STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 64-25610

FLORIDA POWER AND LIGHT COMPANY
COAL PULVERIZER, SANFORD UNIT NUMBER 4,
VOLUSIA COUNTY

DATE OF ISSUANCE

JANUARY 31, 1980

DATE OF EXPIRATION

NOVEMBER 30, 1980

Jacob D. Varn

JACOB D. VARN, SECRETARY
FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

DER FORM PERM 11-42

Final Determination

Florida Power and Light Company
Coal Pulverizer, Sanford Unit Number 4,
Volusia County

Construction Permit
Application Number:

AC 64-25610

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

January 30, 1980

Florida Power and Light Sanford Coal Preparation Plant and Coal-Oil Mixing Facility Final Determination

The construction application has been reviewed by the Department. Public notice of the Department's intent to issue was published in the Sanford Evening Herald and the Seminole Little Sentinel on December 26, 1979. The preliminary determination and technical evaluation were available for public inspection at the Seminole County Courthouse, the DER St. Johns River District office and the Bureau of Air Quality Management.

Only one response was received, from Mr. Wilbur L. Dumph of Rt. 1, Box 208-A, Sanford. Mr. Dumph's comments were more general and did not justify any modifications to this permit.

One change was made to clarify the intent of transition from construction to operational status, specifically condition number 8, which requires submission of an application for an operating permit after demonstration of compliance and before operational use of the facility. The expiration data was extended by 90 days to provide time for issuance of the operating permit prior to expiration of the construction permit.

It is recommended that the construction permit be issued with those amendments.

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Power & Light Company
P. O. Box 529100
Miami, Florida 33152

PERMIT/CERTIFICATION NO. AC 64-25610

COUNTY: Volusia

PROJECT: Coal Pulverizer, Coal-oil mixer

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

The installation of a coal handling and pulverizing facility at Sanford Unit #4, Barwick Road, near Sanford, in Volusia County, Florida. This facility is being constructed to provide a coal-oil mixture for an initial 120 day test burn period at Sanford unit #4.

The universal transverse mercators and latitude and longitude coordinates are 468.340 Easting by 3190.380 Northing, and 28°50'40" North by 81°33'11" West, respectively.

Construction shall be in accordance with the attached permit application, attached plans, documents and drawings except as otherwise noted on page 3, "Specific Conditions".

Attachments are as follows:

1. "Application to Construct Air Pollution Sources" DER Form 17-1.122(16).
2. "Limitation of prepermit Construction letter, Nov. 24, 1979, Mary Clark, to W.J. Barrow.
3. Testimony of George Bastien, Nov. 29, 1979.
4. "Answers to Supplementary Questions from DER". (Given to Bechtel by W. J. Barrow at the conclusion of the 11/30/79 Hearing)

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 Section 403.161(1), Florida Statutes. Permittee is hereby placed

on notice that the department will review this permit periodically and may initiate court 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 indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact 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. 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.

4. As provided in subsection 403.087(6), 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 Section 403.111, F.S.

7. In the case of an operation permit, 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.

8. 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 penalities 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 64-25610
APPLICANT: Florida Power & Light Company
P. O. Box 529100

SPECIFIC CONDITIONS

1. The maximum allowable emissions from the pulverizing operation shall be:

Pollutants	Pounds/hr.	Tons/yr.
Particulate	7.7	11.09

2. The maximum allowable emissions from the gas fired air heater serving the pulverizer shall be:

Pollutants	Pounds/hr.	Pounds/yr.
Particulates	0.1	10.0

3. The maximum hours of operation shall be 24 hours/day, for a total of 2880 hours, the tolling of which shall commence upon issuance of the operation permit.

4. The maximum fuel consumption shall be 400 CFM of natural gas to the pulverizer air heaters.

5. The maximum coal input to the pulverizer shall be 96,000 pounds per hour.

6. Any material deviation in construction or the modes of operation as specified shall be reported to the Bureau of Air Quality Management (BAQM) immediately.

7. The operating permit shall require maintenance of records reflecting hours of operation, coal and oil inputted to the pulverizer and mixer, amount of coal-oil mixture produced and amounts of fuel consumed, by fuel type. Said records shall be submitted to the BAQM immediately following the 120 day test period.

PERMIT NO.: AC 64-25610
APPLICANT: Florida Power and Light Company

8. Permittee shall notify the Bureau of Air Quality Management prior to any compliance testing of the facility and shall submit a test plan for approval. Upon demonstration of compliance with the operational limits of this permit and submission of a complete application for an operation permit to the St. Johns River FDER office prior to 90 days before expiration of this permit, permittee may continue to operate in compliance with all terms of this permit until expiration of this permit or issuance of an operating permit.

Jacob D. Varn
Jacob D. Varn
Secretary

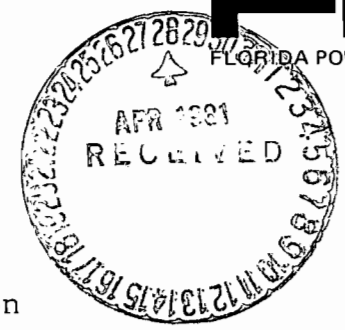
Expiration Date: November 30, 1980

Issued this 31ST day of JANUARY, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Post Office Box 529100, Miami
Florida 33152

FPL
FLORIDA POWER & LIGHT COMPANY



April 27, 1981

Mr. Steve Smallwood
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Volusia County - AP
Florida Power & Light Company
Sanford Coal Handling & Pulverizing Facility
Permit No. A064-36999

Dear Steve:

In accordance with Specific Condition No. 10 of the above permit, enclosed is a monthly summary of the records reflecting the hours of operation, coal and oil inputted to the pulverizer and mixer, amount of coal/oil mixture produced, and the amount of fuel consumed.

Sincerely,

W. J. Barrow, Jr.
Manager of Environmental
Permitting & Programs

WJB/gs
Enclosure

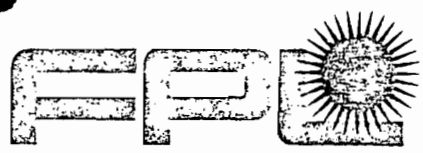
cc: M. Surabian, P.E.
Bectel Power Corporation

A. Senkevich, P.E.
District Manager,
Orlando DER

REPORT ON C.O.M. FACILITY PRODUCTION

MONTH	YEAR	HOURS OF PULVERIZING OPERATION	AMOUNT OF COAL TO MIX TON'S	AMOUNT OF OIL TO MIX TON'S	AMOUNT OF OIL TO MIX BARRELS	AMOUNT OF GAS CONSUMED. MCF.	AMOUNT OF C.O.M. PRODUCED TON'S
APRIL	1980	73.5	521	4232	24957	208	4855
MAY	1980	288.5	4416	12056	71017	2139	16755
JUNE	1980	50.5	1189	3164	18613	219	4371
JULY	1980	464.0	4961	5545	32508	1027	10729
AUGUST	1980	184.5	7644	8577	50181	1914	16637
SEPTEMBER	1980	397.5	8983	10424	61124	2268	19847
OCTOBER	1980	198.0	4739	6136	36090	1093	11117
NOVEMBER	1980	79.0	2349	2613	15362	653	5053
DECEMBER	1980	685.0	21401	31338	184271	6439	53737
JANUARY	1981	640.5	22606	32327	187306	7468	55959
FEBRUARY	1981	672.0	20069	27874	160947	5850	48834
MARCH	1981	672.0	24973	32025	185084	6719	58091
APRIL	1981	168	8186	16120	92908	1659	24764
TOTAL		4573	132037	192431	1,120,368	37656	330749

P. O. BOX 529100 MIAMI, FL 33152



CERTIFIED MAIL RETURN
RECEIPT REQUESTED

April 27, 1981

Mr. Tommie Gibbs
Chief, Air Facilities Branch
Air and Hazardous Materials Division
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30308

Re: PSD-FL-047, FPL Sanford COM
(Coal/Oil Mixture) Test Project

Dear Mr. Gibbs:

In accordance with Special Condition Number 5 of the above referenced permit, the 365-day "test" period referred to in Special Condition Number 2 has ended. We hereby certify that the operations approved in the above permit were discontinued at 9:05 am on Sunday, April 19, 1981.

Sincerely,

W. J. Barrow, Jr.
Manager of Environmental
Permitting & Programs

WJB:RTK:sal

cc: Mr. Steve Smallwood, Florida Department of Environmental Regulation, Tallahassee, Florida

HOPPING BOYD GREEN & SAMS
ATTORNEYS AND COUNSELLORS
SUITE 420, LEWIS STATE BANK BUILDING
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32301
(904) 222-7500

CARLOS ALVAREZ
WILLIAM L. BOYD, IV
WILLIAM H. GREEN
WADE L. HOPPING
RICHARD D. MELSON
GARY P. SAMS

BRIAN H. BIBEAU
CALVIN J. LIVINGSTON
WILLIAM D. PRESTON

COUNSEL,
W. ROBERT FOKES
JOHN C. WHITE

April 27, 1981

HAND DELIVERED THIS DATE

Victoria J. Tschinkel, Secretary
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Proposed Coal/Oil Mixture Burn Continuance at FPL's Sanford Unit 4 - ERC Rulemaking

Dear Vicki:

Please find enclosed a copy of a document entitled "Proposed Coal/Oil Mixture Burn Continuance at Florida Power & Light Company's Sanford Plant Unit 4," prepared by FPL in connection with the above-referenced matter. The information contained in the document covers the areas of particular interest to the Department as outlined by your staff.

We believe this document, together with information already in the possession of the Department, will allow the Department to arrive at a position on the proposed rule in the immediate future. We would appreciate the opportunity to discuss this with you and answer any questions that might come up on the attached, prior to the issuance of the public notice for the June 10th ERC hearing.

The continued cooperation of you and your staff is sincerely appreciated.

Very truly yours,

Bill

William H. Green
Counsel for Florida Power & Light Company

WHG/gs
Enclosures

cc: Steve Smallwood
Mary F. Clark, Esquire

4/27/81

PROPOSED

COAL/OIL MIXTURE BURN CONTINUANCE

AT FLORIDA POWER & LIGHT COMPANY'S

SANFORD PLANT UNIT 4

PROPOSED
COAL/OIL MIXTURE BURN CONTINUANCE
AT FLORIDA POWER & LIGHT COMPANY'S
SANFORD PLANT UNIT 4

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VII. FUTURE COAL CONVERSION

SECTION I

INTRODUCTION

Florida Power & Light ("FPL") estimates that in order to meet projected customer demand through 1990, its residual oil consumption would have to increase substantially over the next decade, reaching levels of approximately 55 million barrels per year. (This projection takes into account the effect of new generating capacity, availability of natural gas, nuclear generating capacity, and conservation measures; it represents FPL's estimate of the approximate quantity of oil that would be needed in the absence of the successful utilization of alternative fuels at existing units.) It is difficult to estimate the quantity of fuel oil that will be available over the next decade. The possibility exists that changes in the world oil market, decisions by oil producers and refiners, and international political developments, will reduce the availability of fuel oil. Prices of residual oil have increased well in excess of the most pessimistic projections, by more than doubling in the last two years. Moreover, it appears that the price of all grades of oil will continue to rise.

The 1980 Florida legislature authorized the Florida Public Service Commission ("PSC") to adopt statewide goals for electric utilities for decreasing the use of expensive resources, such as petroleum fuels. The PSC has adopted such rules which provide that "The use of oil as a generating fuel shall be reduced to the greatest practicable and cost effective extent. The overall goal for the 1980-85 period is to develop or implement programs to reduce the use of oil by 25% by 1989. . ."

The Federal Powerplant and Industrial Fuel Use Act of 1978 prohibits electric utilities from burning natural gas after 1990. FPL's natural gas supplies under existing firm contracts will begin to dwindle in 1983, and the complete loss of all gas suppplied under such contracts is expected by mid-1988. Thus, there is a substantial chance that

all natural gas supplies (presently equivalent to 14 million barrels of oil per year) will be unavailable to FPL in 1990. In addition, the aforementioned oil reduction programs of the Florida Public Service Commission would envision displacement of another ten million barrels of oil per year for a total of 24 million equivalent barrels of oil that may have to be supplied by some other fuel.

Coal is the only apparent alternative fuel source that will be available in sufficient quantities to offset the reduction in oil and gas supplies over the next decade and beyond. The political, regulatory, and licensing lead-time problems associated with nuclear power plant construction, the technological status of synthetic fuel use, and the limits of voluntary conservation eliminate the possibility that these alternatives can successfully mitigate the fuel oil dependency during this time frame. Construction of new coal-fired power plants could likely be accelerated, but this alternative also requires considerable time and expense. The fact is that FPL must begin to take steps to utilize coal, if possible, in its existing oil-fired generating units or be subjected to extraordinary increases in costs and potential disruption of fuel supplies. Unless the projected reliance on oil is significantly decreased, substantial economic hardship for the citizens of Florida and periodic unavailability of supplies of electricity could result.

In recognition of this problem, on January 2, 1980, DER Secretary Jacob D. Varn issued a variance allowing FPL relief from emission limitations at its Sanford Unit 4 to enable a test burn of coal/oil mixutres ("COM") to be conducted. This was the first such test in kind and duration at a large generating unit. The recently completed test burn was a major success. It demonstrated that Sanford Unit 4 is capable of accommodating the burning of COM on a long term basis.

FPL now proposes to continue the use of COM at Sanford Unit 4, and to eventually attempt to burn up to 100% coal at Sanford Units 4 and 5 on a permanent basis. Permission is sought to burn COM over a period of approximately 30 months (following all necessary state and federal approvals) while an electrostatic precipitator is being retrofitted. Once retrofitted, Unit 4 will comply with all of the present SIP emission limitations applicable to existing oil-fired units.

FPL also proposes to conduct up to 90 full-power-burn days of tests at Sanford Unit 4, during the 30-month pre-precipitator period. The tests would involve the burning of coal and/or various mixtures of coal and oil and/or water.

So that this project may go forward, FPL has requested that the Florida Environmental Regulation Commission amend Chapter 17-2, Florida Administrative Code, by specifying emission limitations which would apply when: a) burning COM during 30-month pre-precipitator period, b) conducting fuel experiments during the 90 full-power-burn days, and c) burning COM or coal after precipitator installation. FPL is also seeking the Commission's concurrence that the proposed switch to coal-based fuel(s) should not cause the units to be treated as "new sources," so long as the units will return to compliance with the present emission limitations for oil-fired units, subsequent to the 30-month period.

During the retrofit period, particulate emissions from the Sanford plant as a whole will be restrained to levels that are less than the maximum allowed under the 1979 fuel oil variance. In addition, the 90 full-power-burn day tests will not produce emissions which exceed the interim limitations previously allowed by Secretary Varn's order for COM. In all cases, the projected emissions will not threaten ambient air quality standards or Prevention of Significant Deterioration growth increments.

FPL's proposal will result in an estimated annual fuel savings to its customers in excess of $20,000,000 per year, by burning COM in Sanford Unit 4.

SECTION II

TEST DATA ON PRIOR COM TEST BURN

A. Particulate Stack Emission Tests

Table II-1 lists the results of the various stack tests on particulate taken during the prior COM test. These data show that emissions were less than one-half of the expected worst-case allowable level. It is anticipated that continued use of COM during the pre-precipitator period would not exceed the 0.7 pound per million BTU level.

B. Figure II-1 is a map of the Sanford area showing the location of ambient air monitors. Figures II-2 and II-3 show the quarterly average results for particulate. Figures II-4 and II-5 show the quarterly maximum particulate results. Figures II-6 and II-7 show the quarterly SO_2 average measurements. Figures II-8 and II-9 show the quarterly SO_2 maximums.

As can be seen, Florida particulate and ambient air quality standards were never violated during the test period.

