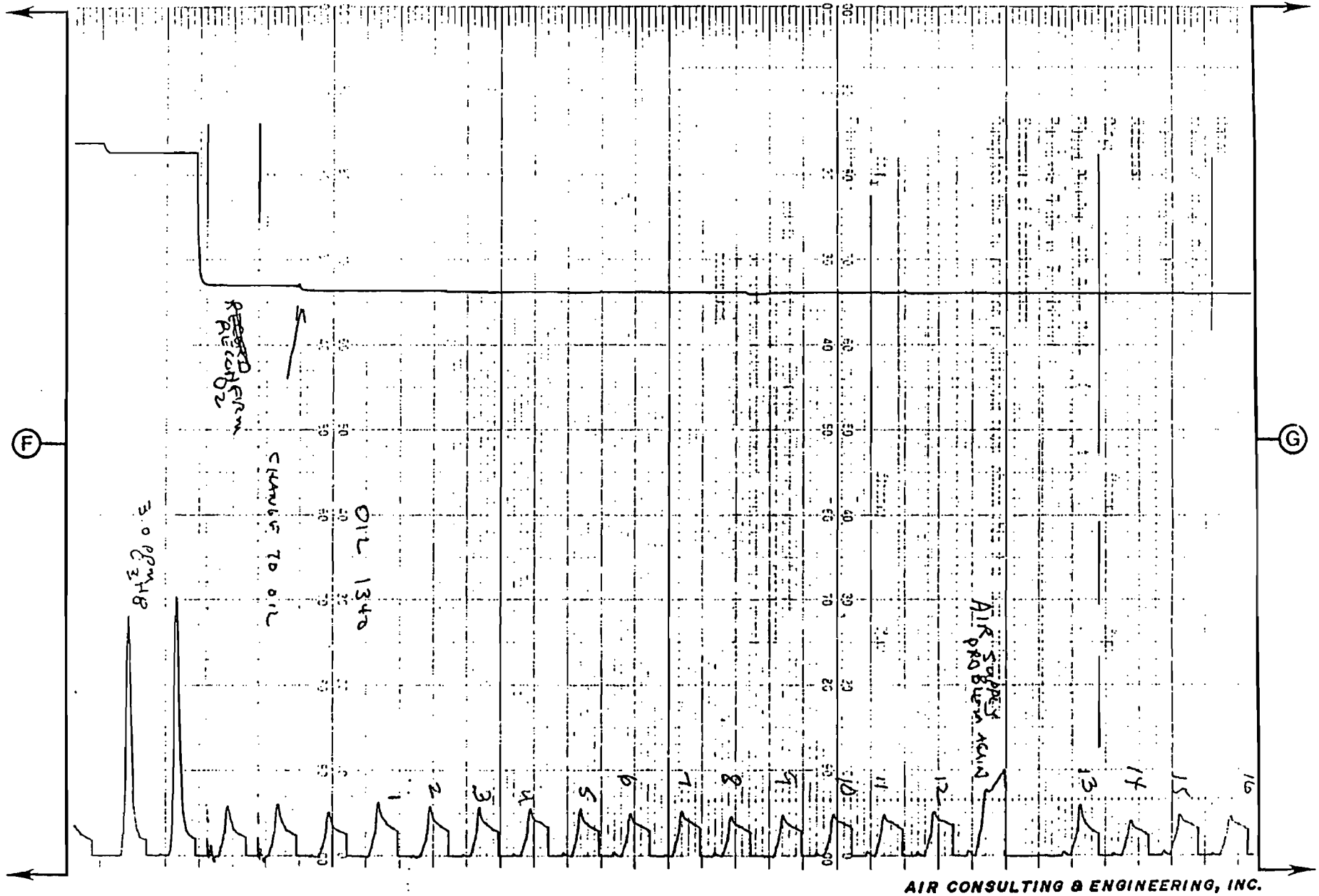




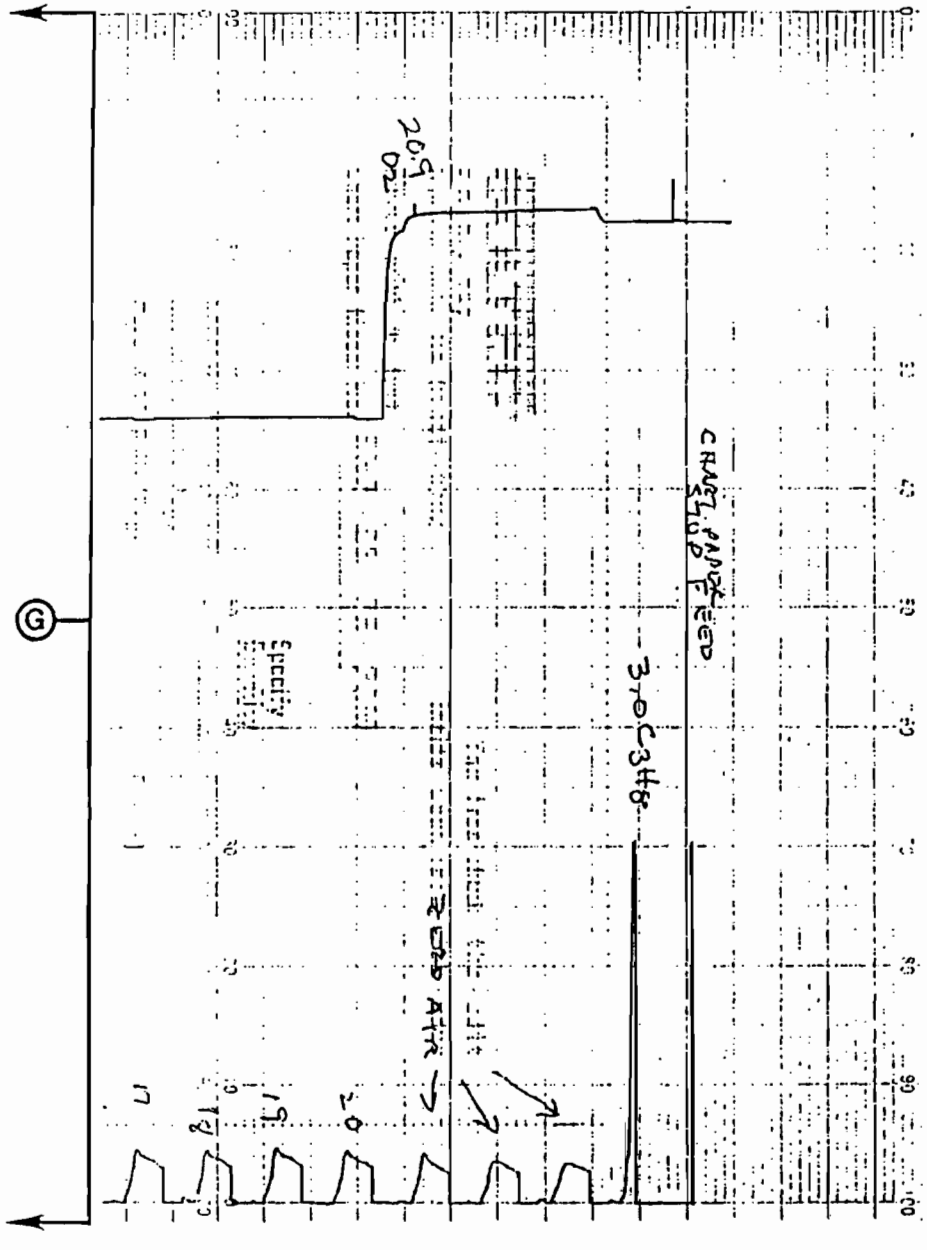


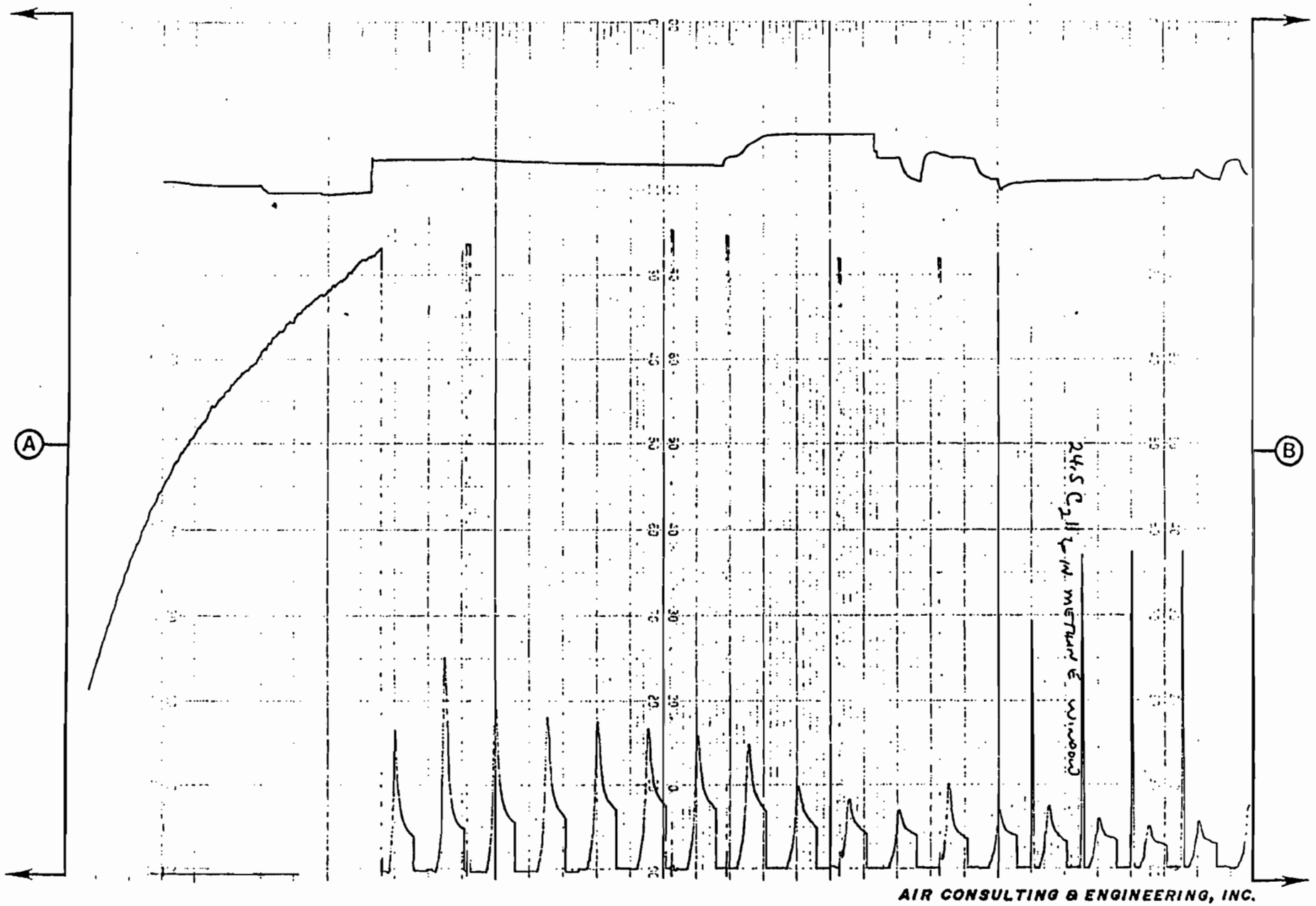


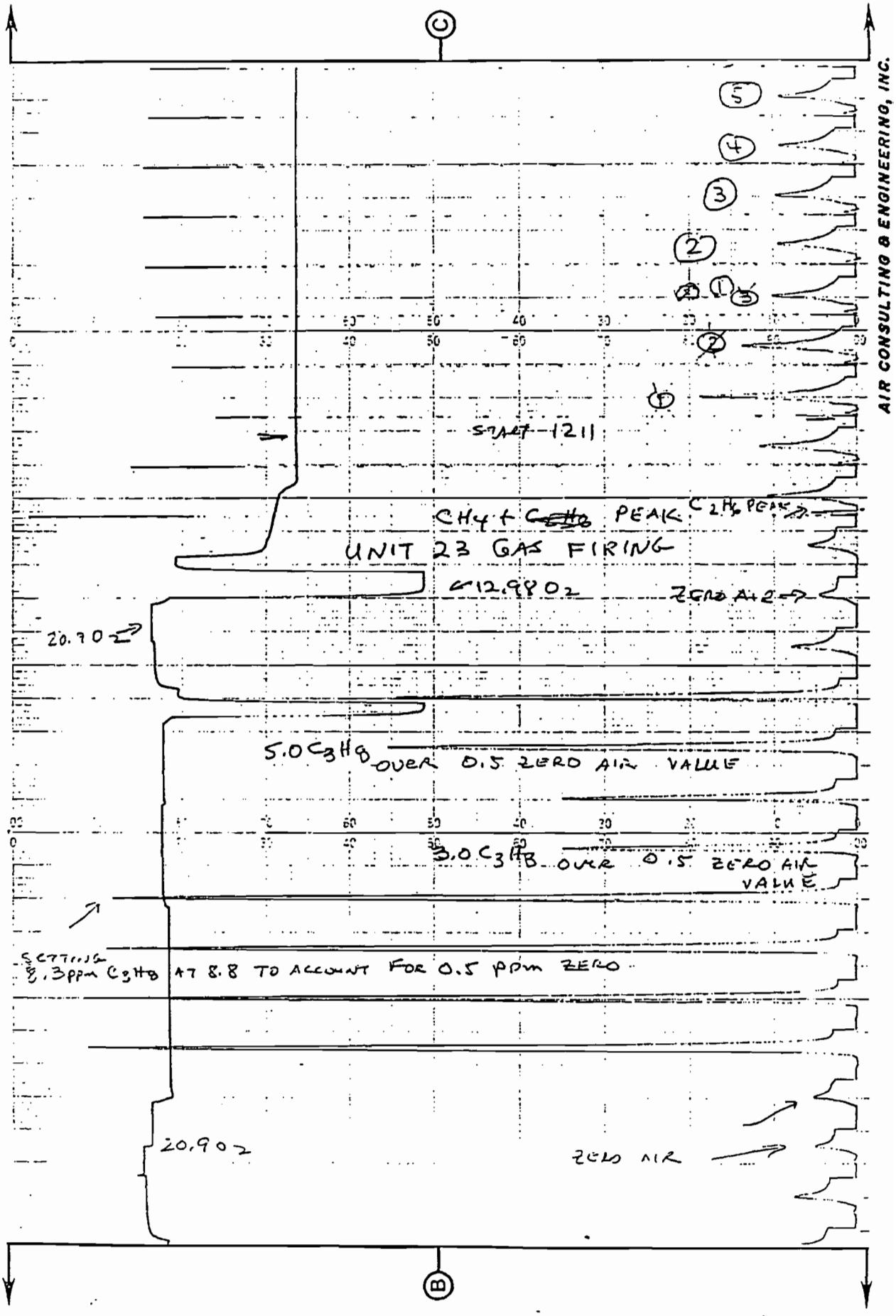




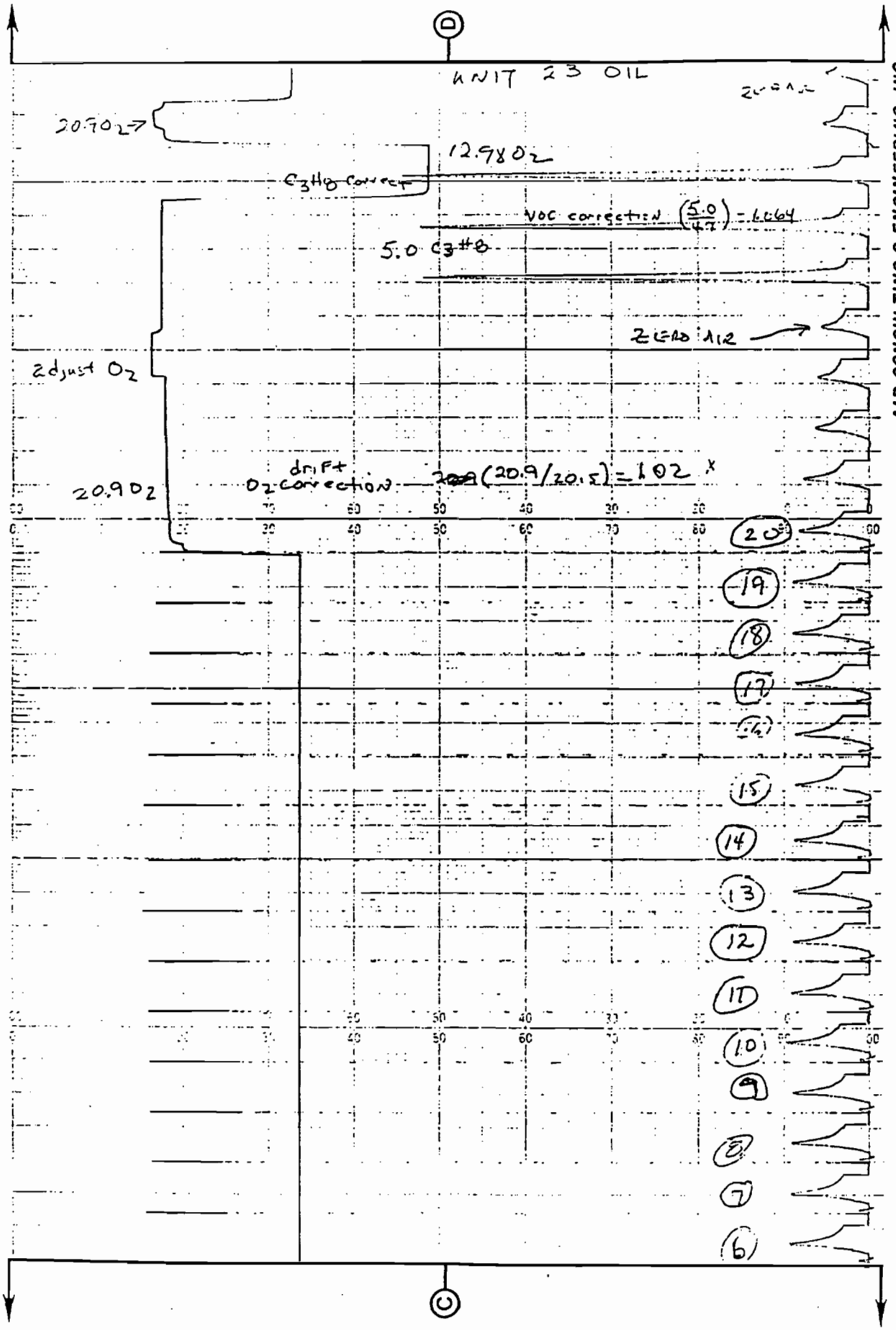
AIR CONSULTING & ENGINEERING, INC.

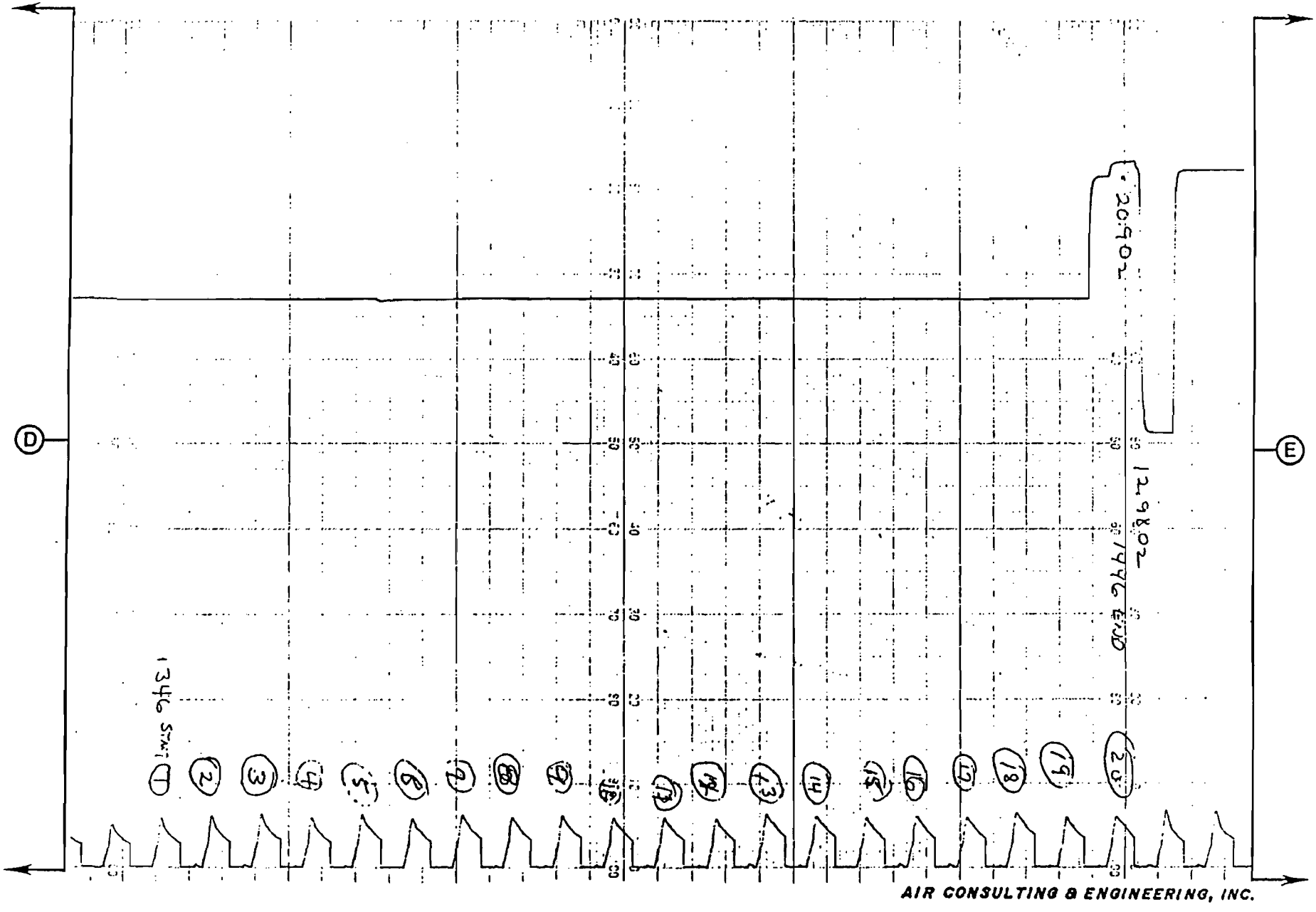






AIR CONSULTING & ENGINEERING, INC.





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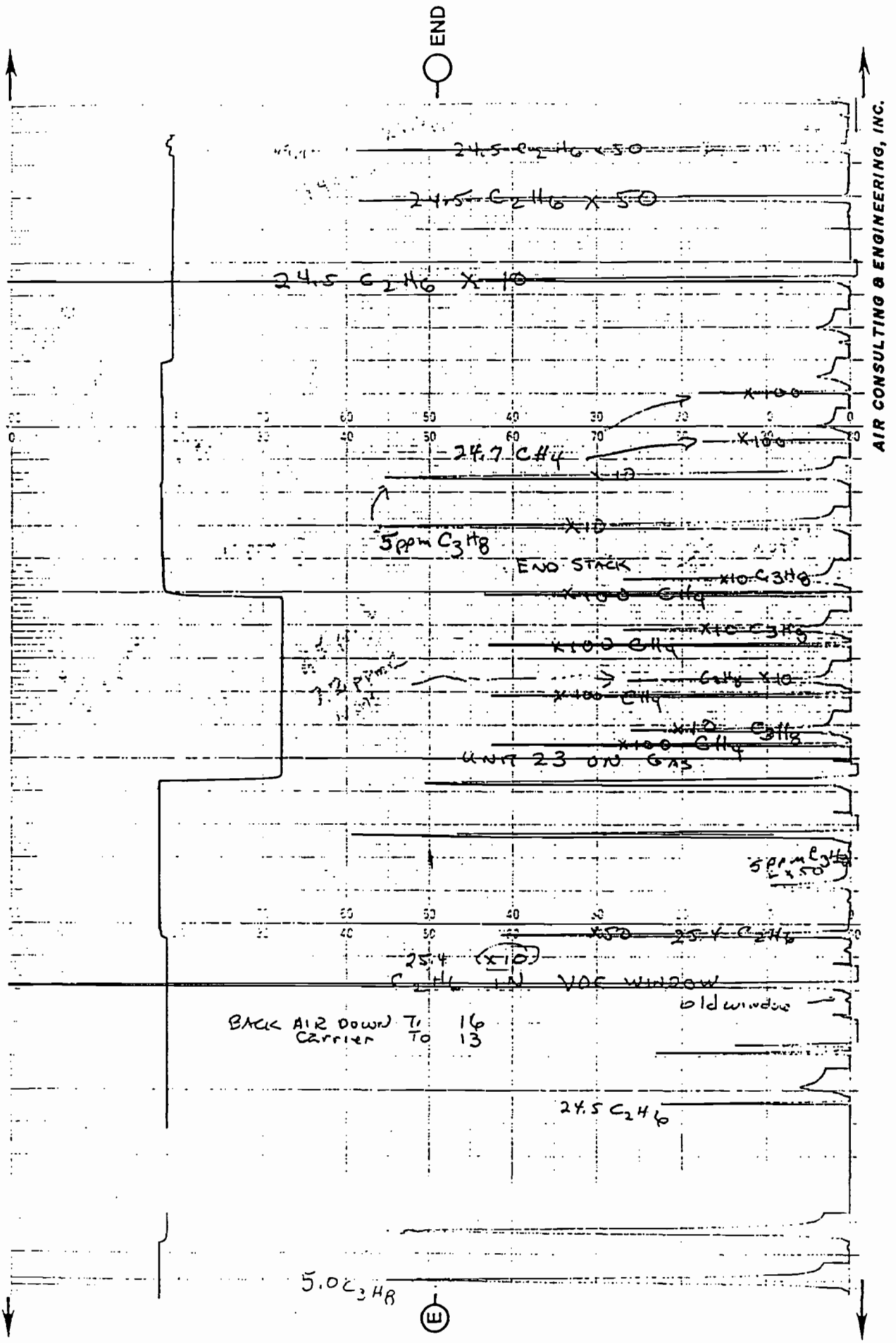

AIR CONSULTING & ENGINEERING, INC.