Table II-1

SUMMARY OF SANFORD #4 PARTICULATE EMISSIONS TESTS

DATE	% COM (COAL/OIL)	MAXIMUM OPACITY (MONITORS)	MAXIMUM OPACITY (VISUAL)	AVERAGE PARTICULATE (LBS./HOUR)	AVERAGE PARTICULATE (LBS./10^6 BTU)
4/18/80	0/100	23%	-	466	.122
5/ 7/80	20/80	29%	-	849	.227
5/28/80	30/70	38%	42%	1,072	.327
7/21/80	40/60	48%	43%	1,599	.428
8/ 5/80	45/55	55%	-	1,857	.493
9/11/80	50/50	45%	49%	1,724	.531
12/ 2/80	40/60	40%	38%	2,111	.587
1/ 6/81	40/60	43%	45%	1,897	.562
1/27/81	40/60	46%	44%	2,153	.577
2/17/81	40/60	47%	44%	2,047	.590
3/ 4/81	40/60	48%	52%	1,596	.460
3/18/81*	40/60	57%	50%	2,484	.714
4/ 7/81	40/60	54%	55%	1,508	.490

NOTE:

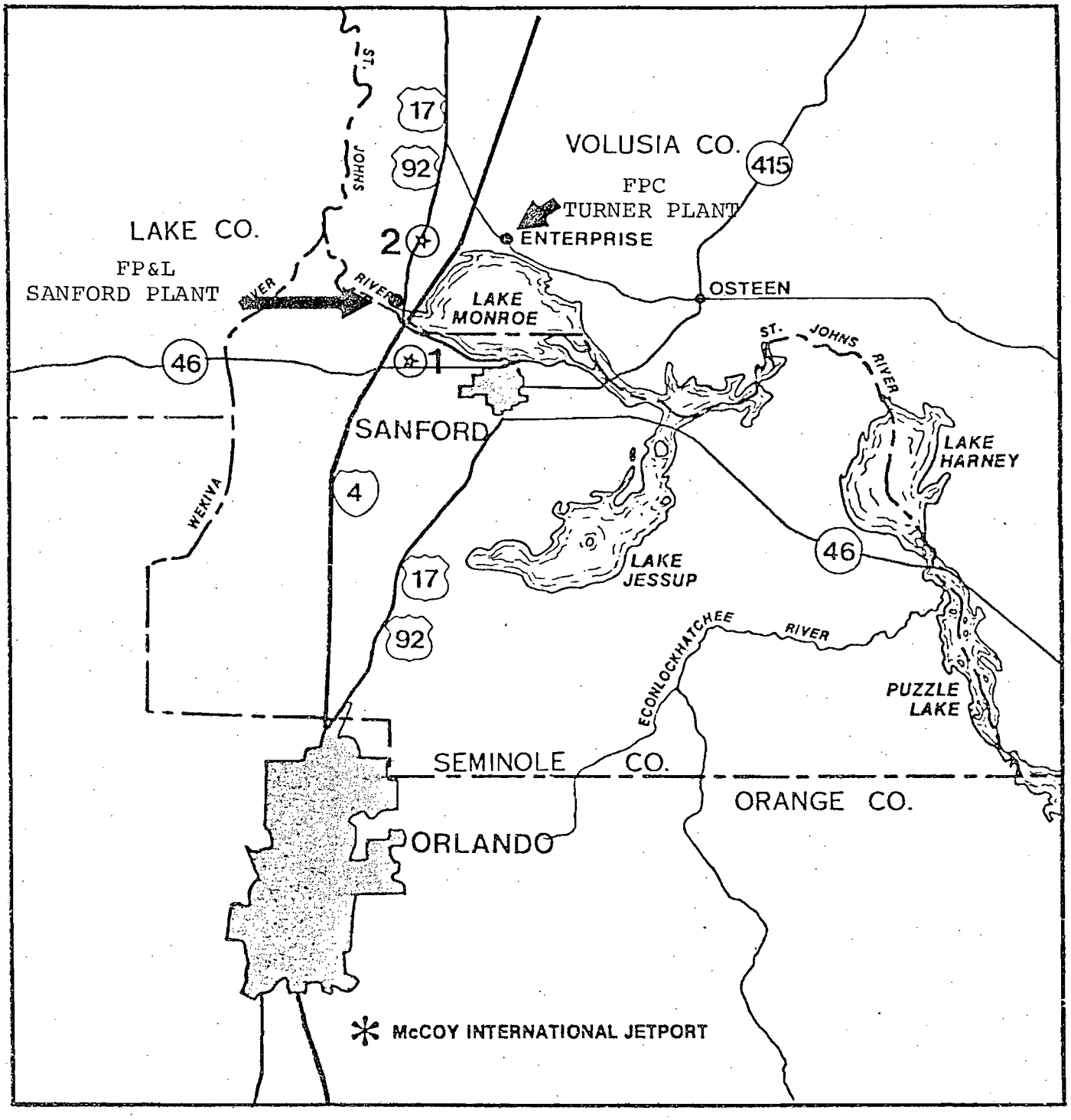
The above information is a summary of particulate emission tests conducted on Sanford Unit No. 4 burning COM (Coal/Oil Mixture). Only the full load test emissions are listed above. Other lower load tests were also run, which resulted in lower emissions.

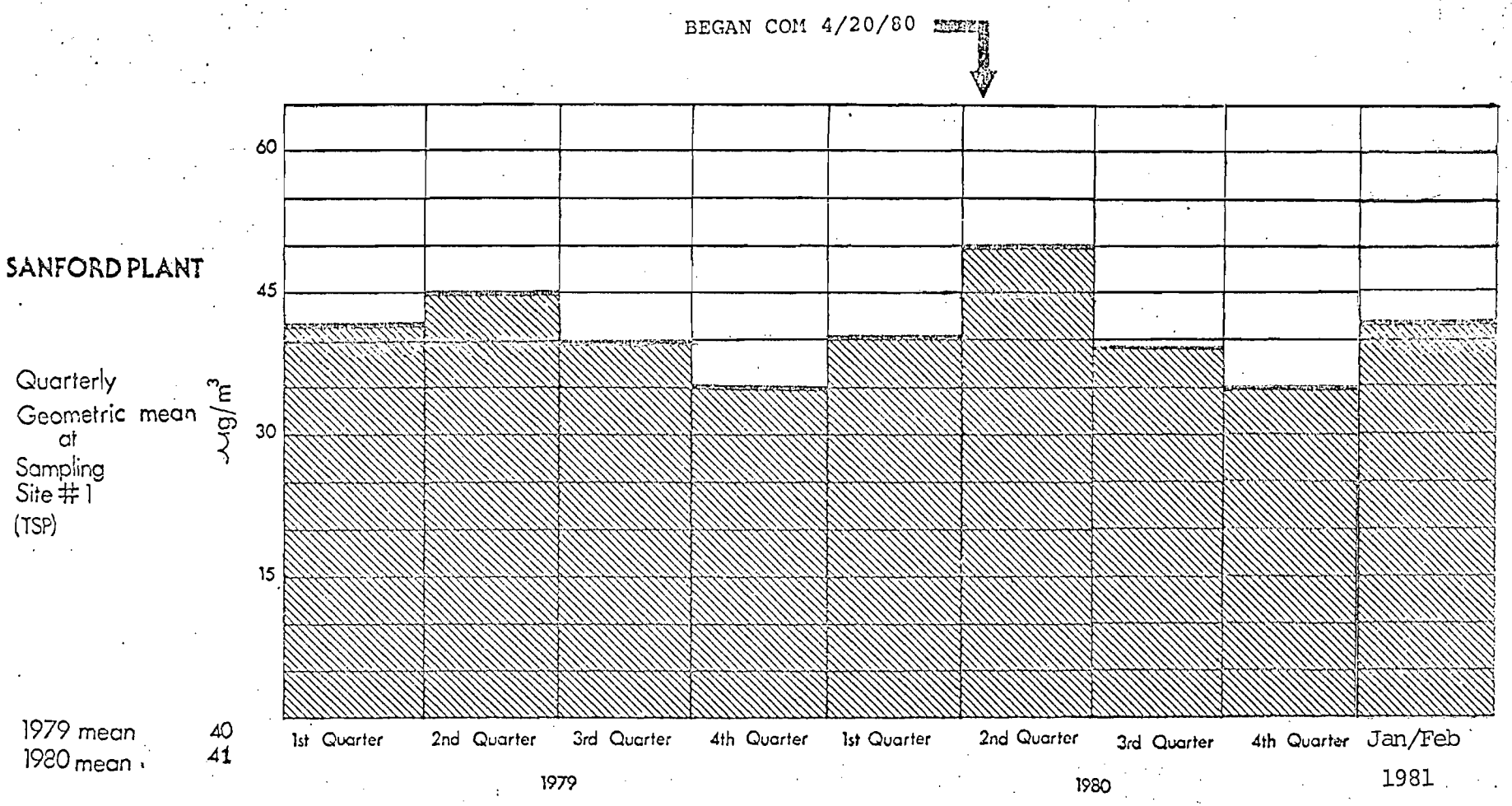
Full reports of all tests and backup information have been filed with the Department of Environmental Regulation in Tallahassee and the Environmental Protection Agency, Region IV, in Atlanta, with the exception of the 3/18/81 and 4/7/81 tests. These will be filed as soon as the full test reports are received from the consultant.

*One of the test runs conducted on this date indicated higher than normal particulate emissions. This was believed to be a combination of new burners being tested and resulting problems with combustion.

FIGURE II-1

SANFORD PLANT
AMBIENT AIR MONITORING STATIONS





Note: Annual Geometric mean standard for TSP = 60 $\mu g/m^3$

FIGURE II-2

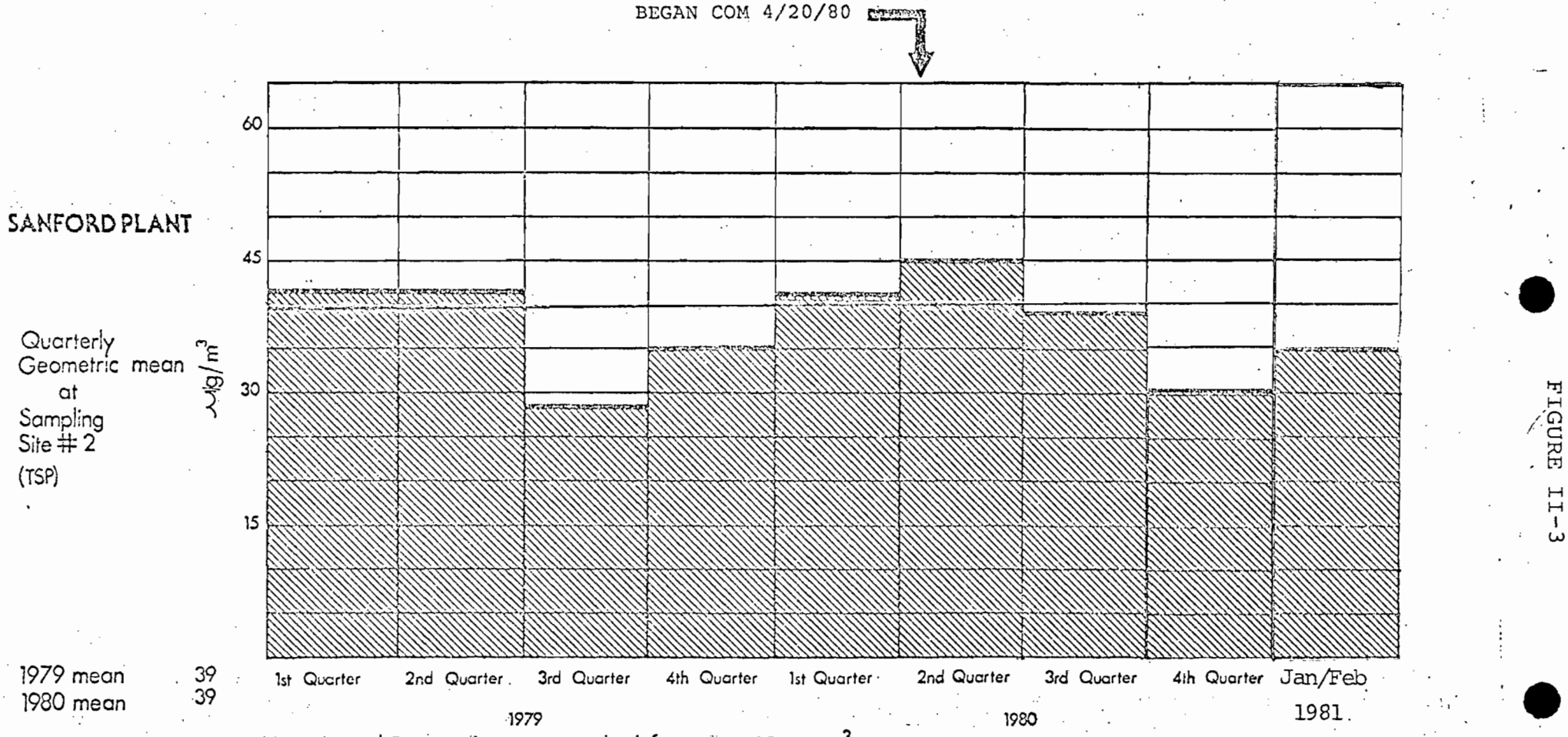

BEGAN COM 4/20/80
SANFORD PLANT
Quarterly Geometric mean at Sampling Site # 2 (TSP)
μg/m³
60
45
30
15
1st Quarter
2nd Quarter
3rd Quarter
4th Quarter
1st Quarter
2nd Quarter
3rd Quarter
4th Quarter
Jan/Feb
1979
1980
1981
1979 mean 39
1980 mean 39
Note: Annual Geometric mean standard for TSP = 60μg/m³

FIGURE II-3

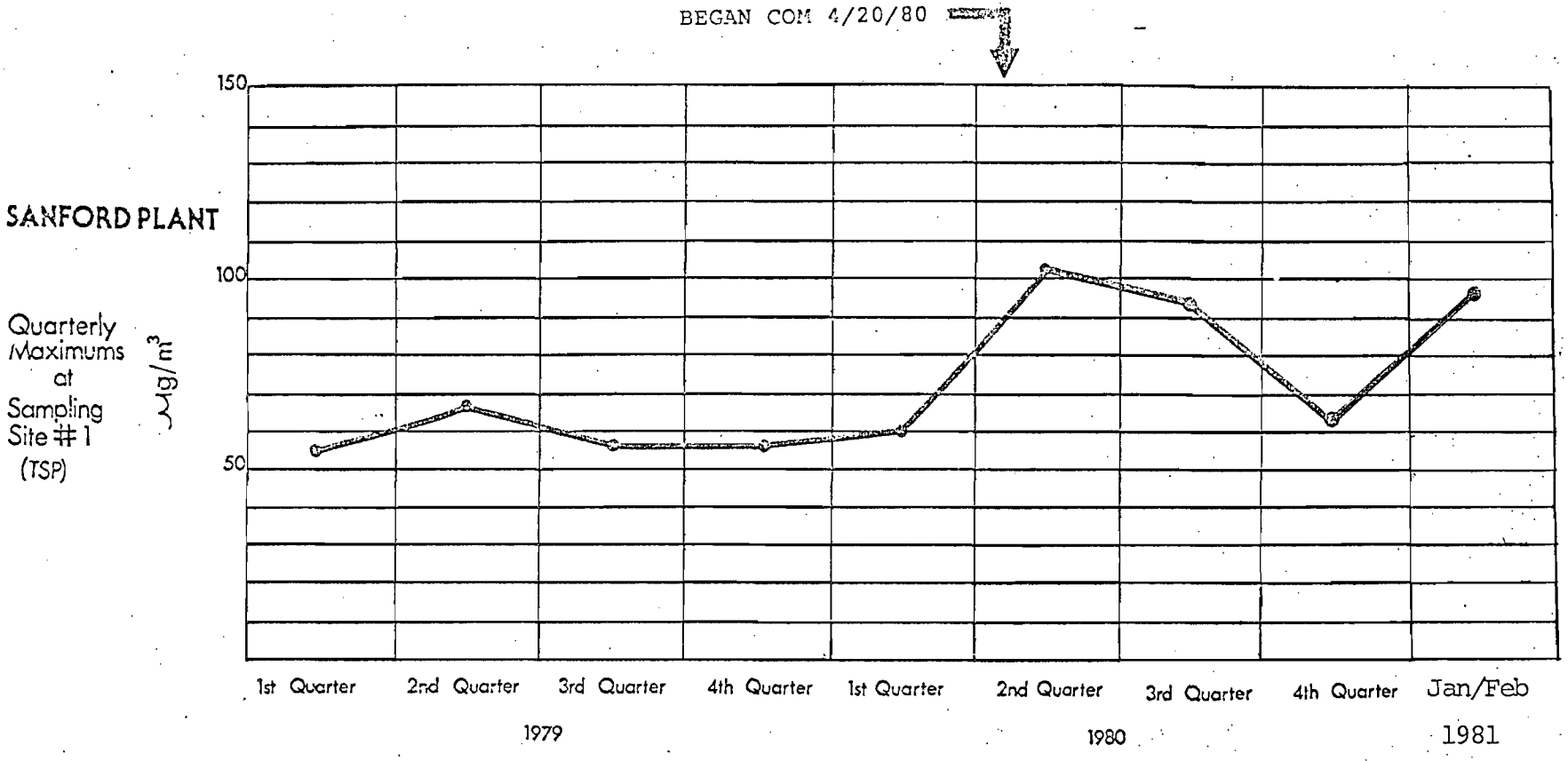


FIGURE II-4

Note: 24-hour standard for TPS = 150 μg/m³ - not to be exceeded more than once per year

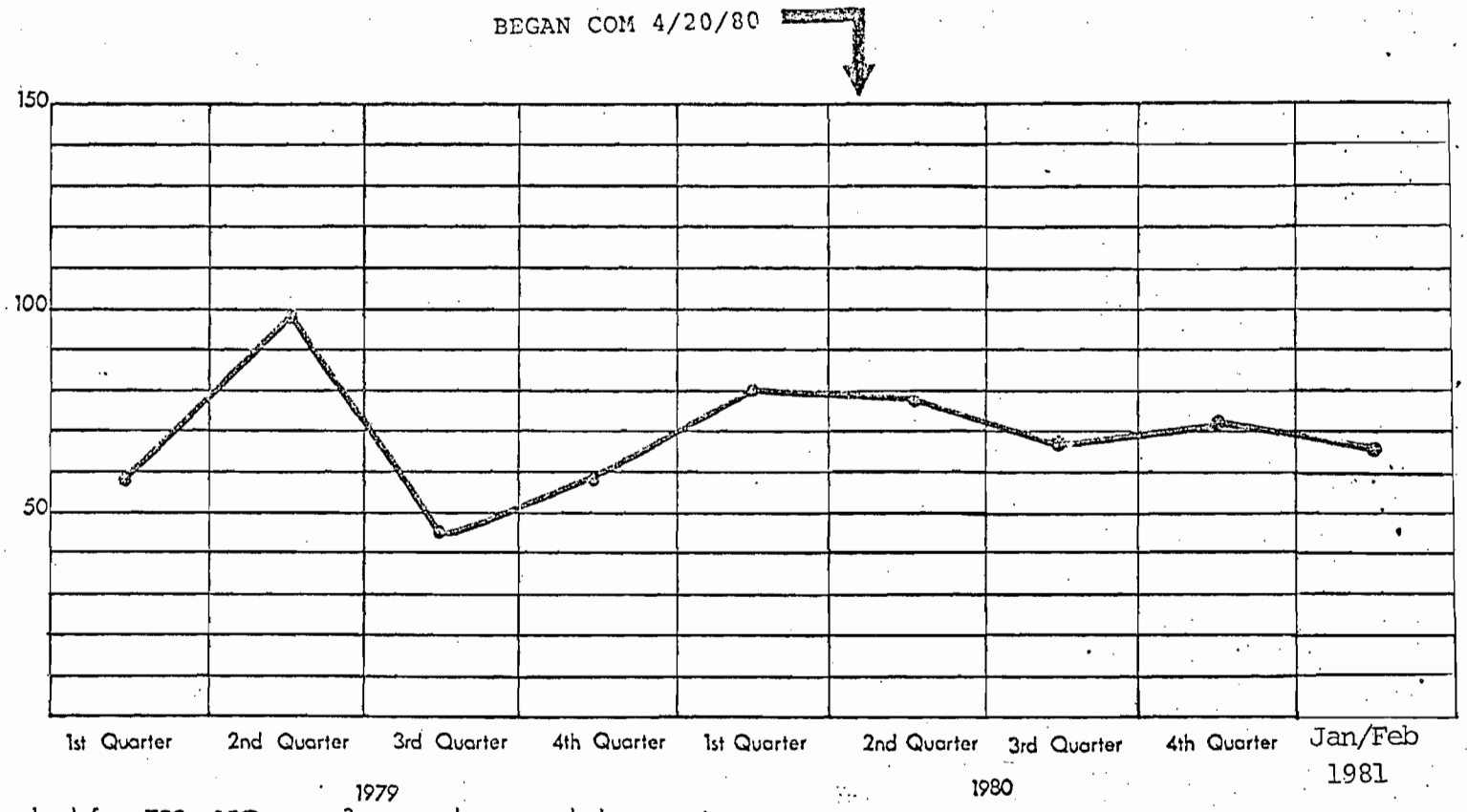
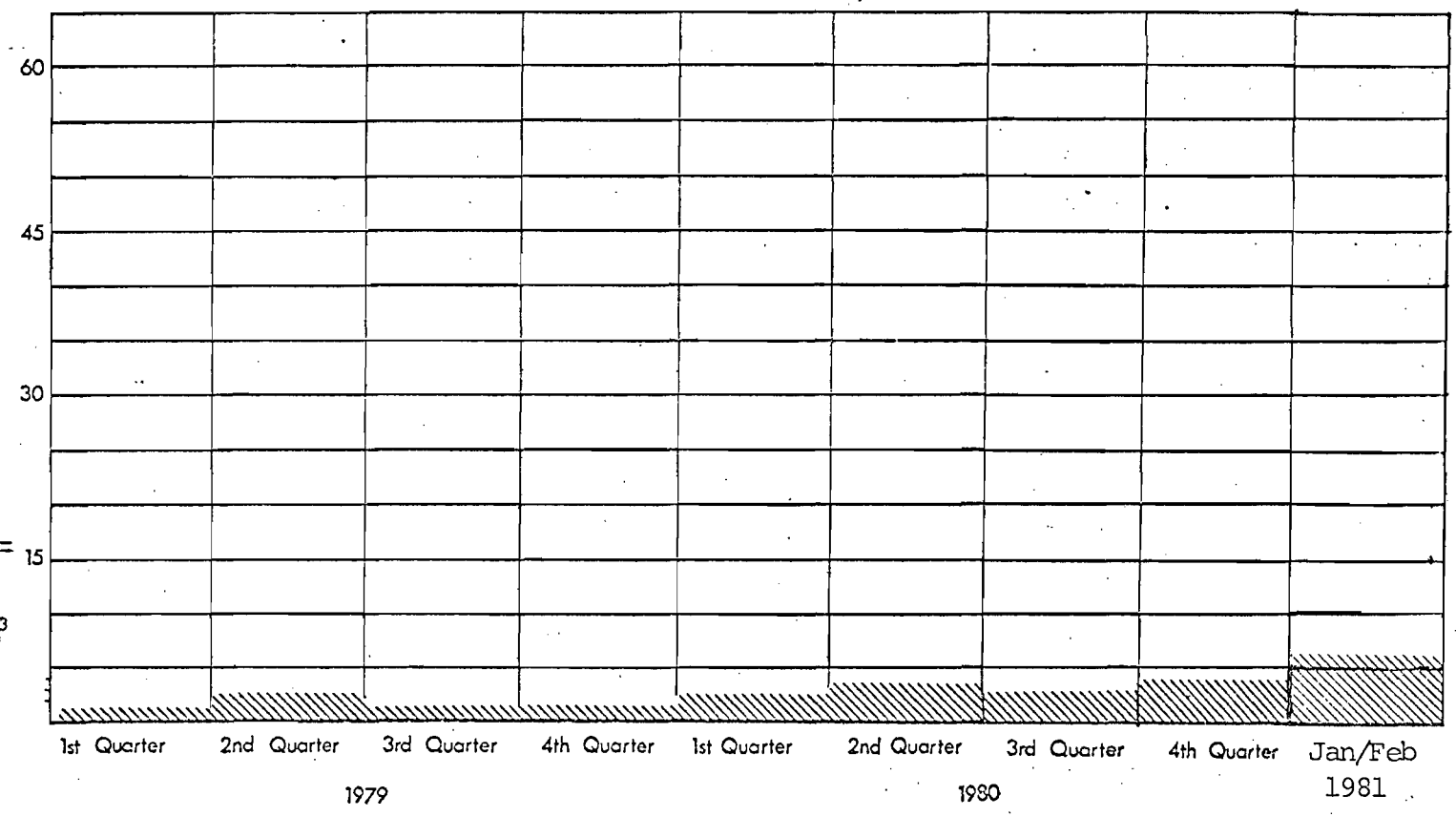


FIGURE II-5

Note: 24-hour standard for TPS = 150 µg/m³ not to be exceeded more than once per year

BEGAN COM 4/20/80



SANFORD PLANT

Quarterly Arithmetic mean at Sampling Site #1 (SO_2) $\mu g/m^3$

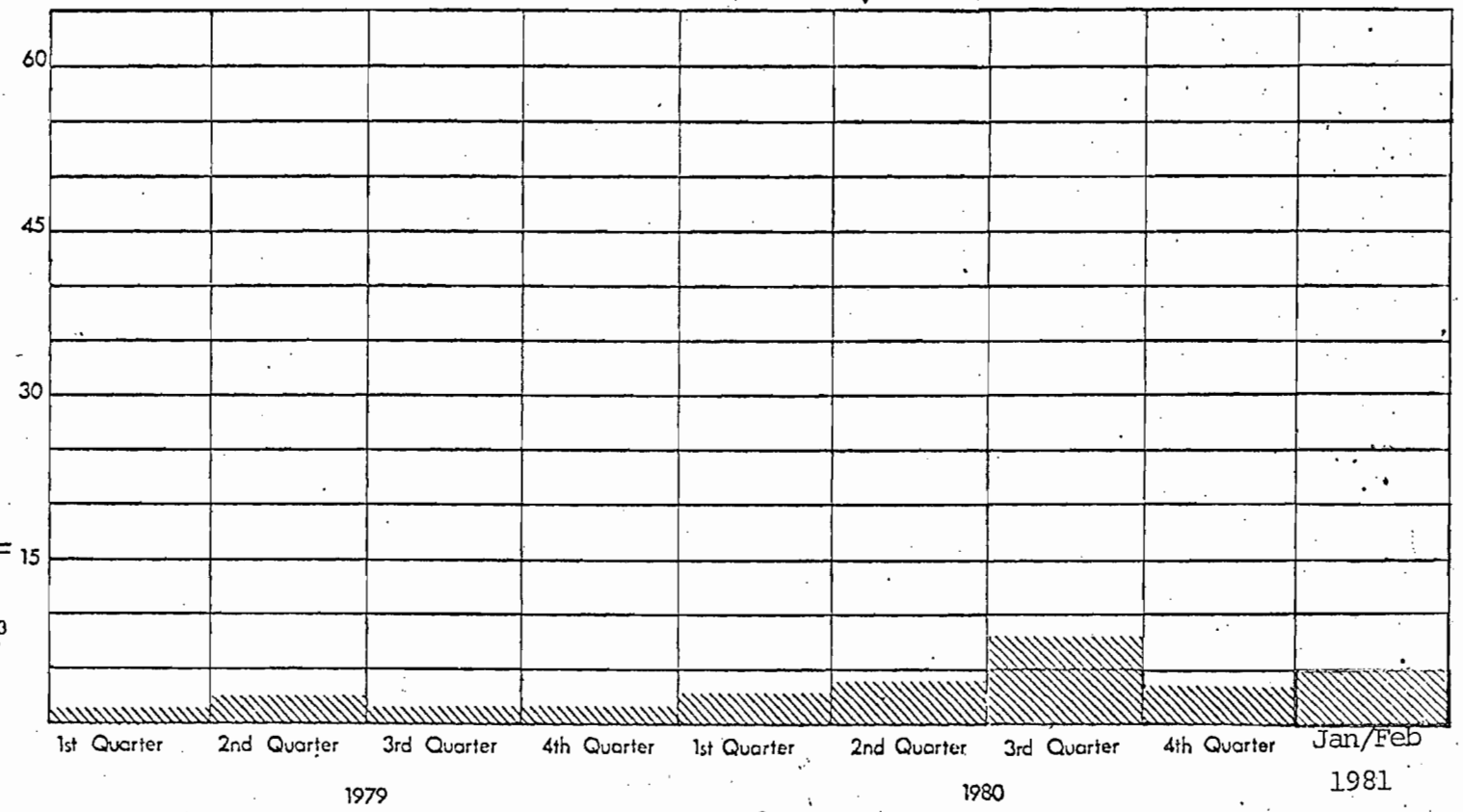
1979 annual mean = 1.9 mg/m^3

1980 annual mean = 3 $\mu g/m^3$

Note: Annual arithmetic mean standard for SO_2 = 60 $\mu g/m^3$

FIGURE II-6

BEGAN COM 4/20/80



SANFORD PLANT

Quarterly Arithmetic mean at Sampling Site # 2 (SO_2) $\mu g/m^3$

1979 annual mean = 1.9 mg/m^3

1980 annual mean = 4 $\mu g/m^3$

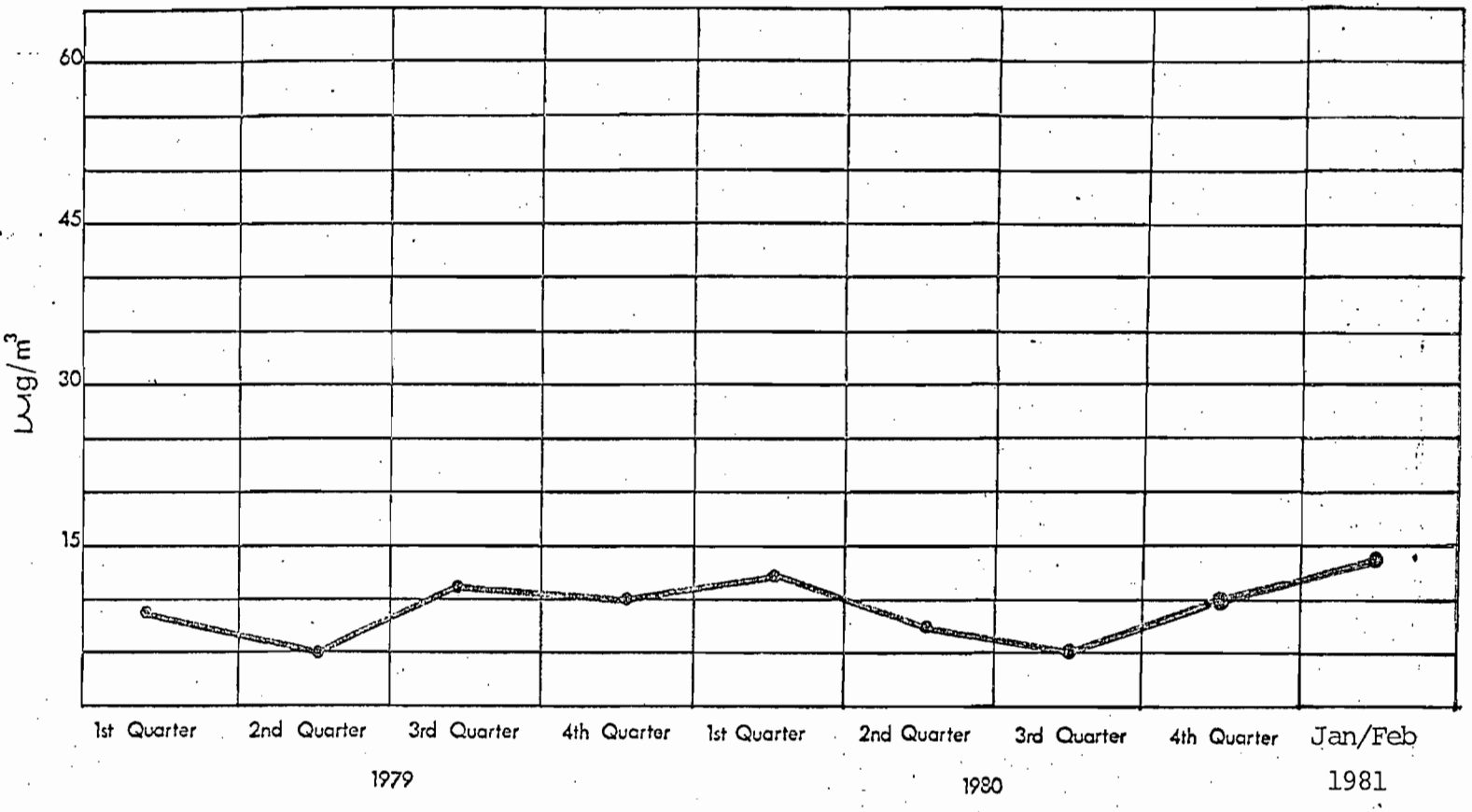
Note: Annual arithmetic mean standard for $SO_2 = 60 \mu g/m^3$

FIGURE IV-7

BEGAN COM 4/20/80

SANFORD PLANT

Quarterly Maximums at Sampling Site #1 (SO_2)

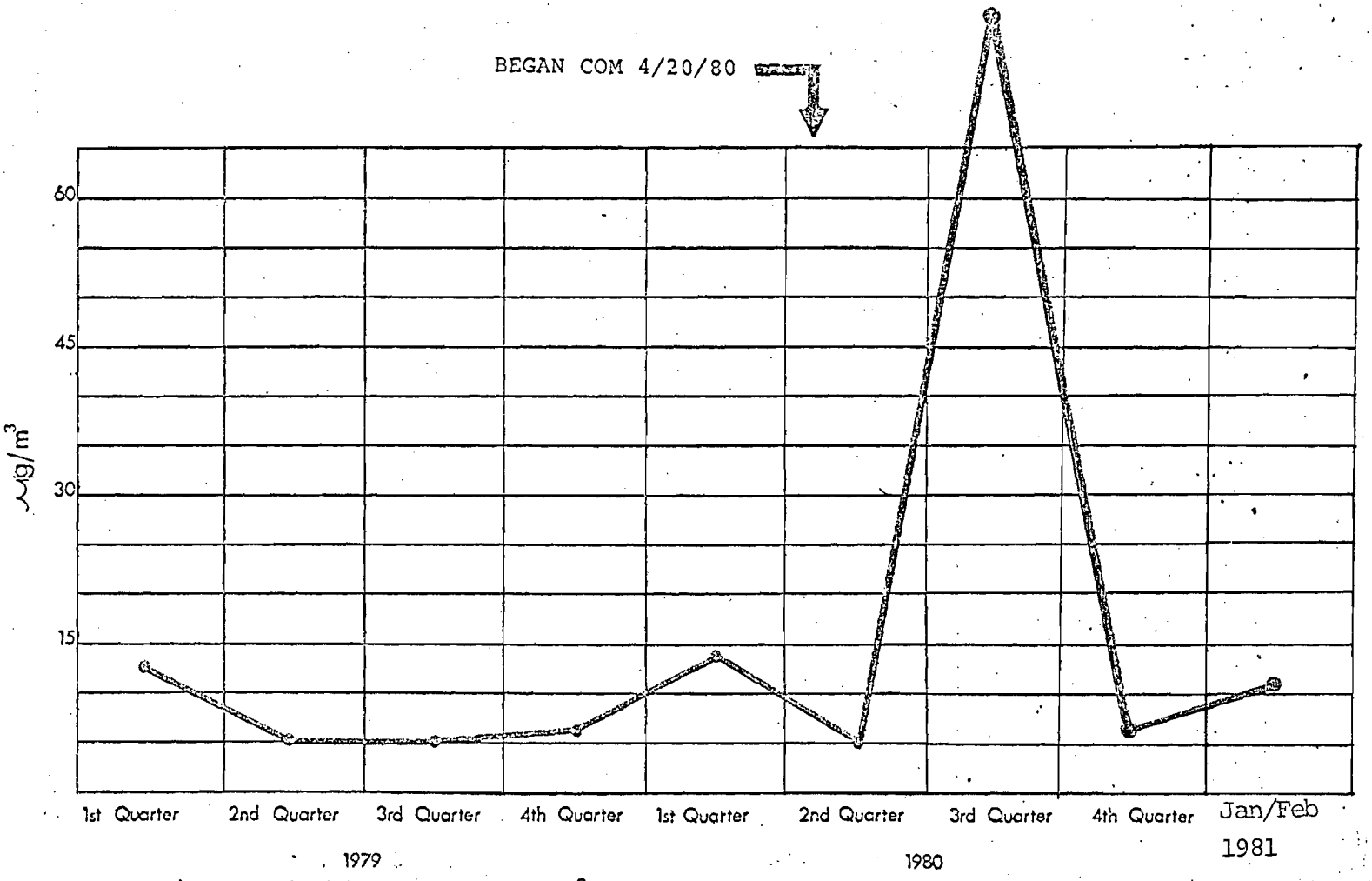


Note: 24-hour standard for SO_2 = 260μg/m³

FIGURE IX-8.

SANFORD PLANT

Quarterly Maximums at Sampling Site # 2 (SO_2)



Note: 24-hour standard for SO_2 = 260 $\mu g/m^3$

THE SECOND HIGHEST OBSERVED VALUE FOR 3rd QUARTER 1980 WAS 5 $\mu g/m^3$

FIGURE II-9

SECTION III

PROPOSED COM EMISSION LIMITS

A. Proposed Sulfur Dioxide Emission Limits

The sulfur dioxide emission limitation applicable to Sanford Unit 4 when burning oil and coal set forth in Chapter 17-2, Florida Administrative Code, is 2.75 and 6.17 pounds per million BTU respectively. Rather than prorate these limits, FPL proposes to use a COM mixture that will still comply with the 2.75 pound per million BTU oil limit.