ANALYTICAL REPORT – cont'd

AIR CONSULTING
ATTN: STEVE NECK

Date: 3/27/87
Our Project No.: 338458
Your P.O. No.: 87102

Cyl. No. AAL-14506	Analytical Accuracy ±1%
Component	Concentration
PROPANE	4.998 PPM
AIR	BALANCE
NBS TRACEABLE	

Cyl. No.	Analytical Accuracy
Component	Concentration

Cyl. No. AAL-11220 L	Analytical Accuracy ±1%
Component	Concentration
PROPANE	3.001 PPM
AIR	BALANCE
NBS TRACEABLE	

Cyl. No.	Analytical Accuracy
Component	Concentration

Cyl. No.	Analytical Accuracy
Component	Concentration

Cyl. No.	Analytical Accuracy
Component	Concentration

Analyst John T. Sanson
JOHN SANSON

Approved By
FRANCIS E. NEVILL

CERTIFIED REFERENCE MATERIALS EPA PROTOCOL GASES
ACUBLEND® CALIBRATION & SPECIALTY GAS MIXTURES PURE GASES
ACCESSORY PRODUCTS CUSTOM ANALYTICAL SERVICES

Scott Specialty Gases
PLUMSTEADVILLE, PA. 18949 PHONE: 215-766-8861 TWX: 510-665-9344

Date Shipped 7/26/88
Our Project No: 4082
Your P.O. No: 88-156
Page 1 of 3

Air Consulting & Engr
Attn Steve Neck
Suite #4
2106E NW 67th Place
Gainsville FL 32606

CERTIFICATE OF ANALYSIS – EPA PROTOCOL GASES*

(Concentrations are in mole % or ppm)

Cylinder Number AAL-17097 Certified Accuracy ± 1 % NBS Traceable Analysis Dates: First 7/22/88 Last NR

CP=2000 psig

COMPONENTS	CERTIFIED CONC	EXPIRATION DATE	ANALYTICAL PRINCIPLE	PRIMARY STANDARD NBS/SRM's	REPLICATE CONCENTRATIONS FIRST	SECOND
Propane	8.30 ppm	1/22/90	F. I. D.	1665/1666	8.301 ppm	-
Air	Balance				8.291 ppm	-
					8.312 ppm	-

Cylinder Number AAL-4045 Certified Accuracy ± 1 % NBS Traceable Analysis Dates: First 7/5/88 Last NR

CP=2000 psig

COMPONENTS	CERTIFIED CONC	EXPIRATION DATE	ANALYTICAL PRINCIPLE	PRIMARY STANDARD NBS/SRM's	REPLICATE CONCENTRATIONS FIRST	SECOND
Propane	29.8 ppm	1/5/90	F. I. D.	1667	29.72 ppm	-
Air	Balance				29.82 ppm	-
					29.85 ppm	-

*We hereby certify the cylinder gas has been analyzed according to EPA Protocol No: 1-Procedure G-1

Analyst Tom Sassaman Approved By Mark S. Sirinides

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

FDER AIR PERMITS

Florida Department of Environmental Regulation

Southeast District • 1900 S. Congress Ave., Suite A • West Palm Beach, Florida 33406 • 407-964-9668

Bob Martinez, Governor Dale Twachtmann, Secretary [illegible] Assistant Secretary [illegible] Assistant Secretary

NOTICE OF PERMIT

Broward County
AP - Florida Power & Light Co. -
Lauderdale Unit 4

Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light
P. O. Box 14000
Juno Beach, FL 33408

Dear Mr. Fair:

Enclosed is Permit Number AO 06-146594 to operate an air pollution source issued pursuant to Section 403.087, Florida Statutes.

Persons whose substantial interests are affected by this permit have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on it. The petition must conform to the requirements of Chapters 17-103 and 28-5.201, FAC, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, FL 32399-2400, within fourteen (14) days of receipt of this notice. Failure to file a petition within the fourteen (14) days constitutes a waiver of any right such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes. This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with this paragraph 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 17-103.070, FAC. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) 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 Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, FL 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 Final Order is filed with the Clerk of the Department.

Executed in West Palm Beach, Florida

STATE OF FLORIDA
DEPARTMENT OF REGULATION

Stephanie S. Brooks

Stephanie S. Brooks
Engineer
Air Permitting
1900 South Congress Ave., Suite A
West Palm Beach, FL 33406
407/964-9668

SB:s/272

Copies furnished to:
Broward County Environmental Quality Control Board

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on AUG 0 [illegible] 1988 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to §120.52(10), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

[signature] AUG 0 3 1988

Clerk Date

Florida Department of Environmental Regulation

Southeast District ● 1900 S. Congress Ave., Suite A ● West Palm Beach, Florida 33406 ● 407-964-9668

Bob Martinez, Governor | Dale Twachtmann, Secretary | John Shearer, Assistant Secretary | Scott Benson, Deputy Assistant Secretary

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light
P. O. Box 14000
Juno Beach, FL 33408

I.D. NUMBER: 50/BRQ/06/0037/01
PERMIT/CERTIFICATION NUMBER: AO 06-146594 *
DATE OF ISSUE: AUG 05 1993
EXPIRATION DATE: May 15, 1993
COUNTY: Broward
LATITUDE/LONGITUDE: 26°04'06"N/80°12'00"W
UTM: Zone 17; 600.0 Km. E; 2883.2 Km. N
PROJECT: Florida Power & Light Co.
Lauderdale Unit 4

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule 17-2, and in conformance with all existing regulations of the Florida Department of Environmental Regulation. 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:

OPERATE: An air pollution source consisting of a 161 MW (gross capacity) steam generating unit (#4) burning a variable combination of natural gas, used oil fuel from FP & L operations, and No. 6 fuel oil with a maximum heat input rate of 1725 million BTU/hr., discharging pollutants through a stack 151 feet above ground level.

IN ACCORDANCE WITH: Application for Renewal of Permit to Operate Air Pollution Sources dated March 10, 1988, and Application to Operate Air Pollution Sources received September 23, 1977 (none are attached).

LOCATED AT: Griffin Road, Dania, Broward County, Florida.

TO SERVE: An electric service utility facility (SIC # 4911)

SUBJECT TO: General Conditions 1-15 and Specific Conditions 1-10.

* This permit is a renewal of AO 06-60682 issued May 26, 1983, and a modification of AO 06-146594 issued May 31, 1988.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/01
PERMIT/CERTIFICATION NUMBER: AO 06-146594 *
DATE OF ISSUE: [illegible]
EXPIRATION DATE: May 15, 1993

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit, and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in the permit, the permittee shall immediately notify and provide the Department with the following information:

   a. a description of 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 noncompliance.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/01
PERMIT/CERTIFICATION NUMBER: AO 06-146594 *
DATE OF ISSUE: AUG [illegible]
EXPIRATION DATE: May 15, 1993

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/01
PERMIT/CERTIFICATION NUMBER: AO 06-146594 *
DATE OF ISSUE: AUG 05 1988
EXPIRATION DATE: ~~May 15, 1993~~

SPECIFIC CONDITIONS:

1. Compliance testing shall be conducted for the sources covered by this permit once each federal fiscal year in accordance with the methods specified below.

2. Emission limiting standards are as follows:

In accordance with Florida Administrative Code Rules 17-2.600(5)(b) and 17-2.250(3):

- SO_2 emissions shall not exceed 1.1 pounds per million BTU heat input.

- For steady state operations
  Visible emissions shall not exceed 20% opacity.
  Particulate emissions shall not exceed 0.1 pounds per million BTU heat input.

- For soot blowing and load changes

  Visible emissions shall not exceed 60% opacity during the 3 hour period of excess emissions allowed for soot blowing and load changes.

  Particulate emissions shall not exceed an average of 0.3 pounds per million BTU heat input during the three hour period of excess emissions allowed for soot blowing and load changes.

3. The compliance test report shall include results of tests by the following method:

Source/Emission Point	Pollutant	Test Method
Unit No. 4	Particulate (Steady State & Soot Blowing)	EPA Method 17 * or EPA Method 5
	Visible Emissions (Steady State & Soot Blowing)	DER Method 9
	SO_2	**

* EPA Method 17 may be used only if the stack temperature is less than 375°F.

** Stack testing for SO_2 is required if the equivalent sulfur content of the fuel exceeds 2.5% . Sulfur content shall be verified by submittal of monthly fuel analyses reports on a quarterly basis.

4. Emissions compliance testing should be conducted with the source firing No. 6 fuel oil and/or natural gas and operating within ten percent (10%) of its rated capacity; provided, however, that such testing may be conducted with the source operating at less than ninety percent (90%) of its rated capacity, in which case the source may subsequently be operated at any capacity up to one hundred ten percent (110%) of the average load at which compliance was demonstrated, and at higher capacities for up to fifteen days for purposes of additional compliance testing. A particulate test to show compliance must be conducted within sixty (60) days of the monthly fuel analysis if the equivalent sulfur content of the fuel burned (fuel oil and/or natural gas)is increased by 0.5 percentage points or more from that used during the previous test.

5. The Department shall be notified of expected test dates at least fifteen (15) days prior to compliance testing.

6. On or before March 1 of each calendar year, a completed DER Form 17-1.202(6), Annual Operations Report Form for Air Emissions Sources shall be submitted to the Department.

7. Copies of all reports, tests, notifications or other submittals required by this permit shall be submitted to both the Department of Environmental Regulation, Southeast District Office and Broward County Environmental Quality Control Board.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/01
PERMIT/CERTIFICATION NUMBER: AO 06-146594 *
DATE OF ISSUE: AUG 05 1988
EXPIRATION DATE: ~~May 15, 1993~~

SPECIFIC CONDITIONS CONT.:

see cont. letter of 7/15/88 NO CEM

8. In addition to the requirements of General Condition 8 of this permit, a written quarterly report shall be submitted to the Department of all opacity exceedances of emission limitations specified in Florida Administrative Code Rules 17-2.250(1) through (4) and 17-2.600(5)(b)1. The report shall state the cause, period of noncompliance, and steps taken for corrective action and/or prevention of recurrence. If the opacity level cannot be determined due to an opacity monitor malfunction or for any other reason, the report shall state the cause, duration and action taken - all recorded data shall be maintained on file by Florida Power & Light for no less than two years and made available to the Department upon request.

9. All present and future variance orders or rule changes which are applicable to this source take precedence over any affected condition of this permit.

10. Burning of used oil meeting EPA specifications (40 CFR S266.40) and generated from FPL operations shall be permitted under the following conditions:

(a) Each Batch of used oil to be burned shall be sampled and analyzed for: Arsenic, Chromium, Cadmium, total Halogens, and Lead using EPA/DER or ASTM approved methods. Split samples of the used oil shall be retained for three (3) months after analysis for further testing if necessary.

(b) Results of used oil sampling and analysis performed pursuant to Specific Condition 10(a) shall be retained by permittee for at least three (3) years and made available for inspection by DER upon request.

(c) An estimate of the total quantity of used oil burned during the applicable calender year shall be included in the Annual Operations Report (AOR) for Air Emissions Sources. The permittee will submit with the AOR a summary of the range of values for each constituent analyzed pursuant to Specific Condition 10(a).

Issued this 5th day of August, 1988

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Donald B. White, P.E.
for J. Scott Benyon
District Manager

DER Form 17-1.201(5)
Effective November 30, 1982

P. O. BOX 14000, JUNO BEACH, FL 33408-0420

FPL

June 27, 1988

Ms. Stephanie Brooks
State of Florida
Department of Environmental Regulation
Southeast District
1900 South Congress Avenue, Suite A
West Palm Beach, Florida 33406

RE: **Lauderdale Plant, Unit No. 5**
DER Air Operating Permit No. AO-06-143213
Specific Condition No. 4 - Emissions Compliance Testing

Dear Ms. Brooks:

As we discussed by phone on Friday, May 27, 1988 and today, this letter is written in confirmation of the Department's agreement to allow emissions compliance testing of the above-captioned unit while firing a combination of fuel oil and natural gas with an equivalent sulfur content of one percent. All other testing conditions remain as written.

I am attaching a copy of this letter to our copy of the permit in question and hereby request that you attach this letter to your file copy so we have consistent records. This will prevent potential confusion.

If you have any questions, please call me at (407) 694-3648.

Sincerely,

FOR Elsa A. Bishop
Environmental Coordinator

EAB:jm

Enclosure

cc: Broward County Environmental Quality Control Board

bcc: R. A. Acosta - PPE
R. N. Allen - JEN
P. C. Cunningham - HBG&S
M. J. Martin - JEN
R. F. Messer - PRS/GO
W. M. Reichel - PRS/GO
H. M. Rosen - JEN
H. E. Sanders - PFL

P. O. BOX 14000, JUNO BEACH, FL 33408-0420

FPL

August 15, 1988

Ms. Stephanie Brooks
State of Florida
Department of Environmental Regulation
Southeast District
1900 South Congress Avenue, Suite A
West Palm Beach, Florida 33406

RE: **Lauderdale Plant, Unit No. 4**
DER Air Operating Permit No. AO-06-146594

Dear Ms. Brooks:

As we discussed by phone, this is confirmation that we will accept the above captioned permit. As we also discussed, this also clarifies that this unit is not equipped with a transmissometer. Thus, the reference to such in Specific Condition 8 of the permit does not apply to this unit.

I am attaching a copy of this letter to our copy of the permit in question and hereby request that you attach this letter to your file copy so we have consistent records. This will prevent potential confusion.

If you have any questions, please call me at 694-3648.

Sincerely,

Elsa A. Bishop

Elsa A. Bishop
Environmental Coordinator

EAB:jm

cc: Broward County Environmental Quality Control Board

bcc: R. A. Acosta - PPE
R. N. Allen - JEN
P. C. Cunningham - HBG&S
M. J. Martin - JEN
R. F. Messer - PRS/GO
W. M. Reichel - PRS/GO
H. E. Sanders - PFL
Control Document

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHEAST FLORIDA DISTRICT
1900 SOUTH CONGRESS AVENUE, SUITE A
WEST PALM BEACH, FLORIDA 33406
(305) 964-9668

NOTICE OF PERMIT

Broward County
AP - Florida Power & Light -
Lauderdale Unit 5

Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light
P. O. Box 14000
Juno Beach, FL 33408

Dear Mr. Fair:

Enclosed is Permit Number AO 06-143213 to operate an air pollution source issued pursuant to Section 403.087, Florida Statutes.

When the Order (Permit) 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 Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, FL 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 Final Order is filed with the Clerk of the Department.

Executed in West Palm Beach, Florida

STATE OF FLORIDA
DEPARTMENT OF REGULATION

Stephanie S. Brooks

Stephanie S. Brooks
Engineer
Air Permitting
1900 South Congress Ave., Suite A
West Palm Beach, FL 33406
305/964-9668

SB:s/262

Copies furnished to:

Broward County Environmental Quality Control Board

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on MAY 1 1989 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to §120.52(10), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Mary A. Smith Clerk

MAY - 1 1989 Date

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHEAST FLORIDA DISTRICT
900 SOUTH CONGRESS AVENUE, SUITE A
WEST PALM BEACH, FLORIDA 33406
(305) 964-9668

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light
P. O. Box 14000
Juno Beach, FL 33408

I.D. NUMBER: 50/BRO/06/0037/02
PERMIT/CERTIFICATION NUMBER: AO 06-143213 *
DATE OF ISSUE: MAY [illegible] 1990
EXPIRATION DATE: February 15, 1993
COUNTY: Broward
LATITUDE/LONGITUDE: 26°04'06"N/80°12'00"W
UTM: Zone 17; 600.0 Km. E; 2883.2 Km. N
PROJECT: Florida Power & Light
Lauderdale Unit 5

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule 17-2, and in conformance with all existing regulations of the Florida Department of Environmental Regulation. 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:

OPERATE: An air pollution source consisting of a 161 Megawatt (gross capacity) steam generating unit (#5) burning a variable combination of natural gas, used oil fuel from FP & L operations, and No. 6 fuel oil with a maximum heat input rate of 1725 million BTU/hr , discharging pollutants through a stack 151 feet above ground level.

IN ACCORDANCE WITH: Application for Renewal dated December 14, 1987, and Application to Operate Air Pollution Source dated October 7, 1977, (none are attached).

LOCATED AT: Griffin Road, Dania, Broward County, Florida.

TO SERVE: An electric service utility facility. (SIC # 4911)

SUBJECT TO: General Conditions 1-15 and Specific Conditions 1-10.

* This permit is a renewal of AO 06-60860 issued February 24, 1983, and a modification of AO 06-143213 issued March 9, 1988.

DER Form 17-1.201(5)
Effective November 30, 1982

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/02
PERMIT/CERTIFICATION NUMBER: AO 06-143213
DATE OF ISSUE:
EXPIRATION DATE: February 15, 1993

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit, and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in the permit, the permittee shall immediately notify and provide the Department with the following information:

   a. a description of 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 noncompliance.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/02
PERMIT/CERTIFICATION NUMBER: AO 06-143213
DATE OF ISSUE: [illegible]
EXPIRATION DATE: February 15, 1993

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/02
PERMIT/CERTIFICATION NUMBER: AO 06-143213
DATE OF ISSUE: MAY [illegible] 93
EXPIRATION DATE: February 15, 1993

SPECIFIC CONDITIONS:

1. Compliance testing shall be conducted for the sources covered by this permit once each federal fiscal year in accordance with the methods specified below.

2. Emission limiting standards are as follows:

In accordance with Florida Administrative Code Rule 17-2.250(3) and 17-2.600(5)(b):

- SO_2 emissions shall not exceed 1.1 pounds per million BTU heat input.

- For steady state operations
  Visible emissions shall not exceed 20% opacity.
  Particulate emissions shall not exceed 0.1 pounds per million BTU heat input.

- For soot blowing and load changes

  Visible emissions shall not exceed 60% opacity during the 3 hour period of excess emissions allowed for soot blowing and load changes.

  Particulate emissions shall not exceed an average of 0.3 pounds per million BTU heat input during the three hour period of excess emissions allowed for soot blowing and load changes.

3. The compliance test report shall include results of tests by the following method:

Source/Emission Point	Pollutant	Test Method
Unit No. 5	Particulate (Steady State & Soot Blowing)	EPA Method 17 * or EPA Method 5
	Visible Emissions (Steady State & Soot Blowing)	DER Method 9
	SO_2	**

* EPA Method 17 may be used only if the stack temperature is less than 375°F.

** Stack testing for SO_2 is required if the equivalent sulfur content of the fuel exceeds 2.5% . Sulfur content shall be verified by submittal of monthly fuel analyses reports on a quarterly basis. The compliance test report shall be submitted to the Department in accordance with FAC Rule 17-2.700(7).

4. Emissions compliance testing should be conducted with the source firing No. 6 fuel oil and operating within ten percent (10%) of its rated capacity; provided, however, that such testing may be conducted with the source operating at less than ninety percent (90%) of its rated capacity, in which case the source may subsequently be operated at any capacity up to one hundred ten percent (110%) of the average load at which compliance was demonstrated, and at higher capacities for up to fifteen days for purposes of additional compliance testing. A particulate test to show compliance must be conducted within sixty (60) days of the monthly fuel analysis if the equivalent sulfur content of the fuel burned (fuel oil and / or natural gas) is increased by 0.5 percentage points or more from that used during the previous test.

5. The Department shall be notified of expected test dates at least fifteen (15) days prior to compliance testing.

6. On or before March 1 of each calendar year, a completed DER Form 17-1.202(6), Annual Operations Report Form for Air Emissions Sources shall be submitted to the Department. Show formulas with input and output data.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/02
PERMIT/CERTIFICATION NUMBER: AO 06-143213
DATE OF ISSUE:
EXPIRATION DATE: February 15, 1993

SPECIFIC CONDITIONS:

7. Copies of all reports, tests, notifications or other submittals required by this permit shall be submitted to both the Department of Environmental Regulation, Southeast District Office and Broward County Environmental Quality Control Board.

8. In addition to the requirements of General Condition 8 of this permit, a written quarterly report shall be submitted to the Department of all opacity exceedances of emission limitations specified in Florida Administrative Code Rules 17-2.250(1) through (4) and 17-2.600(5)(b)1. The report shall state the cause, period of noncompliance, and steps taken for corrective action and/or prevention of recurrence. If the opacity level cannot be determined due to an opacity monitor malfunction or for any other reason, the report shall state the cause, duration and action taken - all recorded data shall be maintained on file by Florida Power & Light for no less than two years and made available to the Department upon request.

9. All present and future variance orders or rule changes which are applicable to this source take precedence over any affected condition of this permit.

10. Burning of used oil meeting EPA specifications (40 CFR S266.40) and generated from FPL operations shall be permitted under the following conditions:

(a) Each batch of used oil to be burned shall be sampled and analyzed for: Arsenic, Chromium, Cadmium, total Halogens, and Lead using EPA/DER or ASTM approved methods. Split samples of the used oil shall be retained for three (3) months after analysis for further testing if necessary.

(b) Results of used oil sampling and analysis performed pursuant to Specific Condition 10 (a) shall be retained by permittee for at least three (3) years and made available for inspection by DER upon request.

(c) An estimate of the total quantity of used oil burned during the applicable calender year shall be included in the Annual Operation Report (AOR) for Air Emissions Sources. The permittee will submit with the AOR a summary of the range of values for each constituent analyzed pursuant to Specific Condition 10(a).

Issued this 9th day of May, 1988

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

J. Scott Benyon
District Manager

R Form 17-1.201(5)
Effective November 30, 1982

P. O. BOX 14000, JUNO BEACH, FL 33408-0420

FPL

May 16, 1988

Ms. Stephanie Brooks
State of Florida
Department of Environmental Regulation
Southeast District
1900 South Congress Avenue, Suite A
West Palm Beach, Florida 33406

RE: **Lauderdale Plant, Unit No. 5**
DER Air Operating Permit No. AO-06-143213

Dear Ms. Brooks:

As we discussed by phone, this is confirmation that we will accept the above captioned permit. As we also discussed, this also clarifies that this unit is not equipped with a transmissometer. Thus, the reference to such in Specific Condition 8 of the permit does not apply to this unit.

I am attaching a copy of this letter to our copy of the permit in question and hereby request that you attach this letter to your file copy so we have consistent records. This will prevent potential confusion.

If you have any questions, please call me at 694-3648.

Sincerely,

Elsa A. Bishop
Environmental Coordinator

EAB:jm

cc: Broward County Environmental Quality Control Board

bcc: R. A. Acosta - PPE
R. N. Allen - JEN
P. C. Cunningham - HBG&S
M. J. Martin - JEN
R. F. Messer - PRS/GO
W. M. Reichel - PRS/GO
H. E. Sanders - PFL
Control Document

P. O. BOX 14000, JUNO BEACH, FL 33408-0420

FPL

June 27, 1988

Ms. Stephanie Brooks
State of Florida
Department of Environmental Regulation
Southeast District
1900 South Congress Avenue, Suite A
West Palm Beach, Florida 33406

RE: **Lauderdale Plant, Unit No. 5**
DER Air Operating Permit No. AO-06-143213
Specific Condition No. 4 - Emissions Compliance Testing

Dear Ms. Brooks:

As we discussed by phone on Friday, May 27, 1988 and today, this letter is written in confirmation of the Department's agreement to allow emissions compliance testing of the above-captioned unit while firing a combination of fuel oil and natural gas with an equivalent sulfur content of one percent. All other testing conditions remain as written.