B. Proposed Particulate Emission Limits and Bubbles

The proposed rule to allow Sanford Unit 4 to continue burning COM for a 30 month period is in the form of an emission rate and a cap or bubble. There is a proposed particulate emission limiting rate for Sanford Unit 4 of 0.7 lbs/10^6 Btu (2,520 lbs/hour) and a plant emission cap of 2,920 lbs/hour. The bubble is equivalent to the emission allowed for Sanford Units 3, 4, and 5 under the particulate variance, i.e., 0.34 lb/10^6 Btu at maximum capacity (24 hour average).

These emission limiting standards can be best expressed by the equation:

$X + Y + Z = 2{,}920$ lbs/hour Equation 1

where X = Unit 3 emissions ≤ 0.34 lbs/10^6 Btu

Y = Unit 4 emissions ≤ 0.7 lbs/10^6 Btu

Z = Unit 5 emissions ≤ 0.34 lbs/10^6 Btu

Under the emissions bubble there is a variety of possible emission scenarios that would meet the proposed rule. One scenario could have Unit 4 at 2,520 lbs/hour (a 0.7 lb/10^6 Btu limit at maximum capacity). Unit 5 at 360 lbs/hour (a 0.1

lbs/10^6 Btu limit at maximum capacity) and Unit 3 at 40 lbs/hour (a 0.03 lbs/10^6 Btu limit at maximum capacity) to equal 2,920 lbs/hour. The overall plant emissions would equal 2,920 lbs/hour, i.e., the emission bubble.

Sanford Unit 4 often had emissions less than 0.7 lbs/10^6 Btu when burning COM. ~~An~~ emissions from Unit 4 of 0.67 lbs/10^6 Btu at maximum capacity would enable both Units 3 and 5 to emit at 0.1 lbs/10^6 Btu during maximum capacity periods.

FPL can meet the emissions restrictions on Units 3 and 5 by using certain combinations of: 1) natural gas in Unit 3, 2) high quality low asphaltene oil in Units 3 and 5, and/or 3) emission/load control in Unit 4.

The proposed rule also contains a provision to allow testing of coal and oil, and coal and water mixtures. Particulate emissions are limited by 5,150 lbs/hour and 6,850 lbs/hour respectively for both Sanford Unit 4 and the plant. A period of 90 full-power burn days is proposed for testing. This testing bubble would limit emissions at maximum capacity to 1.43 lbs/10^6 Btu from Unit 4 and 0.34 lbs/10^6 Btu from Units 3 and 5. With the exception of the duration of testing (90 versus 120 full-power burn days), the emission cap is identical to the inital COM variance.

The testing bubble can be expressed by the following equation:

$X_1 + Y_1 + Z_1 = 6{,}850$ lbs/hour Equation 2

where X_1 = Unit 3 emissions $\leq$ 0.34 lbs/10^6 Btu

Y_1 = Unit 4 emissions $\leq$ 5,150 lbs/hour; 1.43 lbs/10^6 Btu at maximum capacity

Z_1 = Unit 5 emissions $\leq$ 0.34 lbs/10^6 Btu

Emision restrictions can be achieved in a variety of methods so long as the emission caps as represented in both equations 1 and 2 are not exceeded.

C. Coal/Oil Mixture Fuel Specifications

The proposed COM fuel specifications are as follows:

	CLEAN COAL
Ash (by weight)	10% Maximum
Sulfur (ultimate analysis)	2% Maximum*
Moisture (by weight)	10% Maximum
Heating Value	12,500 BTU/lb Minimum

	NO. 6 FUEL OIL
Ash	.1% Maximum
Sulfur	2.5% Maximum
Asphaltenes	5.5% Maximum
Vanadium	200 PPM Maximum

*SO_2 emissions will not exceed 2.75 lbs/10^6 Btu. The actual sulfur percentage of the coal will depend upon the actual heating value of the coal. These specifications are independently variable.

SECTION IV

MAINTENANCE OF AMBIENT AIR QUALITY AIR STANDARDS AND PREVENTION OF SIGNIFICANT DETERIORATION

The proposed rule change has the potential of affecting the air quality in the vicinity of the Sanford Plant. However, the change in air quality would primarily be on the duration of impacts and not the magnitude. That is, the proposed emission bubbles for the Sanford Plant will not be greater in magnitude than the emission limitations previously approved by DER. The difference would occur in the durations of the impact of those emissions.

In order to evaluate the impact of emissions, an analysis of available air quality data and atmospheric dispersion model results were performed. These results were then compared to the Ambient Air Quality Standards (AAQS) and Prevention of Significant Deterioration Increments (PSD). The results of this analysis are presented in Table 1.

Since 1976, ambient air quality data for TSP and SO_2 have been collected in the vicinity of the Sanford Plant. These data have shown that there have been no substantial increases in TSP in 1980 even with COM firing at Unit 4. While there has been an increase in SO_2 concentrations, these increases are not attributable to COM firing. The air quality increase, approximately 24% of the AAQS for the 24 hour concentrations, is due to the increase in sulfur content allowed by DER in 1979. The maximum TSP and SO_2 concentrations are shown in column A of Table 1. During the 30 month period that the rule is in effect, the sampling stations will continue to be operated.

To analyze the impact of COM firing for 30 months and testing for 90 full-power burn days, EPA and DER approved atmospheric models were used. The results, after adding a suitable background[1], are presented in columns C through G of Table 1.

The estimated maximum impacts for both COM firing (column D) and testing (column F) are within the AAQS limitations. Also, these air quality estimates are no greater than previously allowed by DER approved rule and variances.

Differential air quality impacts are presented in columns E and G. These estimated air quality differences are within the TSP and SO_2 PSD increments. It is important to note that the differences are from baseline (1977) conditions, i.e., FPL Sanford Plant was burning 1% sulfur oil. In 1979 and 1980 FPL's oil averaged 1.4 and 2.0% suflur respectively. Therefore, the actual air quality difference from 1979/1980 would be approximately half of that listed in Table 1.

In addition, the air quality analysis for the testing period (90 full-power burn days) assumes that the allowable emission would occur over the entire 30 month period. The probability of this occurrence is unlikely.

---

[1]Background is the air quality concentration not attributable by point sources in the area. The estimated background (column C, Table 1) was derived solely from air quality data.

TABLE 1 - SUMMARY OF AIR QUALITY ANALYSIS

		Total Suspended Particulate		Sulfur Dioxide		
		24-Hour	Annual Geometric Mean	3-Hour	24-Hour	Annual Average
A.	Maximum Observed Air Quality 1979-1980	113	41	-	78	4
B.	Estimated Background	58	41	64	32	4
C.	Estimated Baseline (Includes background)	62	41	379	77	8
D.	Estimated Maximum Impact for Proposed Rule (non-testing)	70	42	832	141	14
E.	Estimated Maximum Air Quality Difference (non-testing)	13	1	460	70	6
F.	Estimated Maximum Impact During Testing	88	45	832	142	14
G.	Estimated Maximum Air Quality Difference Testing	29	3	460	70	6
	Ambient Air Quality Standards	150	60	1,300	260	60
	PSD Increments	37	19	512	91	20

SECTION V

COMPLIANCE PLAN

A. Compliance With Sulfur Limits

1. Compliance Methodology

The applicable SIP limitation for SO_2 emissions is 2.75 pounds per million BTU heat input enforceable at the top of the stack. For purposes of convenience, compliance determinations in the past have been based upon the assumption that all of the sulfur contained in the fuel is converted to SO_2 and is emitted from the stack. However, available information indicates that approximately three percent of the fuel sulfur content is not emitted, but ends up in the bottom ash of the facility. When credit for this SO_2 removal is given, a fuel resulting in 2.83 pounds per million BTU heat input emissions will meet the regulatory limit. Section III contains the general bid specifications for oil and coal that will be finalized to assure the use of a mixture which will not exceed this limitation.

2. Oil Sampling

The same compliance procedures which are now being used for our fuel oil would be continued. A composite sample of the fuel oil received is obtained as each tanker is unloaded into our fuel storage tanks in Jacksonville. A representative sample from this tank is then sent to FPL's Power Resources Lab for analysis to insure the sulfur content of each delivery. At the Sanford Plant, composite, "as-fired" oil samples are also analyzed, and a monthly report is prepared. (See Attachment V-1)

3. Coal Sampling

The same procedures that were followed during the COM test burn would be continued. A composite sample is taken on each train at the mine and then analyzed by the vendor. A copy of these analyses are forwarded to FPL's Fuel Resources Department. At the Sanford Plant, a composite sample is taken from random train deliveries, which is then analyzed by an independent lab. (See Attachment V-2) This insures that not only the sulfur content but also the ash and Btu makeup are consistent with the coal specifications.

Our experience has been that since the coal is a clean coal and goes through washing processes, quality control is very good. The vendor's analyses forwarded to FPL have been accurate. In our analyses done on on-site deliveries, if the coal is found to be out of specifications, sampling would be stepped up and done subsequent to blending to insure coal consistent with the specifications.

B. Compliance With Particulate Limits

1. Emission Tests Prior to Precipitator Operation (30 Months)

In burning COM, particulate emission tests will be conducted quarterly using "Method 17." This method is preferred due to easier implementation, and is expected to yield the same results as "Method 5" because of the larger percentage of ash in coal as opposed to oil.

2. Emission Tests For Special Fuels (90 Full-Power Burn Days)

For special (solid and/or liquid) fuel tests, particulate emission tests will be conducted during the initial burn and any time the ratio of the mixture of the

special fuel is increased significantly. Prediction of emissions and graphical evaluations will be conducted whenever possible, in a manner similar and equivalent to information provided on the mixture concentration changes on the COM burn. (See Attachments V-3 and V-4) In this manner, we will be assured that emissions limits will always be met. Types of fuel that are anticipated to be tested include, but are not limited to: coal/water slurry, coal/oil/water slurry, pulverized coal, and mixtures of COM between 50 and 100% pulverized coal.

3. Emission Tests After Precipitator Operation

Once the precipitator is installed and operating, particulate compliance testing would be conducted on a quarterly basis for the first year and annually thereafter.

C. Precipitator Compliance Schedule

Compliance schedule dates for procurement, installation, and operation are listed below:

7/ 1/81 - Specification development begins

10/ 1/81 - Vendor solicitation

1/ 1/82 - Vendor selection

4/ 1/82 - Construction commences

9/ 1/83 - Construction completed

9/ 1/83 - Precipitator start-up

12/ 1/83 - Unit #4 in compliance with existing oil particulate standard of 0.1 pounds per million BTU heat input.

A more detailed 30-month schedule for installation and operation, indicating the anticipated various phases of the precipitator construction, is attached (Attachment V-5).

ATTACHMENT V-1

FLORIDA POWER AND LIGHT COMPANY
POWER RESOURCES LABORATORY
9250 W FLAGLER STREET
PO BOX 529100
MIAMI, FLORIDA 33152

SANFORD PLANT
ANALYSIS OF FUEL OIL FIRED
FEBRUARY 1981

DATE SAMPLE RECEIVED AT LABORATORY	2/19/81
API GRAVITY	11.6
DENSITY, LB/GAL	8.235
DENSITY, LB/BBL	345.870
HEAT OF COMBUSTION, B/LB	18150
HEAT OF COMBUSTION, B/GAL	149500
HEAT OF COMBUSTION, KB/BBL	6278
WATER, % BY VOLUME	0.40
SEDIMENT, % BY WEIGHT	0.01
SULFUR, % BY WEIGHT	2.05
SULFUR DIOXIDE EQUIVALENT, LB/MB	2.26
ASH, % BY WEIGHT	0.07
PARTICULATE EQUIVALENT, LB/MB	0.04
VANADIUM IN ASH AS V2O5, % BY WEIGHT	14.
VANADIUM IN OIL AS V2O5, PPM	105.
VANADIUM IN OIL AS V, PPM	59.
VISCOSITY, SSF AT 122 F	243
ASPHALTENES, % BY WEIGHT	5.7

ANALYSIS CERTIFIED BY _____ FEBRUARY 24, 1981

ORIGINAL TO: O D SMITH
COPIES TO: L L WILLIAMS
B F GILBERT
A D SCHMIDT
C D HENDERSON

F-465

ATTACHMENT V-2

APR 14 1981

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 · AREA CODE 312 726-8434

SINCE 1908

PLEASE ADDRESS ALL CORRESPONDENCE TO:
216 OXMOOR CIRCLE, BIRMINGHAM, AL 35209
OFFICE TEL. (205) 942-3120

Bechtel Power Corporation
Gaithersburg, Maryland

4-1-81

Kind of sample reported to us	Railcars P.O. No. 13900-CP-13-01
Sample taken at	---
Sample taken by	Florida Power & Light Co.
Date sampled	3-26-81
Date received	3-31-81

Sample identification by Florida Power & Light Co.

CRR 57709	54692
54576	54013
55848	54789
54089	54143

Analysis made in accordance with ASTM Specifications

Analysis Report No. 73-72608

SHORT PROXIMATE ANALYSIS

	As Received	Dry Basis	
% Moisture	3.02	XXXXX	
% Ash	7.12	7.34	
Btu/lb.	14032	14469	MAF 15615
% Sulfur	0.73	0.75	

FUSION TEMPERATURE OF ASH

	Reducing	Oxidizing
Initial Deformation	NOT °F	RUN °F
Softening (H=W)	°F	°F
Softening (H=½W)	°F	°F
Fluid	°F	°F

H=Cone Height
W=Cone Width

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

JOHN A. HOAGLAND, Manager, Southern Division

Charter Member

Original Copy Watermarked
For Your Protection

ATTACHMENT V-3

FLORIDA POWER & LIGHT COMPANY

July 30, 1980

Mr. Tommie Gibbs
Chief, Air Facilities Branch
Air and Hazardous Materials Division
U. S. Environmental Protection Agency
Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30308

RE: PSD-FL-047, FPL Sanford Com
(Coal/Oil Mixture) Test Project

Dear Mr. Gibbs:

Enclosed ia a summary of particulate test data obtained from burning 40% COM (40% coal/60% oil) at Sanford Plant Unit #4. The particulate data for pounds per hour and pounds per million BTU's have been graphed on additional enclosures. Using the 40% COM data, we have projected 50% COM particulate emissions. The graphs indicate we will be well below the established limits at 50% COM.

Our estimated date for burning 45% COM (45% coal/55% oil) is August 4, 1980. Particulate test data from this run will be used for a projection to assure that the next COM increment will not violate the established limits.

Complete compliance test results for 40% COM will be forwarded once we have received them.

Sincerely,

W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJBjr/RTKjr/kb

Enclosures

cc: Mr. Roger Pfaff, EPA, Atlanta
Mr. J. T. Wilburn, EPA, Atlanta
Mr. Steve Smallwood, DER, Tallahassee

DATA SUMMARY

COM. PROJECT - UNIT #4

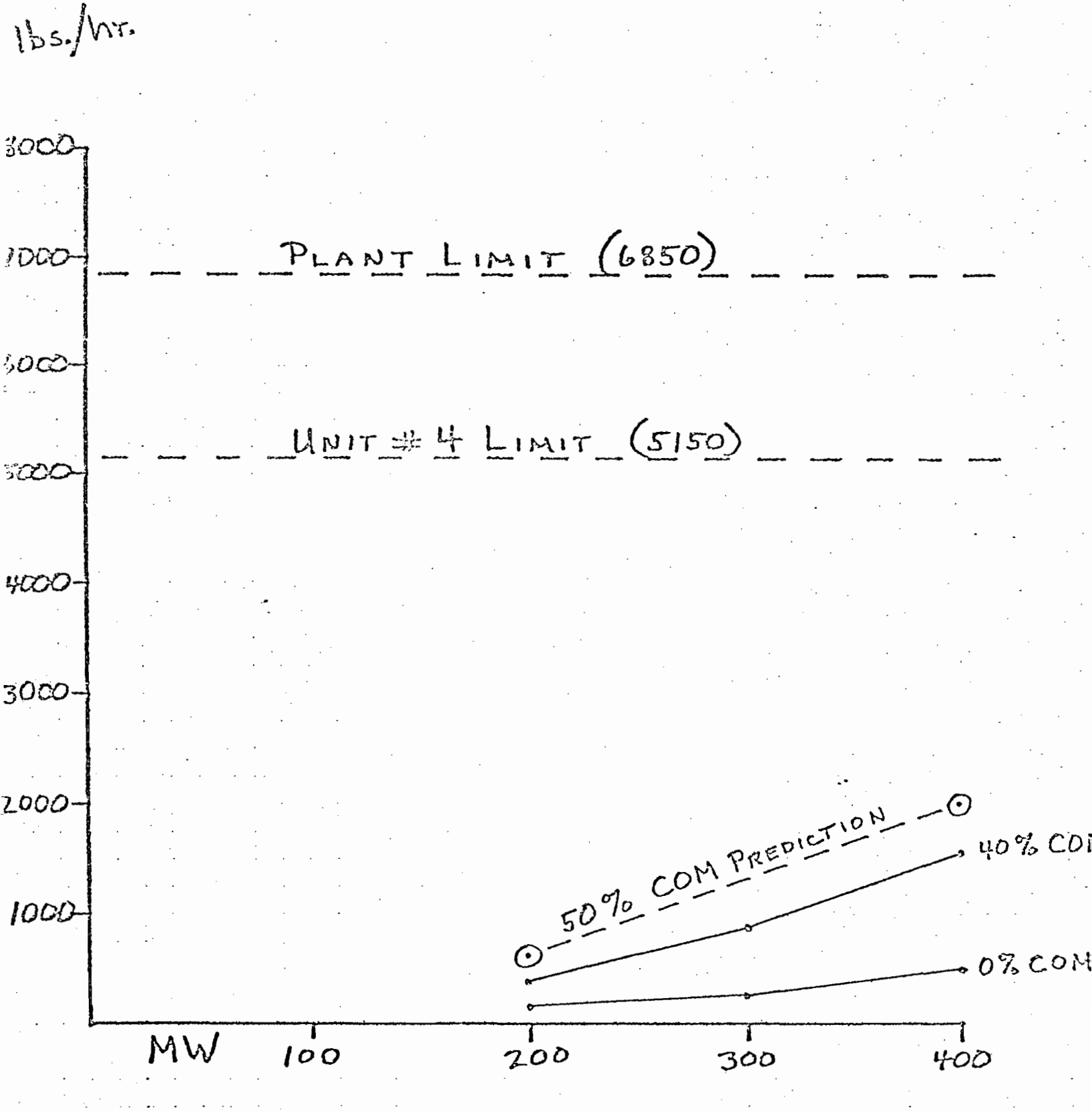
RTK 7/30/80

ITEM	400 MW			300 MW			200 MW			100 MW		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3	Test 1	Test 2	Tes
40% COM												
Date	7/21	7/21		7/19	7/19		7/22					
Opacity (Monitors)	44%	48%		39%	39%		37%					
Opacity (Visual)	43%	42%		47%	40%		37%					
lbs./hour	1,481	1,717		758	975		423					
lbs./mBTU	.396	.459		.273	.351		.195					
Date												
Opacity (Monitors)												
Opacity (Visual)												
lbs./hour												
lbs./mBTU												
Date												
Opacity (Monitors)												
Opacity (Visual)												
lbs./hour												
lbs./mBTU												