I am attaching a copy of this letter to our copy of the permit in question and hereby request that you attach this letter to your file copy so we have consistent records. This will prevent potential confusion.

If you have any questions, please call me at (407) 694-3648.

Sincerely,

FOR Elsa A. Bishop
Environmental Coordinator

EAB:jm

Enclosure

cc: Broward County Environmental Quality Control Board

bcc: R. A. Acosta - PPE
R. N. Allen - JEN
P. C. Cunningham - HBG&S
M. J. Martin - JEN
R. F. Messer - PRS/GO
W. M. Reichel - PRS/GO
H. M. Rosen - JEN
H. E. Sanders - PFL

Florida Department of Environmental Regulation
Southeast District • 1900 S. Congress Ave., Suite A • West Palm Beach, Florida 33406 • 407-964-9668
Bob Martinez, Governor Dale Twachtmann, Secretary Ann Shearer, Assistant Secretary Henry Dean, Assistant Secretary

NOTICE OF PERMIT

Broward County
AP - Florida Power & Light Co. -
Lauderdale Gas Turbines Nos. 1-12

Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light
P. O. Box 14000
Juno Beach, FL 33408

Dear Mr. Fair:

Enclosed is Permit Number AO 06-148760 to operate an air pollution source issued pursuant to Section 403.087, Florida Statutes.

Persons whose substantial interests are affected by this permit have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on it. The petition must conform to the requirements of Chapters 17-103 and 28-5.201, FAC, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, FL 32399-2400, within fourteen (14) days of receipt of this notice. Failure to file a petition within the fourteen (14) days constitutes a waiver of any right such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes. This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with this paragraph 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 17-103.070, FAC. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) 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 Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, FL 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 Final Order is filed with the Clerk of the Department.

Executed in West Palm Beach, Florida

STATE OF FLORIDA
DEPARTMENT OF REGULATION

Stephanie S. Brooks
Engineer
Air Permitting
1900 South Congress Ave., Suite A
West Palm Beach, FL 33406
407/964-9668

SB:s/184

Copies furnished to:
Broward County Environmental Quality Control Board

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on AUG [illegible] 1988 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to §120.52(10), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

[illegible] AUG 08 1988
Clerk Date

Florida Department of Environmental Regulation

Southeast District ● 1900 S. Congress Ave., Suite A ● West Palm Beach, Florida 33406 ● 407-964-9668

Bob Martinez, Governor | Dale Twachtmann, Secretary | [illegible] Shearer, Assistant Secretary | [illegible] Benson, Deputy Assistant Secretary

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light
P. O. Box 14000
Juno Beach, FL 33408

I.D. NUMBER: 50/BRO/06/0037/03
PERMIT/CERTIFICATION NUMBER: AO 06-148760 *
DATE OF ISSUE: AUG 0 [illegible] 1988
EXPIRATION DATE: June 30, 1993
COUNTY: Broward
LATITUDE/LONGITUDE: 26°04'16"N/80°11'56"W
UTM: Zone 17; 580.4 Km. E; 2883.5 Km. N
PROJECT: Florida Power & Light Co.
Lauderdale Gas Turbines Nos. 1-12

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule 17-2, and in conformance with all existing regulations of the Florida Department of Environmental Regulation. 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:

OPERATE: An air pollution source consisting of gas turbine Units 1 through 12 with a 486 MW gross capacity burning natural gas and/or No. 2 distillate oil, exhausting through seperate stacks 45 feet above ground level. The heat input rate per unit is 7020 mm BTU/hr.

IN ACCORDANCE WITH: Application for Renewal of Permit to Operate Air Pollution Sources received April 26, 1988 as modified by letter May 9, 1988, Application to Operate Air Pollution Sources dated October 7, 1977 and letter dated June 13, 1983 (none are attached).

LOCATED AT: Griffin Road, Dania, Broward County, Florida.

TO SERVE: An electric service utility facility (SIC # 4911)

SUBJECT TO: General Conditions 1-15 and Specific Conditions 1-5.

* This permit is a renewal of AO 06-62932 issued June 27, 1983.

PERMITTEE:
Mr. D. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/03
PERMIT/CERTIFICATION NUMBER: AO 06-148760 *
DATE OF ISSUE: [illegible]
EXPIRATION DATE: June 30, 1993

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit, and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in the permit, the permittee shall immediately notify and provide the Department with the following information:

   a. a description of 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 noncompliance.

PERMITTEE:
Mr. T. F. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: [illegible]/BRO/06/0037/03
PERMIT/CERTIFICATION NUMBER: [illegible] 06-148760 *
DATE OF ISSUE: [illegible]
EXPIRATION DATE: June 30, 1993

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

PERMITTEE:
W. E. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: [illegible]
PERMIT/CERTIFICATION NUMBER: [illegible] 06-148760 *
DATE OF ISSUE: [illegible]
EXPIRATION DATE: June 30, 1993

SPECIFIC CONDITIONS:

(1) Permitted Fuels:

These sources shall be fired with No. 2 Distillate fuel oil and/or natural gas.

(2) Source Emission Limiting Standards and Compliance Testing Requirements:

POLLUTANT	EMISSION [1] LIMITING STDS.	TESTING FREQUENCY ANNUAL	QUARTERLY	OTHER	TEST [2] METHOD
Visible Emissions	20% Opacity	------	-------	✓ If fuel oil consumption in any unit reaches 23,810 bbls (1,000,000 gal.) in a fiscal year, within that fiscal year*	EPA Method 9

1. - FAC 17-2.610(2)
2. - FAC 17-2.700(1)(d), Table 700-1

* NOTE: Usage may be determined on the basis of proportionate time of operation versus total fuel consumption for the block of 12 units. If fuel consumption testing threshold is achieved in September, then visible emissions testing may be conducted prior to October 31 of the same calendar year.

(3) Compliance Testing Related Requirements:

(a) Notification - FAC 17-2.700(2)(a)5

Notification of scheduled test dates shall be given to the Department Southeast District Office and the Broward County Environmental Quality Control Board at least 15 days prior to testing unless otherwise agreed to by the Department.

(b) Conditions

Testing of emissions should be conducted with the source operating within 10% of its rated capacity. Testing may be conducted at less than 90% of rated capacity; however, if so, subsequent source operation is limited to up to 110% of the test load. Once the unit is so limited, then operation at higher capacities is allowed for purposes of additional compliance testing to regain rated capacity in permit, with prior notification to the Department.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/03
PERMIT/CERTIFICATION NUMBER: 50 06-148760 *
DATE OF ISSUE: AUG [illegible] 1988
EXPIRATION DATE: June 30, 1993

SPECIFIC CONDITIONS:

(c) Report Submittal - FAC 17-2.700(7)

A copy of the test results shall be submitted to the Department Southeast District Office and the Broward County Environmental Quality Control Board, including formulas with input and output data.

(4) Annual Operations Report - FAC 17-4.14:

On or before March 1 of each calendar year, a completed DER Form 17-1.202(6), Annual Operations Report Form for Air Emissions Sources shall be submitted to the Department Southeast District Office and the Broward County Environmental Quality Control Board, including formulas with input and output data.

(5) Excess Emissions - FAC 17-2.250(1):

Excess emissions resulting from start-up, shut-down or malfunction shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) 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.

Issued this 5th day of August, 1988

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Donald B. White, P.E.
for J. Scott Benyon
Deputy Assistant Secretary

BEST AVAILABLE COPY

Florida Department of Environmental Regulation

Southeast District ● 1900 S. Congress Ave., Suite A ● West Palm Beach, Florida 33406 ● 407-964-9668

Bob Martinez, Governor   Dale Twachtmann, Secretary   John Shearer, Assistant Secretary
Deputy Assistant Secretary

NOTICE OF PERMIT

Broward County
AP - Florida Power & Light Co. -
Lauderdale Gas Turbines Nos. 13-24

Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light
P. O. Box 14000
Juno Beach, FL 33408

Dear Mr. Fair:

Enclosed is Permit Number AO 06-148761 to operate an air pollution source issued pursuant to Section 403.087, Florida Statutes.

Persons whose substantial interests are affected by this permit have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on it. The petition must conform to the requirements of Chapters 17-103 and 28-5.201, FAC, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, FL 32399-2400, within fourteen (14) days of receipt of this notice. Failure to file a petition within the fourteen (14) days constitutes a waiver of any right such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes. This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with this paragraph 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 17-103.070, FAC. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) 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 Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, FL 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 Final Order is filed with the Clerk of the Department.

Executed in West Palm Beach, Florida

STATE OF FLORIDA
DEPARTMENT OF REGULATION

Stephanie S. Brooks
Stephanie S. Brooks
Engineer
Air Permitting
1900 South Congress Ave., Suite A
West Palm Beach, FL 33406
407/964-9668

SB:s/184

Copies furnished to:
Broward County Environmental Quality Control Board

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on AUG [illegible] to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to §120.52(10), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

AUG 08 1989
Date

Florida Department of Environmental Regulation

Southeast District ● 1900 S. Congress Ave., Suite A ● West Palm Beach, Florida 33406 ● 407-964-9668

Bob Martinez, Governor | Dale Twachtmann, Secretary | John Shearer, Assistant Secretary | Scott Benson, Deputy Assistant Secretary

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light
P. O. Box 14000
Juno Beach, FL 33408

I.D. NUMBER: 50/BRO/06/0037/04
PERMIT/CERTIFICATION NUMBER: AO 06-148761 *
DATE OF ISSUE: AUG [illegible] 1988
EXPIRATION DATE: June 30, 1993
COUNTY: Broward
LATITUDE/LONGITUDE: 26°04'16"N/80°11'56"W
UTM: Zone 17; 580.4 Km. E; 2884.1 Km. N
PROJECT: Florida Power & Light Co.
Lauderdale Gas Turbines Nos. 13-24

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule 17-2, and in conformance with all existing regulations of the Florida Department of Environmental Regulation. 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:

OPERATE: An air pollution source consisting of gas turbine Units 13 through 24 with a 486 MW gross capacity burning natural gas and/or No. 2 distillate oil, exhausting through seperate stacks 45 feet above ground level. The heat input rate per unit is 702 mm BTU/hr.

IN ACCORDANCE WITH: Application for Renewal of Permit to Operate Air Pollution Sources received April 28, 1988 as modified by letter May 9, 1988, Application to Operate Air Pollution Sources dated March 1, 1978 and letter dated June 13, 1983 (none are attached).

LOCATED AT: Griffin Road, Dania, Broward County, Florida.

TO SERVE: An electric service utility facility (SIC # 4911)

SUBJECT TO: General Conditions 1-15 and Specific Conditions 1-5.

* This permit is a renewal of AO 06-62939 issued June 27, 1983.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/04
PERMIT/CERTIFICATION NUMBER: AO 06-148761 *
DATE OF ISSUE: AUG [illegible]
EXPIRATION DATE: June 30, 1993

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit, and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in the permit, the permittee shall immediately notify and provide the Department with the following information:

   a. a description of 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 noncompliance.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/04
PERMIT/CERTIFICATION NUMBER: AO 06-148761 *
DATE OF ISSUE: AUG [illegible] 1990
EXPIRATION DATE: June 30, 1993

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/04
PERMIT/CERTIFICATION NUMBER: AO 06-148761 *
DATE OF ISSUE: AUG 0 5 1988
EXPIRATION DATE: June 30, 1993

SPECIFIC CONDITIONS:

(1) Permitted Fuels:

These sources shall be fired with No. 2 Distillate fuel Oil and/or natural gas.

(2) Source Emission Limiting Standards and Compliance Testing Requirements:

POLLUTANT	EMISSION [1] LIMITING STDS.	TESTING FREQUENCY			TEST [2] METHOD
		ANNUAL	QUARTERLY	OTHER	
Visible Emissions	20% Opacity	------	-------	✓ If fuel oil consumption in any unit reaches 23,810 bbls (1,000,000 gal.) in a fiscal year, within that fiscal year*	EPA Method 9

1. - FAC 17-2.610(2)
2. - FAC 17-2.700(1)(d), Table 700-1

* NOTE: Usage may be determined on the basis of proportionate time of operation versus total fuel consumption for the block of 12 units. If fuel consumption testing threshold is achieved in September, then visible emissions testing may be conducted prior to October 31 of the same calendar year.

(3) Compliance Testing Related Requirements:

(a) Notification - FAC 17-2.700(2)(a)5

Notification of scheduled test dates shall be given to the Department Southeast District Office and the Broward County Environmental Quality Control Board at least 15 days prior to testing unless otherwise agreed to by the Department.

(b) Conditions

Testing of emissions should be conducted with the source operating within 10% of its rated capacity. Testing may be conducted at less than 90% of rated capacity; however, if so, subsequent source operation is limited to up to 110% of the test load. Once the unit is so limited, then operation at higher capacities is allowed for purposes of additional compliance testing to regain rated capacity in permit, with prior notification to the Department.

PERMITTEE:
Mr. T. R. Fair, Manager
Environmental Permitting & Programs
Florida Power & Light

I.D. NUMBER: 50/BRO/06/0037/04
PERMIT/CERTIFICATION NUMBER: AO 06-148761 *
DATE OF ISSUE: AUG 05 1988
EXPIRATION DATE: June 30, 1993

SPECIFIC CONDITIONS:

(c) Report Submittal - FAC 17-2.700(7)

A copy of the test results shall be submitted to the Department Southeast District Office and the Broward County Environmental Quality Control Board, including formulas with input and output data.

(4) Annual Operations Report - FAC 17-4.14:

On or before March 1 of each calendar year, a completed DER Form 17-1.202(6), Annual Operations Report Form for Air Emissions Sources shall be submitted to the Department Southeast District Office and the Broward County Environmental Quality Control Board, including formulas with input and output data.

(5) Excess Emissions - FAC 17-2.250(1):

Excess emissions resulting from start-up, shut-down or malfunction shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) 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.

Issued this 5th day of August, 1988

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

for Donald B. White, P.E.
J. Scott Benyon
Deputy Assistant Secretary

STATE OF FLORIDA
DEPARTME' ~ OF ENVIRONMENTAL EGULATION

SOUTHEAST FLORIDA DISTRICT
1900 SOUTH CONGRESS AVENUE
WEST PALM BEACH, FLORIDA 33406

APPLICATION FOR RENEWAL OF PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: Fossil Fuel Steam Generator Renewal of DER Permit No. AO- 06-60862

Company Name: Florida Power & Light Company County: Broward

Identify the specific emission point source(s) addressed in this application (i.e., Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired):

Lauderdale Power Plant, Unit No. 4, Oil & Gas Fired 161 MW Gross Capacity

Source Location: Street: Griffin Road off State Rd 7 City: Dania

UTM: East 600.0 Zone 17 North 2883.2

Latitude: 26° 04' 06"N. Longitude: 80° 12' 00"W.

1. Attach a check made payable to the Department of Environmental Regulation in accordan with operation permit fee schedule set forth in Florida Administrative Code Ru 17-4.05. Check # 7206 in the amount of $500.00 is attached.

2. Have there been any alterations to the plant since last permitted? [ ] Yes [x] No If minor alterations have occurred, describe on a separate sheet and attach.

3. Attach the last compliance test report required per permit conditions if not submitt previously. All compliance test reports have been submitted.

4. Have previous permit conditions been adhered to? [x] Yes [ ] No If no, explain on separate sheet and attach.

5. Has there been any malfunction of the pollution control equipment during tenure of cu rent permit? [ ] Yes [ ] No If yes, and not previously reported, give brief detai and what action was taken on a separate sheet and attach. Not Applicable

6. Has the pollution control equipment been maintained to preserve the collection eff ciency last permitted by the Department? [ ] Yes [ ] No Not Applicable

7. Has the annual operating report for the last calendar year been submitted? [X] Y [ ] No If no, please attach.

NOTE: Capacity, fuel consumption and heat input data have been adjusted to correlate with maximum potential conditions of fuel, heat rate, and load demand, based on actual unit operation.

BEST AVAILABLE COPY

8. Please provide the following information if applicable:

A. Raw Materials and Chemical Used in Your Process:

Description	Contaminant Type	Contaminant %Wt	Utilization Rate lbs/hr
MgO Additive	Particulate	100	12 lb/day average for 19
Evaporation of boiler cleaning water with approximately 3% of monoammonium citrate solution	Particulate	100	Approximately 30,000 gallons of water every 2 years

B. Product Weight (lbs/hr): Not Applicable

C. Fuels In order to improve start-up combustion, natural gas is normally used for stabilizing ignition, and natural gas is frequently fired to preheat the boiler prior to ignition of residual fuel oil. Very small quantities of used oil, entirely from FPL operations, will be consumed while burning residual oil.

Type (Be Specific)	Consumption* Avg/hr*	Consumption* Max/hr**	Maximum Heat Input (MMBTU/hr)
Residual Fuel Oil, No. 6	Variable	270	1650
Natural Gas	Variable	1.72	1725

D. ~~Normal~~ Potential Equipment Operating Time: up to hrs/day 24 ; days/wk 7 ; wks/yr 52 ; hrs/yr (power plants only) ~~____; if seasonal, describe~~ 2113 Hours of operati during 19 86. More operating time is typical when ambient temperature is either unusually high or low, or during unusual system demands.

The undersigned owner or authorized representative*** of Florida Power & Light Company is fully aware that the statements made in this application for a renewal of a permit to operate an air pollution source are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted facility.

This certification pertains solely to air pollution related requirements.

*During actual time of operation.

**Units: Natural Gas-MMCF/hr; Fuel Oils-barrels/hr; Coal-lbs/hr.

***Attach letter of authorization if not previously submitted

[signature]

Signature, Owner or Authorized Representative (Notarization is mandatory)

T. R. Fair - Manager, Environmental Permitting & Progr

Typed Name and Title

P.O. BOX 14000

Juno Beach, Florida 33408

Address

[notary signature] ...My Commission Expires Jan. 7, 1993

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHEAST FLORIDA DISTRICT
1900 SOUTH CONGRESS AVENUE
WEST PALM BEACH, FLORIDA 33406

APPLICATION FOR RENEWAL OF PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: Fossil Fuel Steam Generator Renewal of DER Permit No. AO- 06-60860

Company Name: Florida Power & Light Company County: Broward

Identify the specific emission point source(s) addressed in this application (i.e., Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired):

Lauderdale Power Plant, Unit No. 5, Oil & Gas Fired 161 MW Gross Capacity

Source Location: Street: Griffin Road Off State Road 7 City: Dania, FL

UTM: East 600.0 km Zone 17 North 2883.2 km

Latitude: 26° 04' 06"N. Longitude: 80° 12' 00"W.

---

1. Attach a check made payable to the Department of Environmental Regulation in accordan with operation permit fee schedule set forth in Florida Administrative Code Ru 17-4.05. Check # 6573 in the amount of $500.00 is attached.

2. Have there been any alterations to the plant since last permitted? [ ] Yes [X] No If minor alterations have occurred, describe on a separate sheet and attach.

3. Attach the last compliance test report required per permit conditions if not submitt previously. All compliance test reports have been submitted.

4. Have previous permit conditions been adhered to? [xx] Yes [ ] No If no, explain on separate sheet and attach.

5. Has there been any malfunction of the pollution control equipment during tenure of cu rent permit? [ ] Yes [ ] No If yes, and not previously reported, give brief detai and what action was taken on a separate sheet and attach. Not Applicable

6. Has the pollution control equipment been maintained to preserve the collection eff ciency last permitted by the Department? [ ] Yes [ ] No NOT Applicable

7. Has the annual operating report for the last calendar year been submitted? [X] Y [ ] No If no, please attach.

NOTE: Capacity, fuel consumption and heat input data have been adjusted to correlate with maximum potential conditions of fuel, heat rate, and load demand, based on actual unit operation.

8. Please provide the following information if applicable:

A. Raw Materials and Chemical Used in Your Process:

Description	Type	Containment Wt	Utilization Rate lbs/hr
MgO Additive	Particulate	100	16 lb/day average for 1
Evaporation of boiler cleaning water with approximately 3% of monoammonium citrate solution	Particulate	100	Approximately 30,000 gallons of water every 2 years

B. Product Weight (lbs/hr): Not Applicable

C. Fuels In order to improve start-up combustion, natural gas is normally used for stabilizing ignition, and natural gas is frequently fired to preheat the boiler prior to ignition of residual fuel oil. Very small quantities of used oil, entirely from FPL operations, will be consumed while burning residual oil.

Type (Be Specific)	Consumption* Avg/hr*	Max/hr**	Maximum Heat Input (MMBTU/hr)
Residual Fuel Oil, No. 6	Variable	270	1650
Natural Gas	Variable	1.72	1725

D. ~~Actual~~ Potential Equipment Operating Time: hrs/day up to 24; days/wk 7; wks/yr 52; hrs/yr (power plants only) _____; if seasonal, describe 2086 Hours of operati during 19 87. More operating time is typical when ambient temperature is either unusually high or low, or during unusual system demands.

The undersigned owner or authorized representative*** of Florida Power & Light Company is fully aware that the statements made in this application for a renewal of a permit t operate an air pollution source are true, correct and complete to the best of his knowledg and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted facility.

This certification pertains solely to air pollution related requirements.

*During actual time of operation.

**Units: Natural Gas-MMCF/hr; Fuel Oils-barrels/hr; Coal-lbs/hr.

***Attach letter of authorization if not previously submitted.

Signature, Owner or Authorized Representative (Notarization is mandatory)

T. R. Fair - Manager, Environmental Permitting & Progr
Typed Name and Title

P.O. BOX 14000
Address

Juno Beach, Florida 33408
City State Zip

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHEAST FLORIDA DISTRICT
1900 SOUTH CONGRESS AVENUE
WEST PALM BEACH FLORIDA 33406

APPLICATION FOR RENEWAL OF PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: Stationary Gas Turbines Renewal of DER Permit No. AO-06-62932

Company Name: Florida Power & Light Company County: Broward

Identify the specific emission point source(s) addressed in this application (i.e., Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired):

Lauderdale Power Plant, Gas Turbine Site I, Units 1 - 12, 486 MW Gross Capacity

Source Location: Street: Griffin Road off State Rd 7 City: Dania, Fl.

UTM: East 580.4 km Zone 17 North 2883.5 km

Latitude: 26° 04' 16"N. Longitude: 80° 11' 56"W.

---

1. Attach a check made payable to the Department of Environmental Regulation in accordanc with operation permit fee schedule set forth in Florida Administrative Code Rul 17-4.05. Check # 373252 in the amount of $1,200.00 is attached.

2. Have there been any alterations to the plant since last permitted? [X] Yes [ ] No If minor alterations have occurred, describe on a separate sheet and attach. See attached sheet.

3. Attach the last compliance test report required per permit conditions if not submitte previously. None Required

4. Have previous permit conditions been adhered to? [X] Yes [ ] No If no, explain on separate sheet and attach. Except as previously reported.

5. Has there been any malfunction of the pollution control equipment during tenure of cur rent permit? [ ] Yes [X] No If yes, and not previously reported, give brief detail and what action was taken on a separate sheet and attach.

6. Has the pollution control equipment been maintained to preserve the collection effi ciency last permitted by the Department? [X] Yes [ ] No

7. Has the annual operating report for the last calendar year been submitted? [X] Ye [ ] No If no, please attach.

NOTE: Capacity, fuel consumption and heat input data have been adjusted to correlate with maximum potential conditions of fuel, heat rate, and load demand, based on actual unit operation.

8. Please provide the following information if applicable:

A. Raw Materials and Chemical Used in Your Process:

Description	Containment Type	Containment %Wt	Utilization Rate lbs/
Liquid Detergent	NONE		Occasional use of a few gallons depending upon
			unit operating time.

B. Product Weight (lbs/hr): Not Applicable

C. Fuels Per Generating Unit

Type (Be Specific)	Consumption* Avg/hr*	Max/hr**	Maximum Heat Input (MMBTU/hr)
No. 2 Distillate Fuel Oil	Variable	118	675
Natural Gas	Variable	0.70	702

D. ~~Normal~~ Potential Equipment Operating Time: hrs/day 24; days/wk 7; wks/yr 52; up to hrs/yr (power plants only) ~~-----; if seasonal, describe~~ Site I had 121 Hours of operation (anywhere from one to twelve units at the same time) during 1987. M operating time is typical when ambient temperature is either unusually high or l or during unusual system demands.

The undersigned owner or authorized representative*** of Florida Power & Light Compar is fully aware that the statements made in this application for a renewal of a permi operate an air pollution source are true, correct and complete to the best of his know and belief. Further, the undersigned agrees to maintain and operate the pollution c and pollution control facilities in such a manner as to comply with the provisions of (ter 403, Florida Statutes, and all the rules and regulations of the Department. He understands that a permit, if granted by the Department, will be non-transferable an will promptly notify the Department upon sale or legal transfer of the permitted facil

This certification pertains solely to air pollution related requirements.

*During actual time of operation.