FPL SANFORD COM. PROJECT

RTK 7/30/80

GRAPH #1 - LBS./HR. PROJECTIONS
(Based on latest 40% COM data)

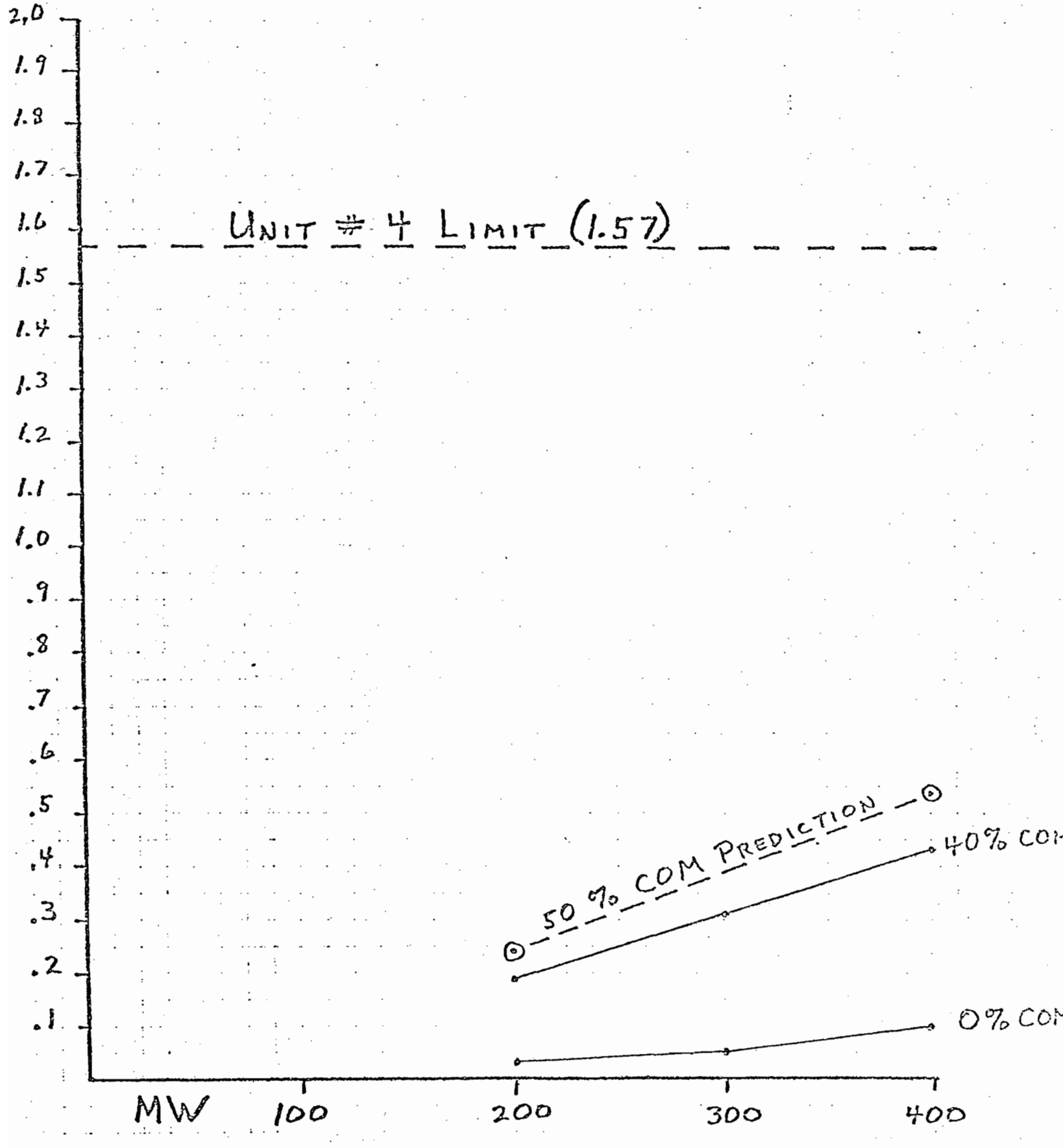


FPL SANFORD COM PROJECT

RTK
7/30/80

GRAPH # 2 - LBS./mBTU PROJECTIONS

(Based on latest 40% COM data)



P.O. BOX 529100 MIAMI, FL 33152

ATTACHMENT V-4

FLORIDA POWER & LIGHT COMPANY

August 18, 1980

Mr. Tommie Gibbs
Chief, Air Facilities Branch
Air and Hazardous Materials Division
U. S. Environmental Protection Agency
Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30308

RE: PSD-FL-047, FPL Sanford COM
(Coal/Oil Mixture) Test Project

Dear Mr. Gibbs:

Enclosed is a summary of particulate test data obtained from burning 45% COM (45% coal/55% oil) at Sanford Plant Unit #4. The particulate data for pounds per hour and pounds per million BTU's have been graphed on additional enclosures. Using the 45% COM data, we have projected 50% COM particulate emissions. The graphs indicate we will be well below the established limits at 50% COM.

Our estimated date for burning 50% COM (50% coal/50% oil) is September 3, 1980.

Complete compliance test results for 45% COM will be forwarded in the near future.

Sincerely,

W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJBjr/RTKjr/kb

Enclosures

cc: Mr. Roger Pfaff, EPA, Atlanta
Mr. J. T. Wilburn, EPA, Atlanta
Mr. Steve Smallwood, DER, Tallahassee

DATA SUMMARY

COM PROJECT - UNIT #4

RTK 8/18/80

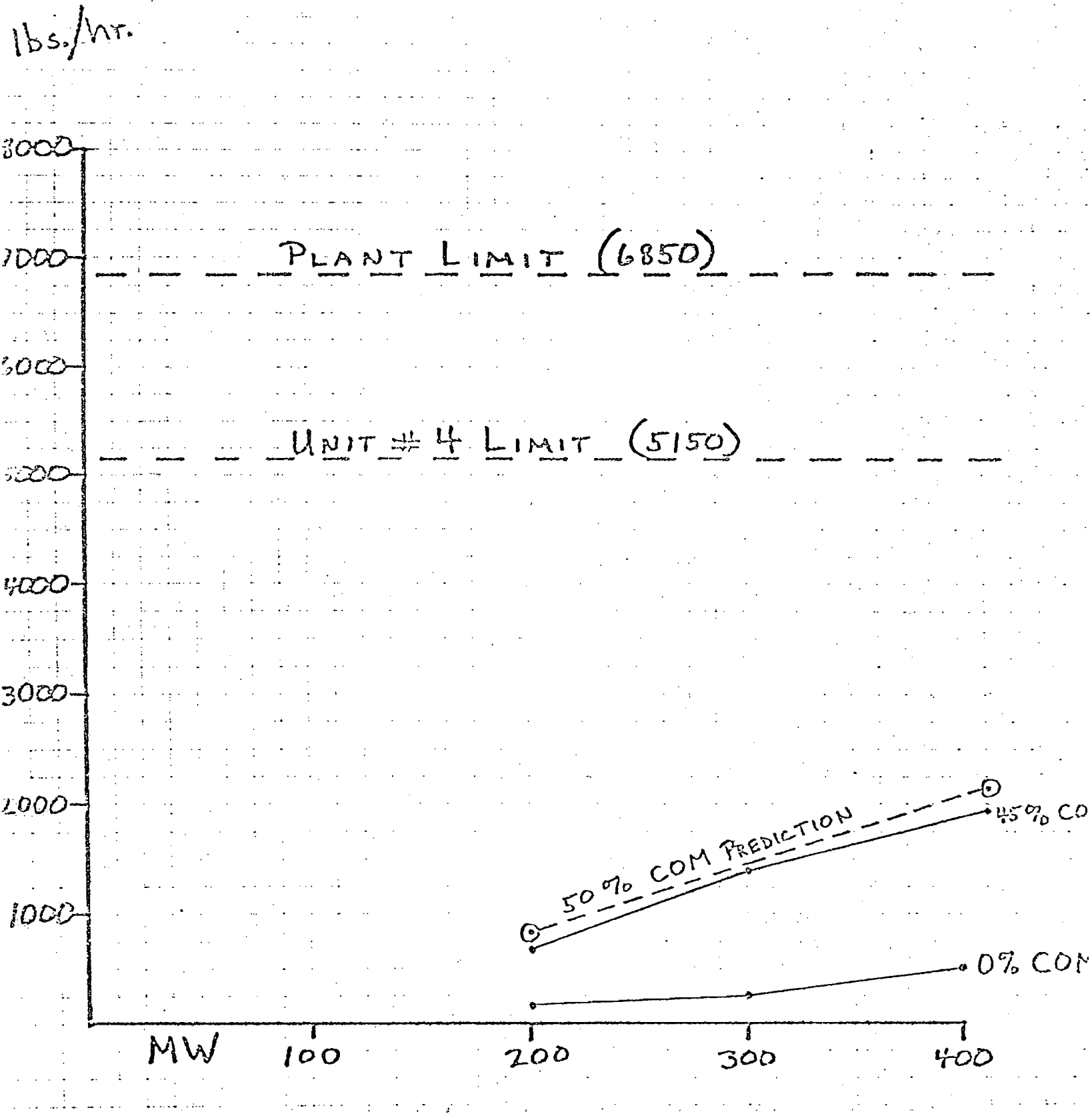
ETEM	400 MW			300 MW			200 MW			100 MW		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3	Test 1	Test 2	Test
45% COM												
Date	8/5	8/5		8/6	8/6		8/7					
Opacity (Monitors)	55%	55%		55%	50%		54%					
Opacity (Visual)	—	⊛	—	44%	55%		46%					
lbs./hour	1,952	1,761		1,289	1,117		716					
lbs./mBTU	.518	.467		.456	.395		.367					
								⊛ Certified observers not available on this date.				
Date												
Opacity (Monitors)												
Opacity (Visual)												
lbs./hour												
lbs./mBTU												
Date												
Opacity (Monitors)												
Opacity (Visual)												
lbs./hour												
lbs./mBTU												

FPL SANFORD COM PROJECT

RTK
8/18/80

GRAPH #1 - LBS./HR. PROJECTIONS

(Based on latest 45% COM data)

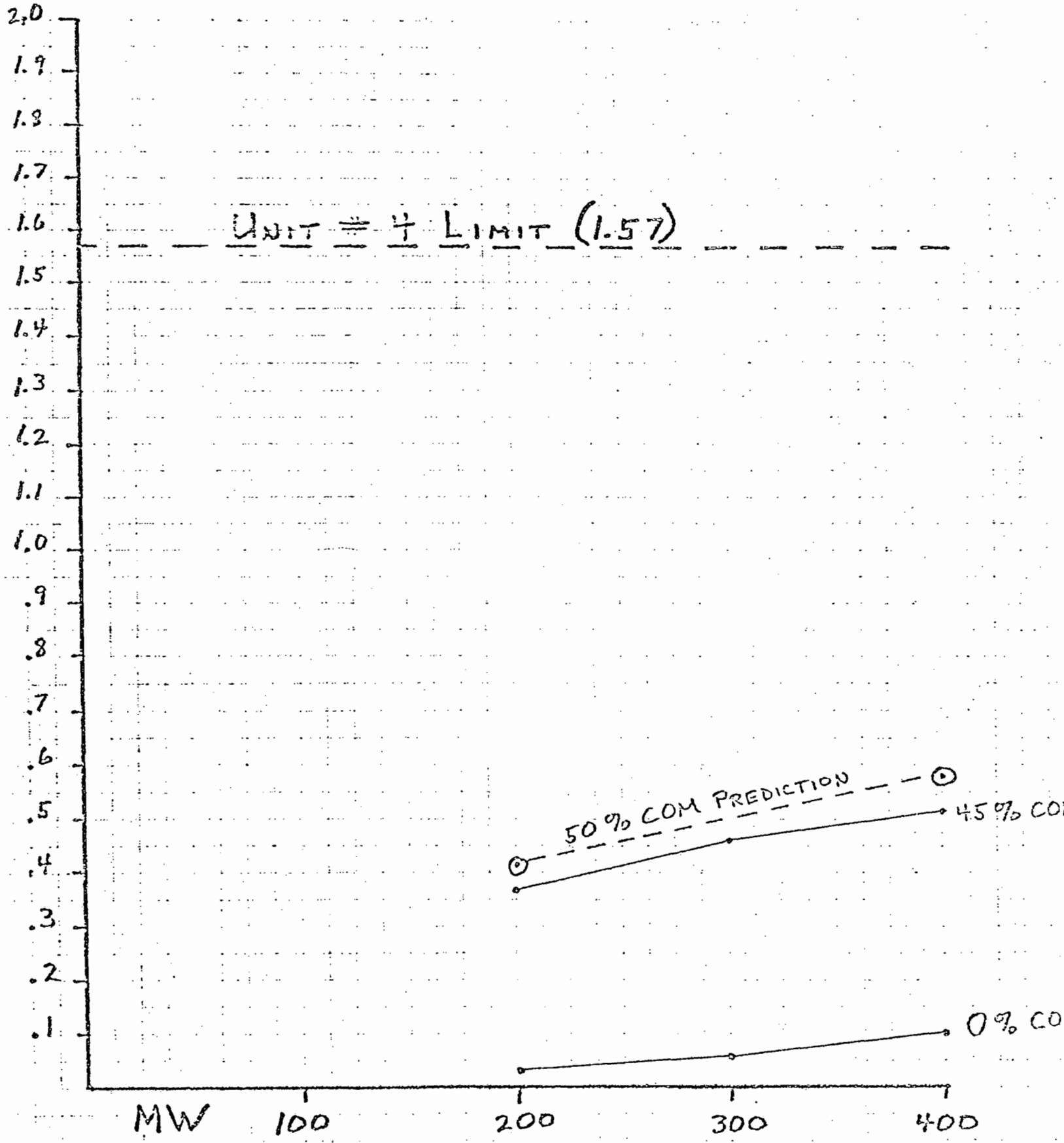


FPL SANFORD COM PROJECT

RTK
8/13/80

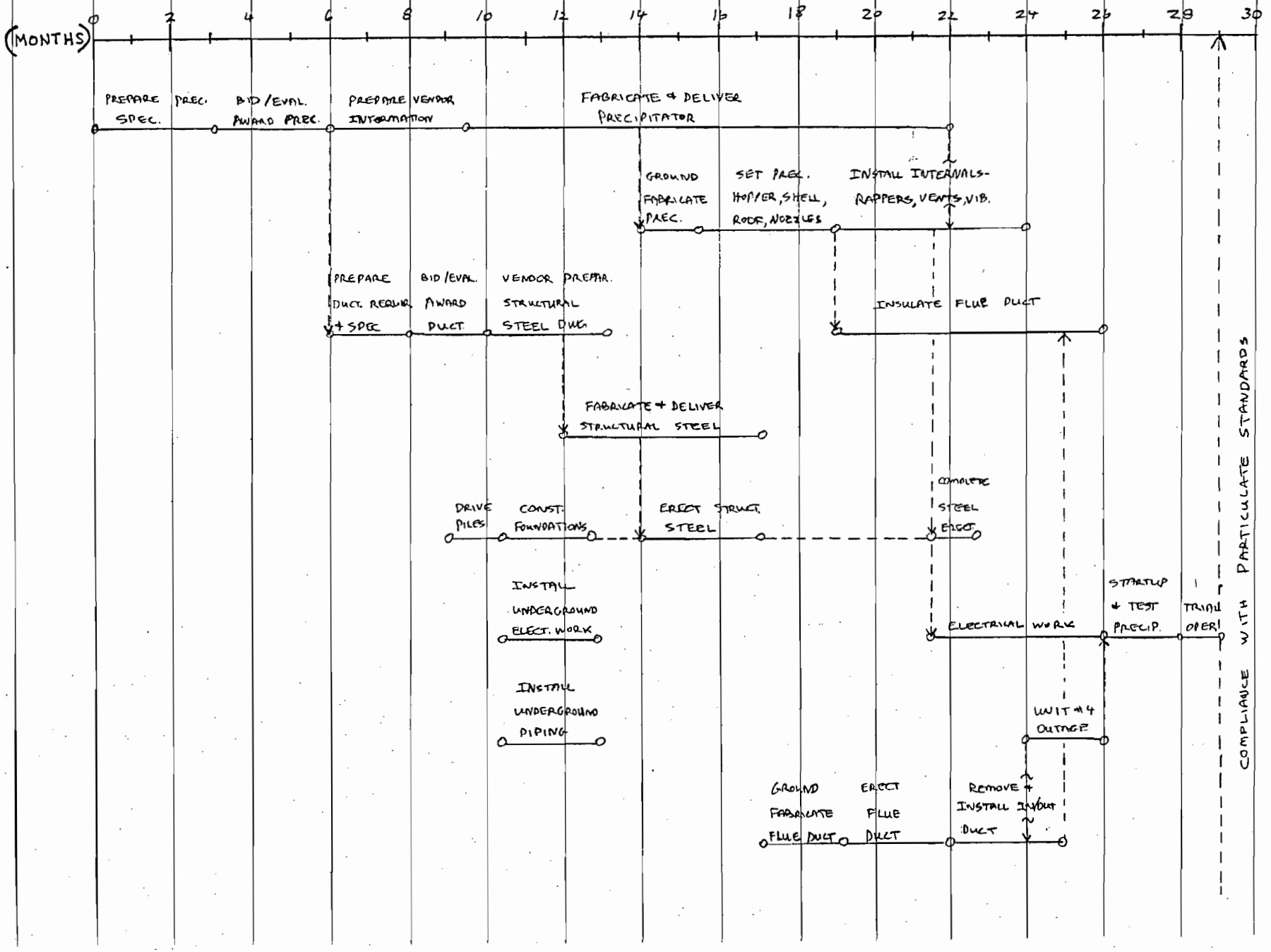
GRAPH # 2 - LBS./mBTU PROJECTIONS

(Based on latest 45% COM data)



SANFORD UNIT NO. 4 - PRECIPITATOR INSTALLATION

ASM 3/11/81



ATTACHMENT V-5

SECTION VI

ECONOMIC CONSIDERATIONS

In October, 1979, #6 fuel oil as used in the Sanford Plant was being purchased by FPL for $22.50 per barrel; and coal, on a delivered basis, for $55.50 per ton or $3.63/MMBtu and $2.04/MMBtu respectively. A COM mixture (assuming a 60/40 oil/coal ratio by weight) therefore had an approximate cost (excluding processing and additive costs) of $3.13/MMBtu, or a savings of $.50/MMBtu versus #6 oil.