**Units: Natural Gas-MMCF/hr; Fuel Oils-barrels/hr; Coal-lbs/hr.

***Attach letter of authorization if not previously submitted

Signature, Owner or Authorized Representa
(Notarization is mandatory)

T. R. Fair - Manager, Environmental Permitting & Pl
Typed Name and Title

P.O. BOX 14000
Address

Juno Beach, Florida 33408
City State Z

4/26/88
(305)

Kathleen [illegible] State of Florida
4/26/88 [illegible] Expires Feb. 4, 1991

Question #2 (continued)

As explained in our letter of August 27, 1987 some center sections were removed and each stack is now 43.5 feet above foundation. The foundation pedestals average approximately one and a half feet above ground level for the Lauderdale Plant Gas Turbines, therefore the total stack height of each unit is approximately 45 feet.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHEAST FLORIDA DISTRICT
1900 SOUTH CONGRESS AVENUE
WEST PALM BEACH FLORIDA 33406

APPLICATION FOR RENEWAL OF PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: Stationary Gas Turbines Renewal of DER Permit No. AO-06-62939

Company Name: Florida Power & Light Company County: Broward

Identify the specific emission point source(s) addressed in this application (i.e., Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired):

Lauderdale Power Plant, Gas Turbine Site II, Units 13 - 24, 486 MW Gross Capacity

Source Location: Street: Griffin Road off State Rd 7 City: Dania, Fl.

UTM: East 580.4 km Zone 17 North 2884.1 km

Latitude: 26° 04' 23"N. Longitude: 80° 11' 56"W.

---

1. Attach a check made payable to the Department of Environmental Regulation in accordance with operation permit fee schedule set forth in Florida Administrative Code Rule 17-4.05. Check # 373249 in the amount of $1,200.00 is attached.
2. Have there been any alterations to the plant since last permitted? [x] Yes [ ] No If minor alterations have occurred, describe on a separate sheet and attach. See attached sheet.
3. Attach the last compliance test report required per permit conditions if not submitted previously. None Required
4. Have previous permit conditions been adhered to? [x] Yes [ ] No If no, explain on a separate sheet and attach. Except as previously reported;
5. Has there been any malfunction of the pollution control equipment during tenure of current permit? [ ] Yes [x] No If yes, and not previously reported, give brief details and what action was taken on a separate sheet and attach.
6. Has the pollution control equipment been maintained to preserve the collection efficiency last permitted by the Department? [x] Yes [ ] No
7. Has the annual operating report for the last calendar year been submitted? [x] Yes [ ] No If no, please attach.

NOTE: Capacity, fuel consumption and heat input data have been adjusted to correlate with maximum potential conditions of fuel, heat rate, and load demand, based on actual unit operation.

8. Please provide the following information if applicable:

A. Raw Materials and Chemical Used in Your Process:

Description	Contaminant Type	%Wt	Utilization Rate lbs/
Liquid Detergent	NONE		Occasional use of a fe gallons depending upon
			unit operating time.

B. Product Weight (lbs/hr): Not Applicable

C. Fuels Per Generating Unit

Type (Be Specific)	Consumption* Avg/hr*	Max/hr**	Maximum Heat Input (MMBTU/hr)
No. 2 Distillate Fuel Oil	Variable	118	675
Natural Gas	Variable	0.70	702

D. ~~Potential~~ Equipment Operating Time: hrs/day 24; days/wk 7; wks/yr 52; ~~Maximum~~ up to hrs/yr (power plants only) ~~-----; if seasonal, describe~~ Site II had 392 hours of operation (anywhere from one to twelve units at the same time) during 1987. A operating time is typical when ambient temperature is either unusually high or l or during unusual system demands.

The undersigned owner or authorized representative*** of Florida Power & Light Compa is fully aware that the statements made in this application for a renewal of a pern operate an air pollution source are true, correct and complete to the best of his know and belief. Further, the undersigned agrees to maintain and operate the pollution c and pollution control facilities in such a manner as to comply with the provisions of ter 403, Florida Statutes, and all the rules and regulations of the Department. He understands that a permit, if granted by the Department, will be non-transferable a will promptly notify the Department upon sale or legal transfer of the permitted facil

This certification pertains solely to air pollution related requirements.

*During actual time of operation.

**Units: Natural Gas-MMCF/hr; Fuel Oils-barrels/hr; Coal-lbs/hr.

***Attach letter of authorization if not previously submitted.

Signature, Owner or Authorized Representa
(Notarization is mandatory)

T. R. Fair - Manager, Environmental Permitting & P.
Typed Name and Title

P.O. BOX 14000
Address

Juno Beach, Florida 33408
City State

4/26/88
Date

Notary Public, State of Florida
My Commission expires Dec. 4, 1991

Question #2 (continued)

As explained in our letter of August 27, 1987 some center sections were removed and each stack is now 43.5 feet above foundation. The foundation pedestals average approximately one and a half feet above ground level for the Lauderdale Plant Gas Turbines, therefore the total stack height of each unit is approximately 45 feet.

BROWARD COUNTY ENVIRONMENTAL QUALITY CONTROL BOARD

500 S.W. 14th Court
Fort Lauderdale, FL 33315
(305) 765-4900

February 6, 1990

Mr. Hamilton S. Oven, Jr., P.E.
Administrator, Office of Siting Coordination
Division of Air Resources Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399

Re: Florida Power and Light Company
Fort Lauderdale Repowering Project
Power Plant Site Certification Application, PA 89-26

Dear Mr. Oven:

Per your request, we have reviewed the subject Site Certification Application. By and large, we consider the document sufficient from an environmental point of view, but feel that an Ozone Nonattainment Review should be done.

In recent years, this area has been marginally in a nonattainment status for ozone at a time when the existing FPL facility has operated at an historically low level. Despite some of the beneficial aspects of the proposed project, it is evident that (notwithstanding present permits) Future Potential Emissions of VOC's will be greater than present Actual Emissions and thus will affect ozone levels.

At present, our nonattainment status has a high priority and has resulted in measures such as gasoline station vapor control inspections, new automobile catalytic converter anti-tampering laws, and planned motor vehicle emissions inspections. Thus, we feel that the matter needs to at least be better addressed in the SCA. We don't think that creation of a "Synthetic Minor Source" by limiting emissions of VOC's to 99.9 TPY is the appropriate way to handle the matter. It might also unnecessarily limit FPL's operation flexibility in order to avoid evaluating an effect that might even be small. In any case, we are interested in their quantification of just what that effect might be.

We note that, per FPL's analysis, the maximum 24-hour SO_2 concentration will be 97 percent of the allowable standard. We plan to look at how this can affect possible long-term expansions of our Resource Recovery Project.

Attached is our review of requirements in the areas of Wastewater, Storage Tanks, Surface Water, and Dredge and Fill. New licenses will be required or need to be modified in these areas. Also attached are some further comments on air quality aspects.

If you have any questions regarding the air quality review, please call Ms. Daniela Banu at (305)765-4436. Please contact Mr. Glenn Malmstrom at (305)537-2960 if you have questions regarding the other reviews.

Sincerely,

A. A. Linero, P.E.
Chief, Air Program

AAL/mr

Attachments

cc: I. Goldman, DER, W. Palm Beach, w/Attachments
F. Henderson, EQCB, w/o Attachments
G. Carlson, EQCB "
L. George, DER, Tallahassee, "

→ P 5/9

Check Sheet

Company Name: FP&L Lauderdale Plant
Permit Number: AC 06-179848
PSD Number:
County:
Permit Engineer:
Others involved:

Application:
- [x] Initial Application
- [x] Incompleteness Letters
- [x] Responses
- [ ] Final Application (if applicable)
- [ ] Waiver of Department Action
- [ ] Department Response
- [ ] Other

Intent:
- [x] Intent to Issue
- [x] Notice to Public
- [x] Technical Evaluation
- [ ] BACT Determination
- [x] Unsigned Permit
- [ ] Correspondence with:
  - [ ] EPA
  - [ ] Park Services
  - [ ] County
  - [x] Other
- [x] Proof of Publication
- [ ] Petitions - (Related to extensions, hearings, etc.)
- [ ] Other

Final Determination:
- [x] Final Determination
- [x] Signed Permit
- [ ] BACT Determination
- [ ] Other

Post Permit Correspondence:
- [x] Extensions
- [x] Amendments/Modifications
- [ ] Response from EPA
- [ ] Response from County
- [ ] Response from Park Services
- [x] Other

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

April 28, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Charles D. Henderson
Environmental Affairs Department
Florida Power and Light Company
11770 U.S. Highway One
4th Floor (Mail Drop JEN/GB)
North Palm Beach, Florida 33408-8801

Dear Mr. Henderson:

Re: Amendment of Permit No. **AC**06-179848
Ft. Lauderdale Plant

The Department is in receipt of Mr. Daniel MacDougall's March 30, 1993, letter requesting that the referenced construction permit be amended to: 1) show the size of the new underground gas turbine dump tanks, 2) list in Specific Condition No. 21 the general procedure to evaluate fuel consumption of the gas turbine, 3) delete the limit on cleanup solvent usage, and 4) add a general procedure to calculate solvent loss to Specific Condition No. 24.

As a slight increase in VOC emissions would make this plant a major facility which could significantly change the rule applicability determination, the Department is retaining the proposed and permitted limit on cleaning solvent loss. Any increase in these emissions would be a modification and would require a new application for permit to construct.

The other requests in your March 30 letter are acceptable and construction permit No. **AC**06-179848 is changed:

FROM:

Description: For modifications to the Lauderdale Plant which contain the following air pollution sources: 80,000 bbl fuel storage tank No. 2 handling No. 6 fuel oil, 150,000 bbl fuel storage tank No. 3 to be converted from No. 6 fuel oil to No. 2 fuel oil service, 55,000 bbl tank No. 4 to be removed from service, 75,000 bbl tank No. 5 handling No. 2 fuel oil, two 1,500 gallon underground gas turbine dump tanks, three 252,000 gallon fuel oil metering tanks, one 4,000 gallon underground unleaded gasoline storage tank, and one 1,000 gallon underground diesel fuel storage tank; fossil fuel steam generating units Nos. 4 and 5, two 161 MW (gross capacity) steam generating units

burning a variable combination of natural gas, used oil fuel from FP&L operations, and No. 6 fuel oil with a maximum heat input rate of 1725 MMBtu/hr each, discharging air pollutants through a stack 151 ft. above ground level; 24 gas turbines with 45 ft. high stacks burning natural gas and/or No. 2 fuel oil at a maximum heat input rate of 702 MMBtu/hr for each unit; and, maintenance operations throughout the facility that consume up to 250 GPY solvents.

Specific Condition No. 21: The permittee shall keep records of the type and quantity of fuel, GPH of oil and MMCF/hr of natural gas used by each bank of turbines (GTs 1-12 and GTs 13-24) for at least three (3) years.

Specific Condition No. 24: Not more than 250 gallons loss of solvent during any 12 month period shall be allowed for maintenance to this facility. The loss shall be calculated from records showing the gallons of solvent used at the facility and the gallons of used solvents burned and hauled away for disposal.

TO:

Description: For modifications to the Lauderdale Plant which contain the following air pollution sources: 80,000 bbl fuel storage tank No. 2 handling No. 6 fuel oil, 150,000 bbl fuel storage tank No. 3 to be converted from No. 6 fuel oil to No. 2 fuel oil service, 55,000 bbl tank No. 4 to be removed from service, 75,000 bbl tank No. 5 handling No. 2 fuel oil, **one** 1,500 gallon underground gas turbine dump tank, **one 2,500 gallon underground gas turbine dump tank**, three 252,000 gallon fuel oil metering tanks, one 4,000 gallon underground unleaded gasoline storage tank, and one 1,000 gallon underground diesel fuel storage tank; fossil fuel steam generating units Nos. 4 and 5, two 161 MW (gross capacity) steam generating units burning a variable combination of natural gas, used oil fuel from FP&L operations, and No. 6 fuel oil with a maximum heat input rate of 1725 MMBtu/hr each, discharging air pollutants through a stack 151 ft. above ground level; 24 gas turbines with 45 ft. high stacks burning natural gas and/or No. 2 fuel oil at a maximum heat input rate of 702 MMBtu/hr for each unit; and, maintenance operations throughout the facility that consume up to 250 GPY solvents.

Specific Condition No. 21: The permittee shall keep records of the type and quantity of fuel, GPH of oil and MMCF/hr of natural gas used by each bank of turbines for at least three (3) years. **It should also be noted that the units (MMCFH or MMCF/H) used in this permit mean millions of cubic feet per hour. This unit is**

sometimes abbreviated MCFH. Usage shall be determined on the basis of time of operation versus total fuel consumption for each bank of 12 gas turbines (GTs 1-12 and GT 13-24).