In February, 1981, the cost of #6 oil delivered to the Sanford Plant had risen to $33.15/barrel; and coal, on a delivered basis, cost us $58.23/ton. At these prices, the cost of oil and coal on a MMBtu basis were $5.35 and $2.13 respectively. The resulting COM mixture cost $4.23 (excluding processing and additive costs) results in a savings of $1.12/MMBtu over #6 oil usage.

COM has proven itself as a usable and less expensive boiler fuel than #6 oil at Sanford Unit 4. However, the high capital cost of converting to COM may offset part or all of the fuel savings. Although conversion to 100% coal appears to be a more attractive alternative than conversion to COM, it will take several years to fully assess the feasibility of 100% coal use and to implement an actual conversion.

In the meantime, because FPL's investment in the Sanford COM mixing plant was fully amortized by April 20, 1981 (the date FPL's DER permit to burn COM expired), future use of COM in Sanford Unit 4 would result in major fuel cost savings for FPL and its customers.

Schedule VI-1 indicates the assumptions made, and Schedule VI-2 indicates the estimated fuels savings each year through 1990[1]. Offsetting these fuel savings to

some extent will be the annual operating and maintenance costs of approximately $10 million. Capital expenditures (in 1981 dollars) of approximately $29 million for an electrostatic precipitator and associated systems, and approximately $4 million for other plant improvements will be necessary for sustained burning of COM. Estimated construction personnel to affect these improvements will range from 150 to 175 at the peak of the construction process.

---

[1]It should be noted that these estimates conservatively assume the use of 40% COM. However, the Company will burn higher percentages if unit operation permits.

SCHEDULE VI-1

FORECASTED FUEL SUBSTITUTION SAVINGS
COM VS. #6 OIL
ASSUMPTIONS

At: 40% Coal
57.8% #6 Oil
2.0% Water
0.2% Additive

Annual COM Consumption		1,404,613,440	Lbs
COM Components:	Coal	280,923	Tons/Year
	#6 Oil	2,353,236	Bbls/Year
	Additive	2,809,226	Lbs/Year
Equivalent #6 Oil Usage Alone		3,602,903	Bbls/Year
Barrels of #6 Oil Saved		1,249,667	Bbls/Year

Forecasted Mid Year Prices:*

	COAL/TON	#6 OIL/BBL	ADDITIVE/LB
1981	$ 62.12	$ 33.15	$ 0.87
1982	70.01	37.81	0.94
1983	77.91	40.91	1.00
1984	88.91	45.06	1.110
1985	100.18	49.70	1.22
1986	112.88	54.37	1.34
1987	127.20	59.48	1.48
1988	143.33	65.07	1.63
1989	161.50	71.19	1.79
1990	182.40	77.88	1.96

* Coal assumed to escalate at 1%/month

Oil assumed to escalate at 10.77% 1981 - 1984
9.4% 1984 - 1990

(Forecasts furnished by FPL Fuel Resources Department 2/23/81)

SCHEDULE VI-2

FORECASTED FUEL SUBSTITUTION SAVINGS
COM VS. #6 OIL
($000)

1981	Coal	$ 17,451		1986	Coal	$ 31,710	
	Oil	78,010			Oil	127,945	
	Additive	2,444			Additive	3,764	
	Total COM	$ 97,905			Total COM	$ 163,419	
	#6 Oil Alone	$ 119,436			#6 Oil Alone	$ 195,890	
	SAVINGS		$ 21,531		SAVINGS		$ 32,471
1982	Coal	$ 19,667		1987	Coal	$ 35,733	
	Oil	88,976			Oil	139,970	
	Additive	2,632			Additive	4,158	
	Total COM	$ 111,275			Total COM	$ 179,861	
	#6 Oil Alone	$ 136,226			#6 Oil Alone	$ 214,301	
	SAVINGS		$ 24,951		SAVINGS		$ 34,440
1983	Coal	$ 21,887		1988	Coal	$ 40,265	
	Oil	96,271			Oil	153,125	
	Additive	2,809			Additive	4,298	
	Total COM	$ 120,967			Total COM	$ 197,688	
	#6 Oil Alone	$ 147,395			#6 Oil Alone	$ 234,441	
	SAVINGS		$ 26,428		SAVINGS		$ 36,753
1984	Coal	$ 24,977		1989	Coal	$ 45,369	
	Oil	106,037			Oil	167,527	
	Additive	3,118			Additive	5,029	
	Total COM	$ 134,132			Total COM	$ 217,925	
	#6 Oil Alone	$ 162,347			#6 Oil Alone	$ 256,491	
	SAVINGS		$ 28,215		SAVINGS		$ 38,566
1985	Coal	$ 28,143		1990	Coal	$ 51,240	
	Oil	116,956			Oil	183,270	
	Additive	3,427			Additive	5,506	
	Total COM	$ 148,526			Total COM	$ 240,016	
	#6 Oil Alone	$ 179,064			#6 Oil Alone	$ 280,594	
	SAVINGS		$ 30,538		SAVINGS		$ 40,578

1,249,667 Barrels of #6 Oil are saved annually

SECTION VII

FUTURE COAL CONVERSION

FPL is in the forefront of the world's technology for using coal in oil-fired power plants. This is an appropriate role for FPL, a company which uses more oil to generate electricity than any other U. S. utility. Current consumption of oil is over 40 million barrels annually. Even with new coal plants and conservation, growth in demand and unavilability of natural gas would raise FPL's annual oil consumption to approximately 55 million barrels by 1990.

World oil production could increase slightly for the next couple of years, but will then decline in the years ahead. Furthermore, many of the major refiners are modifying their facilities to convert more of the barrel to premium products such as transportation fuels, petrochemicals, and home heating oil. Several oil companies forecast a 50% decline in residual oil production over the next 10-15 years. They base this forecast on the assumption that residual oil users will be switching to coal and that the resulting decline in demand for residual oil when combined with the higher demand for transportation and heating fuels will cause producers to invest in "upgrading" facilities which will reduce residual oil production in order to meet rising demands for these other products. Once such facility investments are made, if residual demand is greater than anticipated, it would be necessary for resid users to pay higher prices to compete with the higher quality products the refiners could make with the same material.

FPL does not agree with the oil company forecasts. They believe that coal burning projects will be completed less rapidly and that utilities will have to substantially increase residual oil use during the 1980's to make up for declining gas supplies. This is certainly consistent with FPL's situation and seems more credible than the oil

company forecasts. If FPL's scenario is correct, the residual oil demand will actually increase between now and 1990. This demand would have to be met by increased imports of Caribbean residual oil and increased throughput of lower quality foreign crudes in U. S. refineries. The resultant residual oil production would be of a lower average quality than exists today (i.e., higher sulfur and asphaltenes).

This increased reliance on poorer quality imported crudes and residual oils introduces even greater risks of supply disruptions and environmentally unacceptable product quality than the oil company forecasts. Such problems already exist today and are likely to worsen each year.

Of equal concern is the price of residual oil. Today, FPL's 2.5% sulfur fuel oil costs over $5.00 per million BTU. Coal delivered to our plants would cost about $2.00 per million BTU. At today's prices, if FPL could substitute coal for all our oil, the fuel cost differential would be over 700 million dollars annually!

OPEC will seek to keep oil prices rising faster than the inflation rate. With the possibility that OPEC will be successful in achieving future price increases, the U. S. increasing its reliance on low quality crude imports, and refiners having the choice of installing equipment to convert residual oil into other products, the price of crude oil is expected to rise faster than the inflation rate. Even if crude prices dip (in constant dollars) during the '80's, as predicted by industry observers, constant dollar residual oil prices after 1990 are expected to be higher than current prices.

Coal will rise in price too. Higher mining costs are inevitable as older, cheaper-to-produce, reserves are depleted and new mines are opened. Transportation costs will escalate also, since new higher cost equipment and facilities will be needed to meet

increased demand. With the disparity between oil and coal prices forecasted to continue, coal producers and shipppers will want to seek higher prices which reflect the energy value of coal relative to oil and gas.

However, abundant U. S. coal resources and resultant supplier competition for the coal market should keep coal prices more in line with production costs, plus a reasonable return on investment. Investments in coal properties can produce a return only if the product is sold. Since coal is not supply-limited, and there are numerous transportation options available to FPL, the basic economics of supply and demand should prevail, despite the oil supply-limited price increases which OPEC may achieve. In other words, coal suppliers in the U. S. must compete with each other, not with OPEC oil. Accordingly, FPL projects that the post-1990 oil/coal price ratio will equal or exceed a 2 to 1 oil/coal cost per BTU differential.

Thus, we project that the long term market price of coal should rise less rapidly than the market price of residual oil on a cost per BTU basis and that the real-dollar cost difference could therefore widen from today's $3.00 per million BTU differential.

Given the outlook for potential supply disruptions, inadequate product quality, and relative price increases, it is necessary for FPL to seek cost-effective ways to reduce its dependence on oil beginning no later than 1985. One of the principal means to achieve such an objective is a program to displace oil in existing power plants by modifying them to burn some form of coal.

The first step in this process was the COM test burn at Sanford Unit 4. The next step is the conversion of an oil-fired unit to burn 100% coal to determine the construction, operation, and maintenance problems that will have to be addressed and overcome with straight coal.

Present plans contemplate the conversion of Sanford Unit #5 to coal. The installation of an electrostatic precipitator at Unit #5 would be completed prior to its switch from oil to coal. Therefore, the emission limitations applicable to existing oil-fired units will be met at Unit #5 before, during, and after conversion. Other than the addition of an electrostatic precipitator to control emissions of particulate matter, some adaptations of the existing boiler will be required, including new burners, an ash removal system, and additional heat transfer surfaces to maintain plant capacity. Additions to the plant site would include coal receiving, storage and handling systems, coal pulverizers and transport systems; some changes to electrical, instrumentation, and control systems would also be made.

The use of COM in Sanford Unit 4 and then potential conversion to 100% coal at Sanford Units 4 and 5 is the first step in a system-wide plan to potentially convert FPL's nine 400 megawatt units (and potentially its four 800 megawatt units) to the use of coal in some form. The three major unknowns which could determine the outcome of the plan are its technological feasibility, its financial feasibility, and regulatory constraints.

FPL's strategy is to select optimum conversion technologies, select and schedule plants for conversion, contract for and acquire coal supplies and transportation that will offer the highest probability of favorable costs while retaining the greatest flexibility to adjust conversion plans and fuel mix as the future evolves. This is the direction that FPL must take in order to reduce our dependence on foreign oil and provide reliable, reasonably priced electric supplies for our customers.

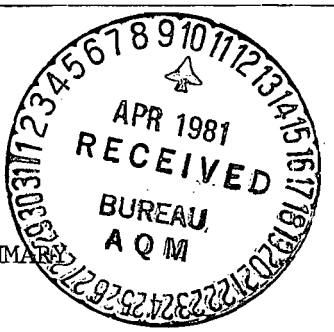
State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee

To: _____ Loctn.: _____
To: _____ Loctn.: _____
To: _____ Loctn.: _____
From: _____ Date: _____

Reply Optional [ ] Reply Required [ ] Info. Only [ ]
Date Due: _____ Date Due: _____



TO: Steve Smallwood

FROM: David Harlos

DATE: April 10, 1981

SUBJECT: SANFORD, UNIT 4, COM TEST PROGRAM, STACK TESTING SUMMARY

Attached you will find four graphs summarizing the year long stack test series completed on FPL's unit 4 at Sanford. The data are present in terms of pounds of particulate emitted per million BTU's of heat input. The test series is relatively complete except for the lack of testing at 400 mw and 50/50 COM. The tests appear to be of good quality. The results are consistent with expected trends and no apparent outliers are encountered.

Figure one presents emission levels measured after the mechanical collectors (hereafter "outlet" emissions). Outlet emissions are consistently higher for higher loads and higher coal to oil ratios. The anomalous tests at 373 mw and 360 mw (runs E26A,B and 22A,B,C) indicate the need for more data at maximum load and 50/50 COM in order to predict maximum expected emission rates. The trend observed in Figure two for outlet data can be extrapolated to an emission rate of 0.6 LB/10^6 BTU, but the anomalous points on Figure one indicate some nonlinearity and so this extrapolation is probably conservative.

Uncontrolled boiler emissions are plotted as 'collector inlet' on Figures two and three. Inlet emissions decrease at higher loads. An examination of the particle size data shows a decrease in coarse particle size fractions at higher loads. The high loading of coarse particles at low loads is efficiently removed by the mechanical collectors, hence, the low outlet measurements at low load. Progressively higher boiler firing rates produce increasing amounts of finer particles which are captured with decreasing efficiency, so although inlet grain loading is slowing decreasing with higher loads, emission rates and grain loading increase at the stack outlet.

Opacity-grain loadings correlations are plotted in Figure four. Within fuel mix ratio, opacity correlates rather well with grain loading, indicating that emission factors might be developed if a stable fuel mix can be maintained.

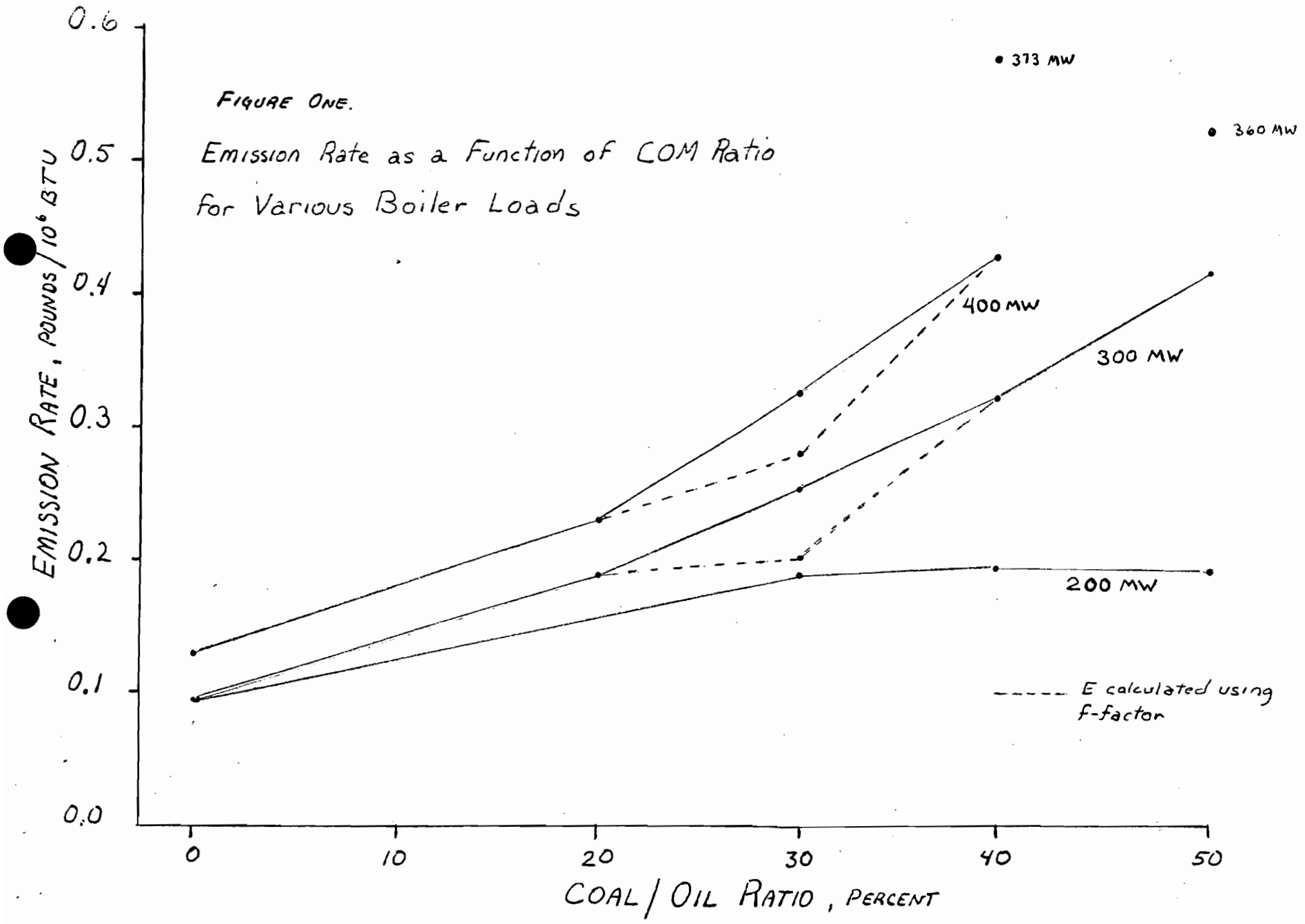
The conclusions and emission estimates obtainable from this study are very limited, since the coal used for the test burn was the best quality metallurgical grade coal available. It is not normally burned in power boilers and most probably is cleaner than the coal which might be used on a long term basis; nonetheless, the relative trends observed should apply to other grades of coal.