Specific Condition No. 24: Not more than 250 gallons (**0.893 TPY VOC**) loss of solvent during any 12 month period shall be allowed for maintenance to this facility. **The use of solvents for maintenance of the existing facility shall be tracked and controlled during each calendar year. The VOC emission from solvents shall be calculated by the following method: The solvent volume loss shall be equal to the total solvent volume purchased/in stock minus the solvent volume reclaimed/disposed of offsite. The solvent volume loss shall then be multiplied by the emission factor (mass VOC/unit of solvent) to get a TPY value. The total solvent TPY emission value will be added to all other VOC sources to ensure compliance with Specific Condition No. 26.**

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 amendment. Petitions filed by other persons must be filed within 14 days of receipt of this amendment. 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 amendment. 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 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, F.A.C.

A copy of this letter shall be filed with the referenced permits and will become a part of those permits.

Sincerely,

Howard L. Rhodes
Director
Division of Air Resources Management

HLR/WH/plm

Attachment: FPL March 30, 1993, letter

cc: Stephanie Brooks, SED
Tom Tittle, SED
Jewell Harper, EPA
Daniella Banu, Broward Co.
David Buff, P.E.

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

March 30, 1993

Mr. C. H. Fancy, Chief
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399

RE: FPL Lauderdale Plant
AC 06-179848 and AO 06-199041
Air Construction Permit Amendment

Dear Mr. Fancy:

On October 30, 1990, the Department issued FPL an air construction (AC 06-179848) permit for the Lauderdale Plant. The air construction permit authorized minor changes to the onsite storage tanks and piping, demolition of storage tank 4, and the establishment of federally enforceable permit limits which resulted in the plant being a minor VOC source. This work was conducted prior to the Lauderdale Repowering Project (PSD-FL-145).

On September 25, 1991, the District issued an air operating permit (AO 06-199041) for the Lauderdale Plant based on the air construction permit. FPL filed a request to be granted additional time in which to request a hearing on the air operating permit. On December 2, 1991, FPL provided comments on the air operating permit to the District office. It was discussed with the District staff that some comments could be handled by the District office and others had to the revised by the Department in Tallahassee. FPL through Mr. Peter Cunningham of Hopping, Boyd, Green & Sams had discussion with Department staff about FPL's comments on the air operating permit and the need to revise the air construction permit in order for the District to then modify the air operating permit.

On February 16, 1993, the Department advised FPL that the District office would make the modifications to the air operating permit that they were authorized to make and that the Department would correct the gas flow measurement typographic errors (MCFH instead of MMCFH in the air construction permit). (The District office on February 24, 1993, issued a letter modifying the air operating permit exclusive of the gas flow measurement errors.) The Department also requested that FPL formally amend the air construction permit in order to resolve FPL's remaining comments on the air operating permit.

FPL is hereby requesting that the air construction permit (AC 06-179848) be revised as follows and that the District then modify the air operating permit accordingly:

1) Page 1 of 11 Paragraph 2 Line 6-- The "Two 1,500 gallon underground gas turbine dump tanks" should be "one 1,500 gallon and one 2,500 gallon underground gas turbine dump tanks".

2) Page 9 of 11 Specific Condition 21-- Add "Note: Usage may be determined on the basis of time of operation versus total fuel consumption for a block of 12 units." at the end of this condition.

3) Page 10 of 11 Specific Condition 24-- This condition should be replaced with the following text: "The use of solvents for maintenance of the existing facility shall be tracked and controlled during each calendar year. The VOC emission from solvents shall be calculated by the following method: The solvent volume loss shall be equal to the total solvent volume purchased/in stock minus the solvent volume reclaimed/disposed of offsite. The solvent volume loss shall then be multiplied by the emission factor (mass VOC/ unit of solvent) to get a TPY value. The total solvent TPY emission value will be added to all other VOC sources to ensure compliance with Specific Condition 26."

FPL originally installed the two gas turbine dump tanks in the mid 70's at the Lauderdale Plant. At that time two 1,500 gallon single walled steel tanks were installed underground. The one tank for GT Site 1, located within the containment area for fuel oil storage tank 4, was replaced with a 2,500 gallon new double walled fiberglass dump tank when it was relocated in anticipation of the Lauderdale Repowering Project. The 2,500 gallon tank that was installed did not get incorporated into the construction permit. The original estimate of VOC emission (0.003 TPY) from the two gas turbine dump tank is conservative since it was based on a total annual throughput of 300,000 gallons and in 1991 the total annual throughput was less than 3,000 gallons. The actual emission from these tanks is calculated annually in accordance with Section 4.3 of AP-42 in order to determine compliance with Special Condition 26.

FPL requests that the second revision be granted since the GT fuel flows for natural gas and distillate oil are not measured individually at each gas turbine but is measured by GT banks (12 GT per bank).

FPL requests that the Special Condition 24 be revised as indicated above. The basis for this request is to allow FPL operational and maintenance flexibility without exceeding the 99.92 TPY VOC emission limit. FPL proposed that the solvent loss be treated as a variable which is calculated annually and summed with all the other VOC sources to produce an annual total VOC emission for the entire site. The Annual Air Operating Report for 1991 showed that the total VOC emission of 17.12 TPY is well below the 99.92 TPY limit. FPL will not be circumventing the intent of the original condition since the VOC emission will be limited annually. The new solvent limit is changed from being an arbitrary limit of 250 gallons to a variable limit which when summed with all the other VOC emission sources will be less than the 99.92 TPY VOC emission limit.

If you have any question about this request please call me at (407) 625-7661.

Daniel M. MacDougall
Environmental Specialist
Florida Power & Light Company

cc: Tom Title-DER/WPB
Stephannie Brooks-DER/WPB
Mark Sittig-DER/WPB
Claire Lardner-DER/TAL
Willard Hanks-DER/TAL

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To:	Location:
To:	Location:
To:	Location:
From:	Date:

Interoffice Memorandum

TO: Howard L. Rhodes

FROM: Clair Fancy

DATE: April 27, 1993

SUBJ: Amendment of Permit

Attached for your approval and signature is a letter that will amend the construction permit for Florida Power and Light Company's Ft. Lauderdale plant. The amendment lists the actual volume of one of the small underground tanks associated with the gas turbines and adds several general statements on how compliance with the emission limits are to be determined. The letter also denies FLP's request to increase cleaning solvent usage and "bubble" the facility's VOC emissions for compliance determination.

I recommend your approval and signature.

CF/WH/plm

Attachment

2093

OK
GPL
4/27

P 360 528 716

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to Mr. Charles D. Henderson	
Street and No. 11770 US Highway One FP&L	
P.O., State and ZIP Code North Palm Beach, FL 33408	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date Mailed: 5-3-93 Permit: AC06-179848	

PS Form **3800**, June 1991

Is your **RETURN ADDRESS** completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Mr. Charles D. Henderson
Environmental Affairs Dept.
Florida Power & Light Company
17700 U.S. Highway One
4th Floor (Mail Drop JEN/GB)
North Palm Beach, FL 33408-8801

4a. Article Number
P 360 528 716

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
5/5/93

5. Signature (Addressee)

6. Signature (Agent)
B. McCrary

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

PS Form **3811**, December 1991 ★U.S. GPO: 1992—323-402 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Department of
Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

March 22, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Elsa A. Bishop, Supervisor
Air Permitting and Programs
Florida Power and Light Company
Post Office Box 155
Dania, Florida 33004

Dear Ms. Bishop:

Re: Amendment of Permit No. AC06-179848

The Department is in receipt of Mr. Richard Piper's January 25, 1995, request to amend the referenced air construction permit for the FPL Lauderdale plant that is located in Dania, Broward County, Florida. The amendment would reduce and reallocate the allowable VOC emissions from the fuel storage tanks and clarify the visible emission testing requirements for the gas turbines (peaking units) covered by this permit. In response to this request, the permit is amended as follows:

FROM:

Specific Condition No. 1. The maximum volatile organic compounds (VOC) emissions and volume of organic liquids handled by the tanks shall not exceed the following:

Vessel	Organic Liquid	Annual Throughput (gallons)	Emissions (TPY VOC)
No. 2 Storage Tank	No. 6 fuel oil	192,642,943	0.050
No. 3 Storage Tank	No. 2 fuel oil	688,302,094	6.380
No. 4 Storage Tank	None	0	0
No. 5 Storage Tank	No. 2 fuel oil	343,635,079	3.380
Gas Turbine Dump Tanks	No. 2 fuel oil	300,000	0.003
Fuel Oil Metering Tanks	No. 6 fuel oil	192,642,943	0.011
Gasoline Storage Tank	Gasoline	10,000	0.106
Diesel Fuel Storage Tank	Diesel fuel	5,000	0.001

Specific Condition No. 23. Visible emissions from all units shall be determined annually by EPA Method 9 as described in 40 CFR 60, Appendix A (July 1, 1988). At least one test shall be conducted on a turbine in each bank while it is operating near its permitted capacity and burning No. 2 fuel oil.

TO:

Specific Condition No. 1. The maximum volatile organic compounds (VOC) emissions and volume of organic liquids handled by the tanks shall not exceed the following:

Vessel	Organic Liquid	Annual Throughput (gallons)	Emissions (TPY VOC)
No. 2 Storage Tank *	**Jet A fuel/No. 2 dist. fuel oil**	**54,260,842**	**2.33**
No. 3 Storage Tank	**Jet A fuel**	**106,079,730**	**4.46**
No. 4 Storage Tank	None	0	0
No. 5 Storage Tank	**Jet A fuel/No. 2** dist. fuel oil	**54,260,842**	**2.29**
Gas Turbine Dump Tanks	No. 2 fuel oil	300,000	0.003
Fuel Oil Metering Tanks	**None**	**0**	**0**
Gasoline Storage Tank	Gasoline	10,000	0.106
Diesel Fuel Storage Tank	Diesel fuel	5,000	0.001

*** If Tank No. 2 is used to supply Jet A fuel to the combustion turbines, the total Jet A fuel handled by both Tanks Nos. 2 and 3 shall not exceed 106,079,730 gallons per year and the sum of the VOC emissions from both Tanks Nos. 2 and 3 shall not exceed 6.79 tons per year.**

Specific Condition No. 23 - **Pursuant to Rule 62-297.340(1)(d), F.A.C., a visible emissions compliance test shall be conducted on each combustion turbine that operates for more than 400 hours in a federal fiscal year. At least one turbine shall be tested per year. Pursuant to Rule 62-297.340(1)(h), F.A.C., at least one visible emissions compliance test shall be conducted on all twenty-four combustion turbines every five years, coinciding with the term of the operation permit for these turbines.**

The visible emissions compliance test shall be conducted using EPA Method 9 in accordance with 40 CFR 60, Appendix A. At least one quarter of the tests shall be conducted while burning fuel oil and at least one quarter shall be conducted while burning natural gas. Each visible emissions compliance test shall be conducted while the combustion turbine is operating at 90-100 percent of its capacity.

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.

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.

A copy of this letter amendment must be attached to the referenced permit, No. AC06-179848, and shall become a part of that permit.

Sincerely,

Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/wh/t

Enclosure

cc: Isidore Goldman, SED
Daniella Banu, BCDNRP
Richard Piper, FPL

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this AMENDMENT and all copies were mailed by certified mail before the close of business on 3-23-95 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.

Clerk — Date: 3-23-95

Florida Department of
Environmental Protection

Memorandum

To: Howard L. Rhodes

From: Clair Fancy

Date: March 21, 1995

Subject: Amendment of Permit
FPL Lauderdale Plant

Attached for your approval and signature is a letter that will amend air construction permit No. AC06-179848 for Florida Power & Light Company's Lauderdale plant that is located in Dania, Broward County, Florida. The amendment will reallocate and reduce the allowable VOC emissions from three distillate fuel storage tanks to reflect lower throughput and use of Jet A fuel instead of No. 6 fuel oil. It will also clarify the visible emissions testing requirements for the gas turbines (peaking units).

I recommend your approval and signature.

CHF/wh/t

Attachment

5.1-4

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Elsa A. Bishop
Air Permitting & Programs
FL Power & Light
PO BOX 155
Dania, FL 33004

4a. Article Number
Z 311 902 933

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
3/29/95

5. Signature (Addressee)

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

6. Signature (Agent)
X

PS Form 3811, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Z 311 902 933

UNITED STATES POSTAL SERVICE

Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

PS Form 3800, March 1993

Sent to: Elsa Bishop	
Street and No.: FL Power & Light	
P.O. State and ZIP Code: Dania, FL	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date: AC06-179848 3-29-95	