DH:kb

cc: Bill Blommel
Bob King
Chuck Collins

FIGURE ONE.

Emission Rate as a Function of COM Ratio for Various Boiler Loads



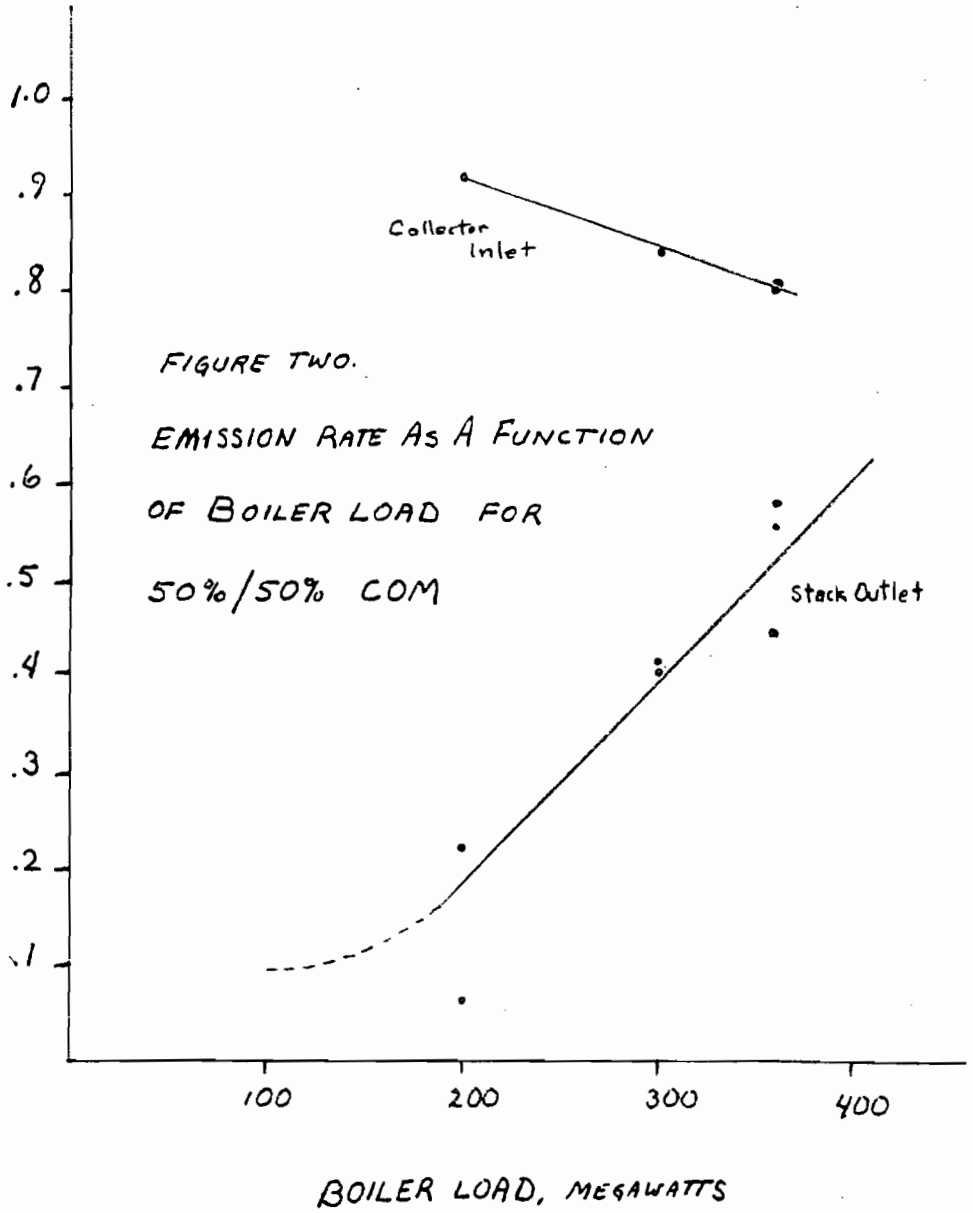


FIGURE TWO.

EMISSION RATE AS A FUNCTION OF BOILER LOAD FOR 50%/50% COM

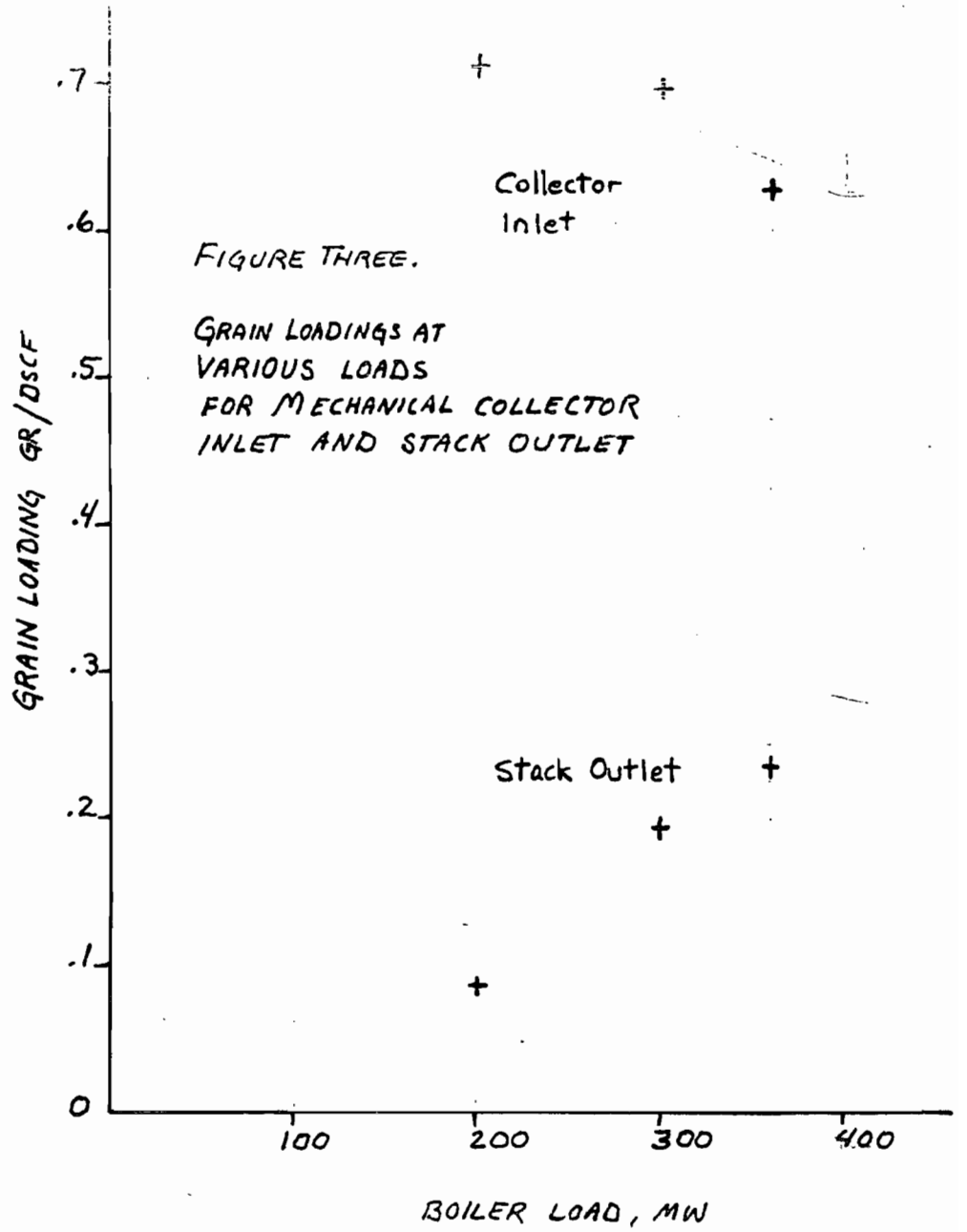


FIGURE THREE.

GRAIN LOADINGS AT VARIOUS LOADS FOR MECHANICAL COLLECTOR INLET AND STACK OUTLET

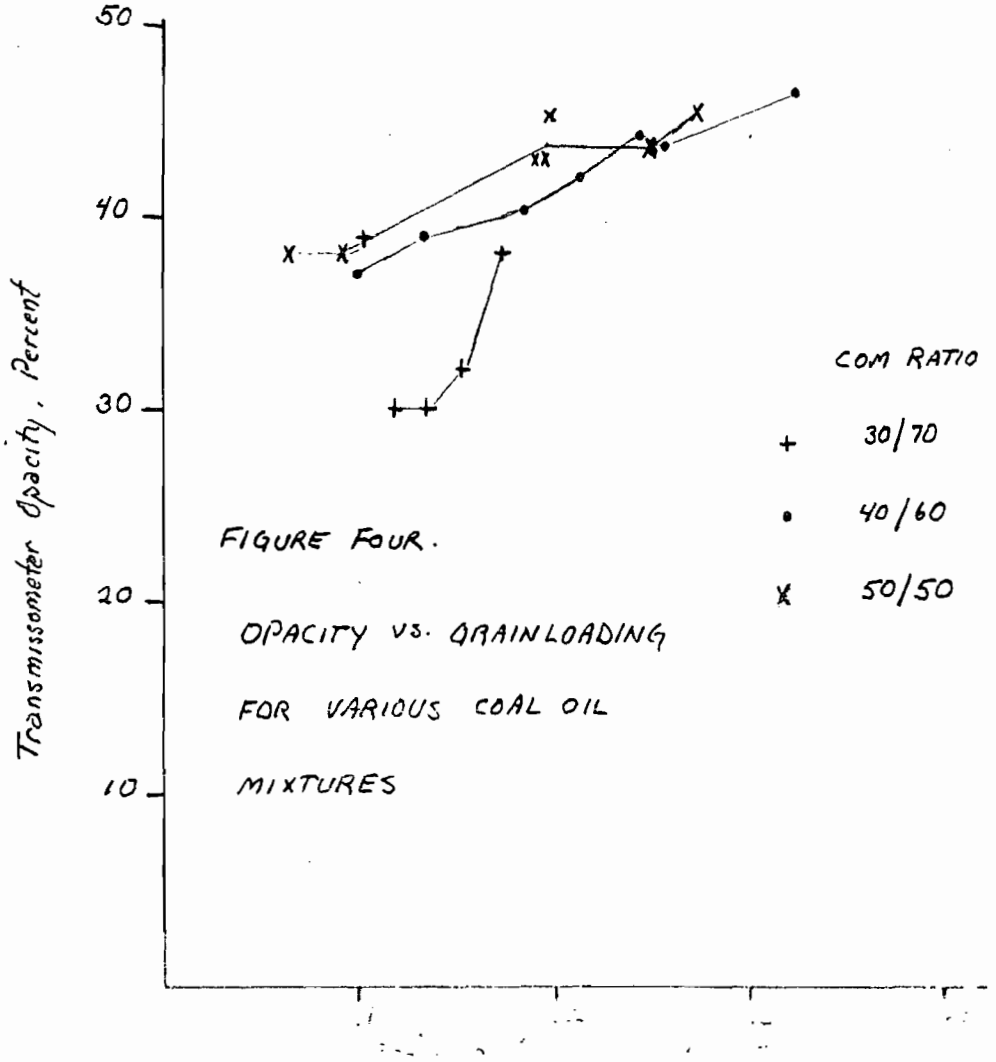


FIGURE FOUR.

OPACITY VS. GRAIN LOADING FOR VARIOUS COAL OIL MIXTURES

FLORIDA POWER AND LIGHT, UNIT 4, COM DATA

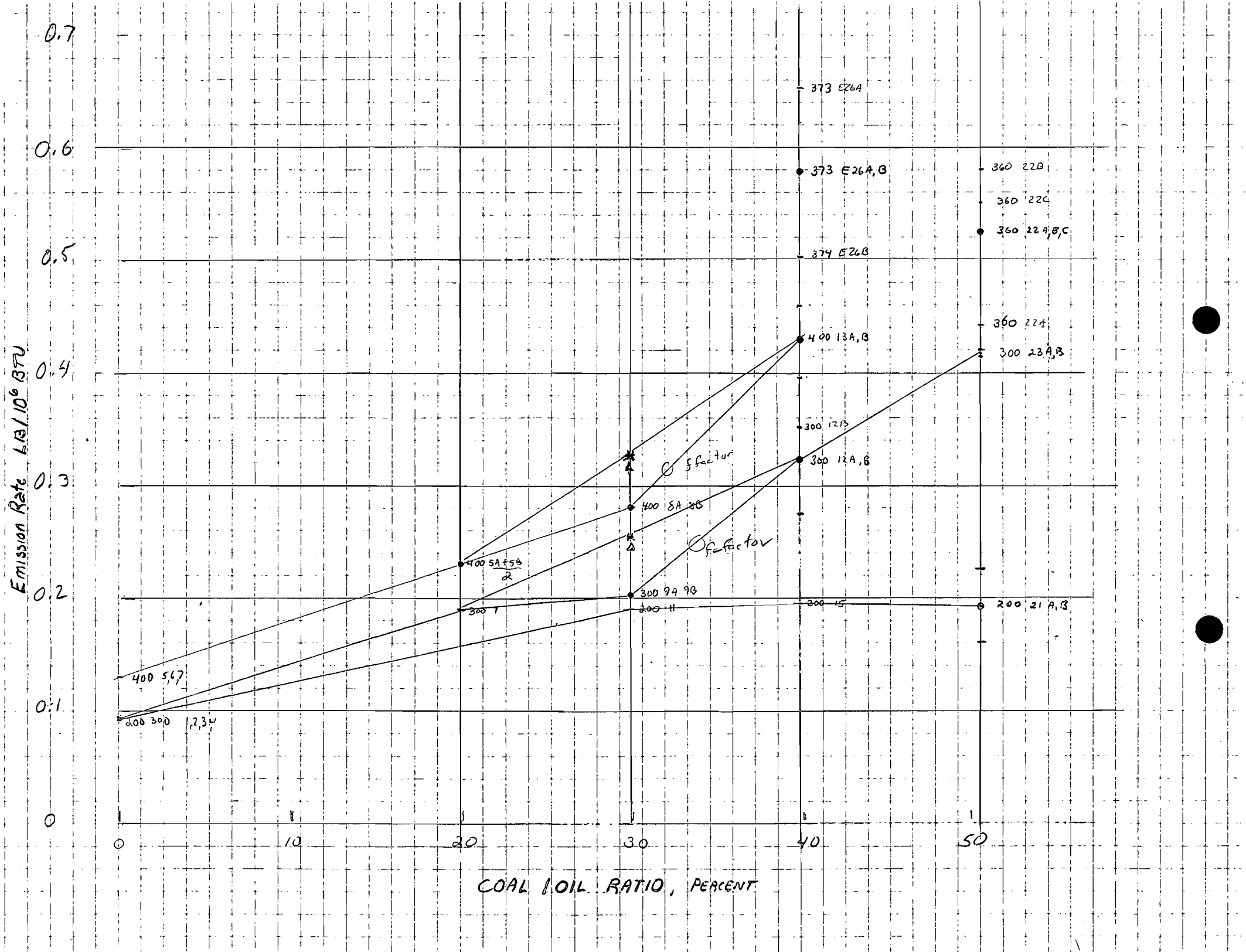
RUN	1	2	3	4	5	6	7	5A	5B	7	8A	8B	9A	9B	11	E26A	E26B
%MIX COAL/OIL	0/100							20/80			30/70					40/60	
LOAD MW	200	300	300	300	400	400	400	400	400	300	400	400	300	300	200	373	374
EMISSION+ lbs/10^6BTU	.090	.094	.093	.091	.141	.126	.1135	.237	.232	.189	.299	.262	.2101	.2344	.1697	.653*	.501*
											.327^		.263^		.243*		
ALLOWABLE	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.14	0.14	0.14	0.16	0.16	0.16	0.16	0.16		
GRAIN LOADING, GR/DSCF	.0475	.051	.054	.054	.087	.073	.070	.138	.131	.109	.168	.154	.120	.138	.105	.326	.256
OPACITY (MON)											38	32	30	30	39	46	43.5
DATE	4/16	4/17	4/17	4/17	4/18	4/18	4/18	5/7	5/7	5/8	5/28	5/28	5/29	5/29	5/30	1/27	1/27

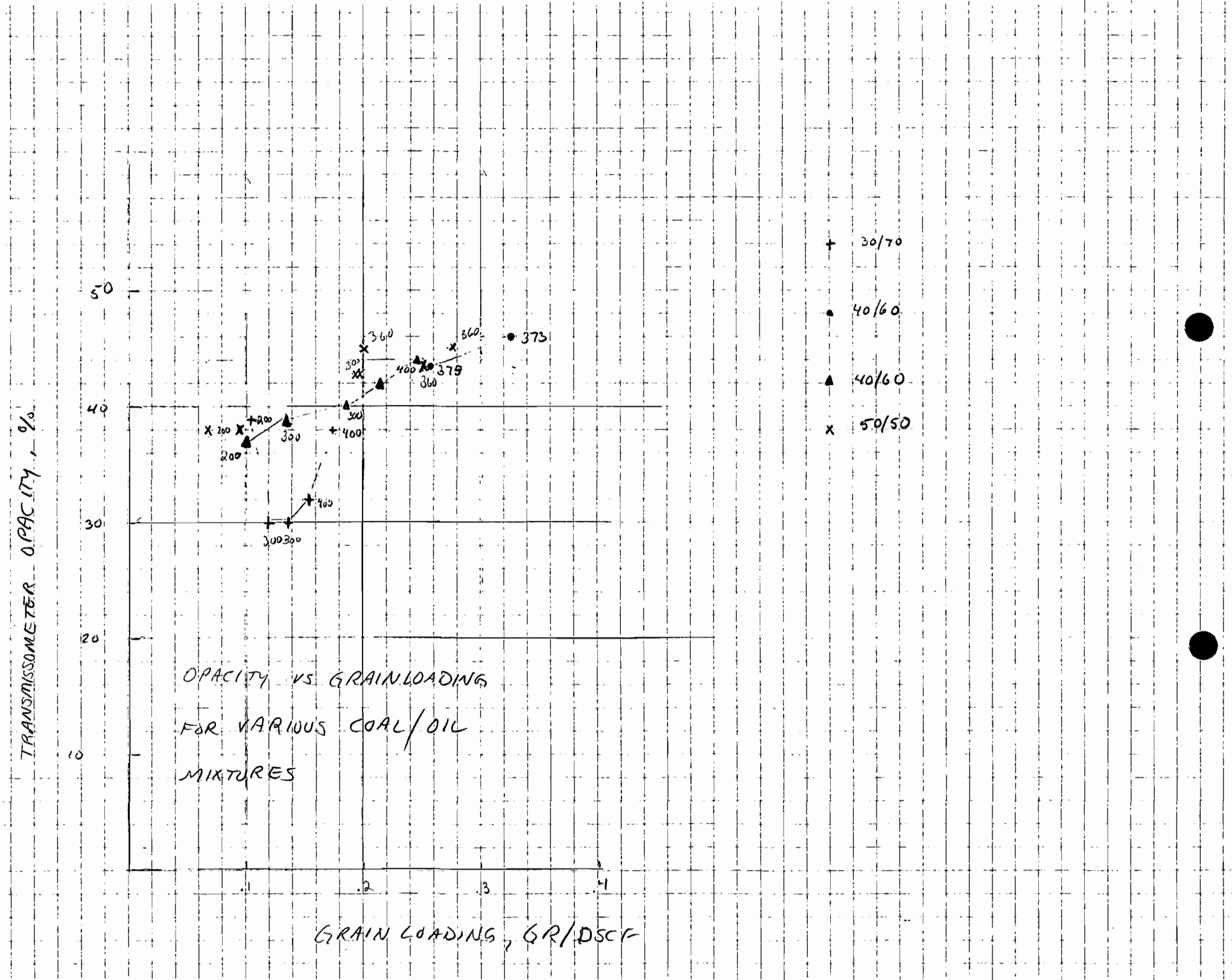
FPL COMP

RUN	12A STACK	12B STACK	13A STACK	13B STACK	15 STACK	21A	21B	22A	22B	22C	23A	23B
									Outlet Ducts			
%MIX COAL/OIL	40/60					50/50						
LOAD MW	300	300	400	400	200	200	200	360	360	360	300	300
EMISSION^ lbs/10^6BTU	.273*	.351*	.459*	.396*	.195*	.224*	.160*	.1441*	.580*	.552*	.420*	.416*
GRAIN LOADING GR/DSCF	.137	.184	.245	.213	.100	.096	.069	.1992	.2734	.2524	.1919	.1946
ALLOWABLE												
OPACITY (MON)	39.0	40.0	44.0	42.0	37.0	38	38	45	45	43.5	42.5	42.5
TEST DATE	7/19	7/19	7/21	7/21	7/22	9/10	9/10	9/11	9/11	9/11	9/12	9/12

+ Calculated using f-factor

* supplied by FPL


0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Emission Rate LB/10⁶ BTU
373 E26A
373 E26A,B
374 E26B
400 13A,B
300 12B
300 12A,B
400 8A 8B
400 5A+5B / 2
300 9A 9B
300 1
200 11
400 5,6,7
200 300 1,2,3,4
360 22B
360 22C
360 22A,B,C
360 22A
300 23A,B
300 15
200 21A,B
5 factor
factor
0
10
20
30
40
50
COAL / OIL RATIO, PERCENT


TRANSMISSOMETER OPACITY, %
50
40
30
20
10
.1
.2
.3
.4
GRAIN LOADING, GR/DSCF
OPACITY VS GRAINLOADING
FOR VARIOUS COAL/OIL
MIXTURES
30/70
40/60
40/60
50/50
360
360
373
300
400
379
360
300
200
200
300
400
300
300
300

INLET / OUTLET DATA UNIT 4 50/50 COM

Run	LB/BTU / LB/HR		Efficiency	LOAD	GR/DSCF	
	Inlet	Outlet			Inlet	Outlet
21 A	.958 / 1834	.224 / 428.7		200		.0958
	(.915)	.192	88.4%		(.7122)	(.0825)
21 B	.8714 / 1666	.160 / 305.9		200		.0692
22 A	.9671 / 3182	.6337 (.800) / 2085	.441 / 1451	62.4	360	.7392 / .50 73 (.6259)	.1992 (.2355)
22 B	.9922 / 3264	.6189 (.805) / 2036	.580 / 1908	61.2	360	—	.2734
22 C	—	—	.552 / 1767		360		.2524
23 A	1.01 / 2797		.420 / 1162			.7743	.1919
	(.8336)		.418	72.3	300	(.6981)	(.1932)
23 B	.6572 / 1820		.416 / 1152			.6064	.1946

Emission Calculations — 0/100 CO/N

Run 5

$$= \frac{534.0}{43.1464E7} (9190) \left(\frac{20.9}{20.9-4.0}\right)$$

$$= (1.2376E-5)(9190)(1.2367)$$

$E = .141$

Run 6

$$= \frac{436.4}{41.7927E6} (9190) \left(\frac{20.9}{20.9-5.0}\right)$$

$$= 1.0442E-5 \quad (9190) \quad 1.3145$$

$E = .126$

Run 7

$$= \frac{428.8}{42.662E6} (9190) \left(\frac{20.9}{20.9-3.9}\right)$$

$$= 1.0049E-5 \quad 9190 \quad 1.2294$$

$= .1135$

Emission Calculation 0/100 COM

Run 1

200 MW

$$E = \frac{159.3}{234708E7}(9190)(1.4514)$$

$$= 6.7871E-6$$

$$= .090$$

Run 2

300

$$E = \frac{244}{33.275E7}(9190)\left(\frac{20.9}{20.9-5.3}\right)$$

$$1.3397$$

$$7.344E-6$$

$$E = .0941$$

Run 3

300

$$\frac{255.2}{32.9030E7}(9190)\frac{20.9}{20.9-4.9}$$

$$1.30625$$

$$E = .0931$$

Run 4

300

$$\frac{259.5}{33.7589E7} \quad \frac{20.9}{20.9-4.7}$$

$$E = .0906 \qquad 1.2901$$

Emission Calculation 30/70 COM

Run 11

$$E = \frac{384.8}{25\,717\,920\,E7}(9463)\left(\frac{20.9}{20.9-5.3}\right)$$

$$= 1.4962E-5 \quad (9463)(1.3397)$$

$$= .1897$$

Emission Calculations 30/70 COM

$$E = \frac{LB/HR}{DSCFH} (F_{composite})\left(\frac{20.9}{20.9 - O_2}\right)$$

Run 8A
400 MW

$$E = \frac{1101.1}{4.5793 \times 10^{-7}} \left(.30(10100) + .7(9190)\right)\left(\frac{20.9}{20.9 - 5.0}\right)$$

$$E = 2.4045\ E\text{-}5\ (9463)\ (1.3145)$$

$$E = .2991$$

Run 8B
400 MW

$$E = \frac{1043.4}{} \qquad \frac{20.9}{20.9 - 4.3}$$

$$E = 2.2007E\text{-}5\ (9463) \quad 1.2590$$

$$E = .2622$$

Run 9A
300 MW

$$E = \frac{629.9}{3.6828 \times 10^{-7}} (9463)\left(\frac{20.9}{20.9 - 4.8}\right)$$

$$E = 1.7103 \times 10^{-5}\ (9463)\ (1.2981)$$

$$E = .2101$$

Run 9B
300 MW

$$E = \frac{726.1}{3.6749 \times 10^{-7}} \left(\qquad\right)\left(\frac{20.9}{20.9 - 4.2}\right)$$

$$= 1.9731\ E\text{-}5\ (9463)(1.25149)$$

$$E = .2344$$

Run 5A

20/80 COM

$$E = C_s F \frac{20.9}{20.9 - O_2} = \frac{876.5 \text{ LB/HR}}{4.449 \times 10^{7} \text{ DSCF/HR}} \left((80)9190 + (.20)10100 \right) \frac{20.9}{20.9 - 4.6}$$

$$E = = \left(9372 \right) \left(1.2822 \right)$$

$$E = .2367 \text{ LB / MMBTU}$$

Run 5B $E = \frac{821.4}{4.3802 \times 10^{-7}} (9372) \left(\frac{20.9}{20.9 - 4.6} \right)$

$$E = 1.8752 \times 10^{-5} (9372)(1.2822)$$

$$E = 2.262 \text{ LB / MBTU}$$

$$\bar{\mu}_{5A,B} = .2315 \text{ LB/MBTU}$$

Run 7 $E = \frac{564.1}{3.6011 \times 10^{-7}} (9372) \left(\frac{20.9}{20.9 - 4.7} \right)$

$$E = 1.5664 \times 10^{-5} (9372) \; 1.2901$$

$$E = .1894$$

UNCONTROLLED PARTICULATE EMISSIONS FOR COAL OIL MIXTURE (COM) BURNED IN A 400 MW UTILITY BOILER (GRAINS/DSCF)

COAL/OIL RATIO	BOILER LOAD (MEGAWATTS) 200	300	360	400
0/100	.0475	.0531		.0767
20/80	—	.1096		.1346
30/70	.1047	.1289		.1612
40/60	—	.5846		.9129
50/50	.812	.6981	.625	—

From RTI report ?

COM DATA, Particulate Outputs

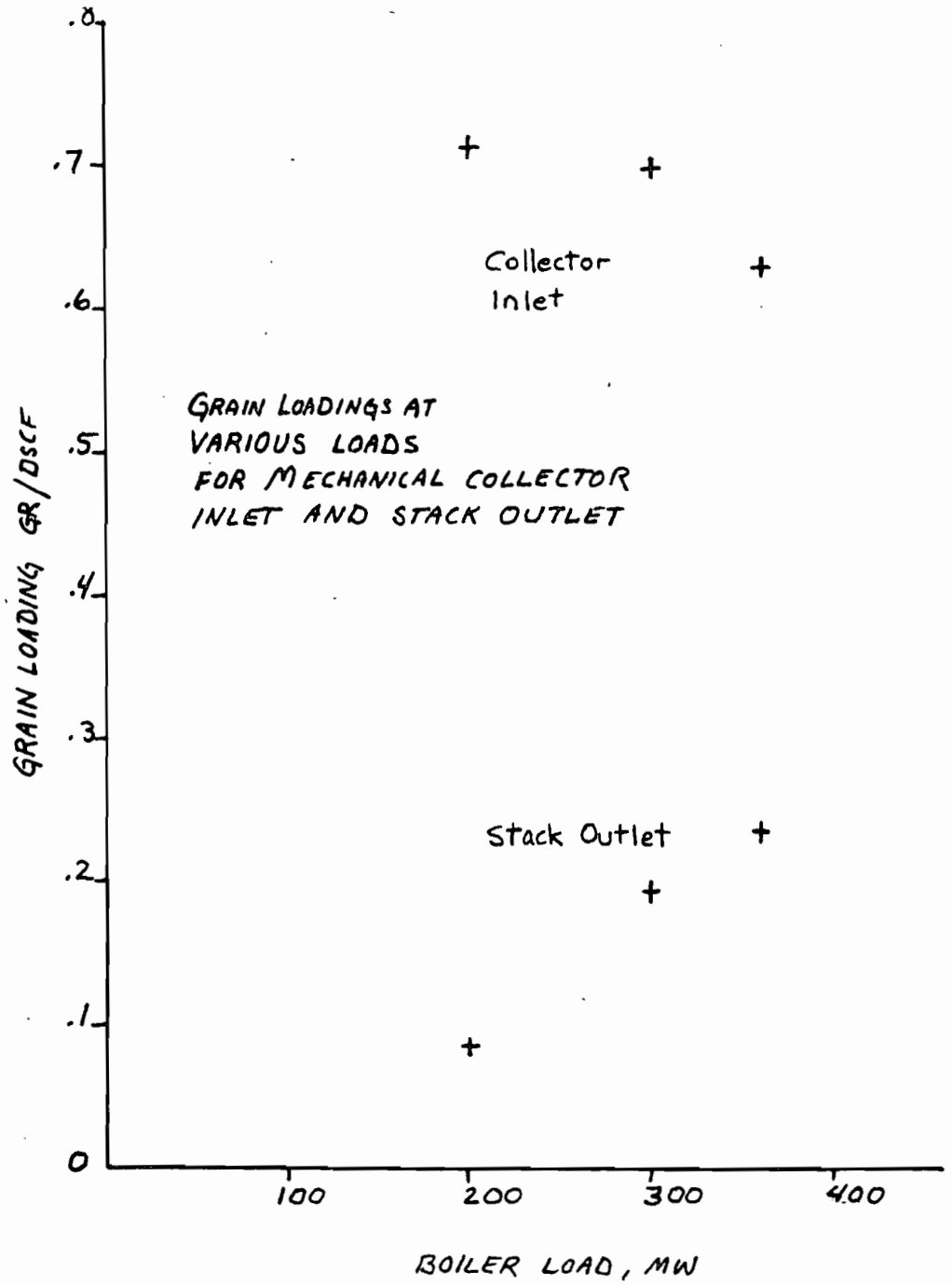
	Florida Power Light, Unit #4 FFFSG								New Brunswick Electric Power ① Chatham, FFFSG			Ontario Research ② Boiler Burners	
Case # Run #	1	2	3	4	5	6	7	8	9	10	11	12	13
% Mix. COAL/OIL	0/100			20/80		30/70			0/100	12/88		35/65	35/65
Load, Megawatts	200	300	400	300	400	200	300	400	10	10	10	2	2
Emissions Pounds/Million BTU	.091	.092	.13	.19	.23	.19	.20	.28	.24	1.0	.99	.94	1.4
Allowable * Pounds/Million BTU	0.10			0.14		0.16			—	—		—	
Opacity						39	30	35	5-20	20-30	25-35		
Test Date													

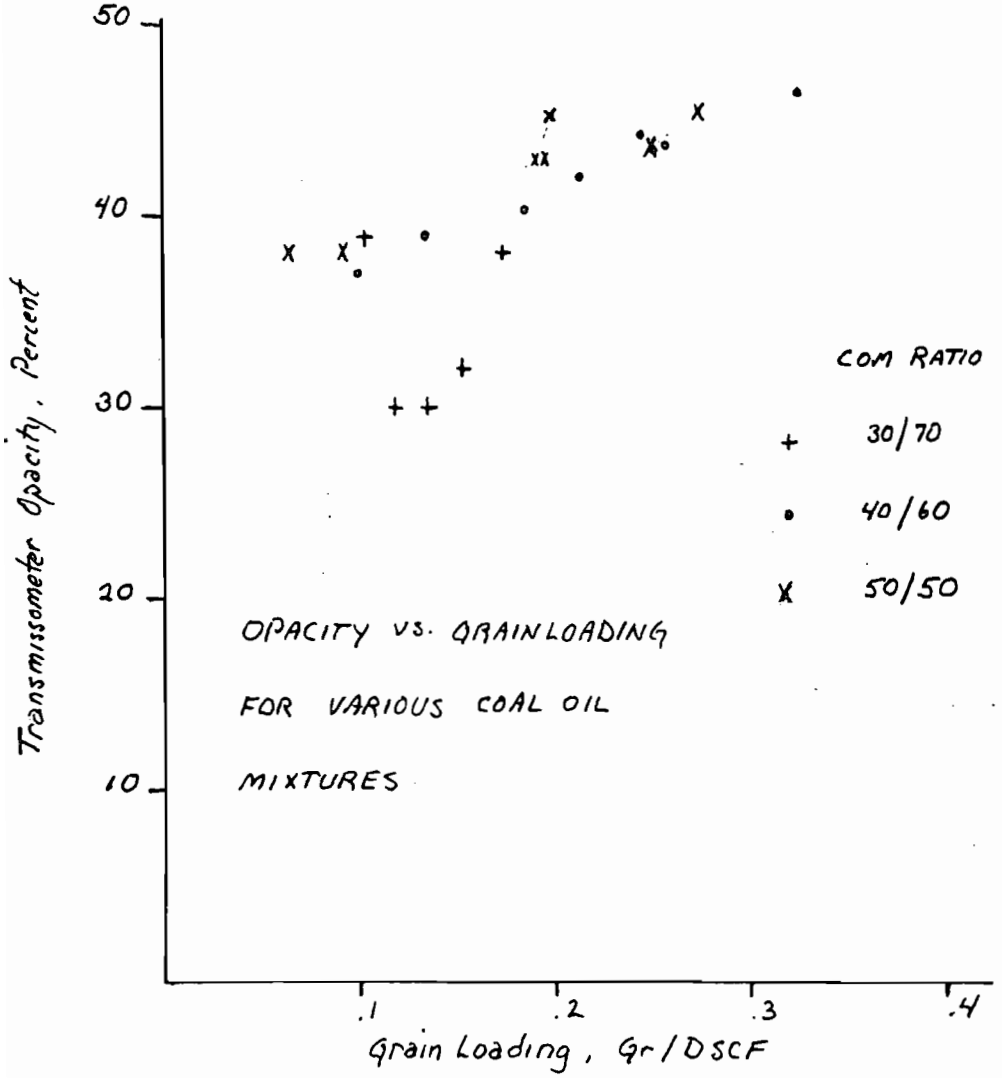
① A small power boiler, Foster Wheeler Type SA, 38.8 $\frac{\text{lbs. steam}}{\text{sec}}$, dual-fired, (coal, oil) with seperate burners. Fuel benification (agglomeration process) for 70% ash reduction, 50% sulfur. # cyclone Dust collector control device.

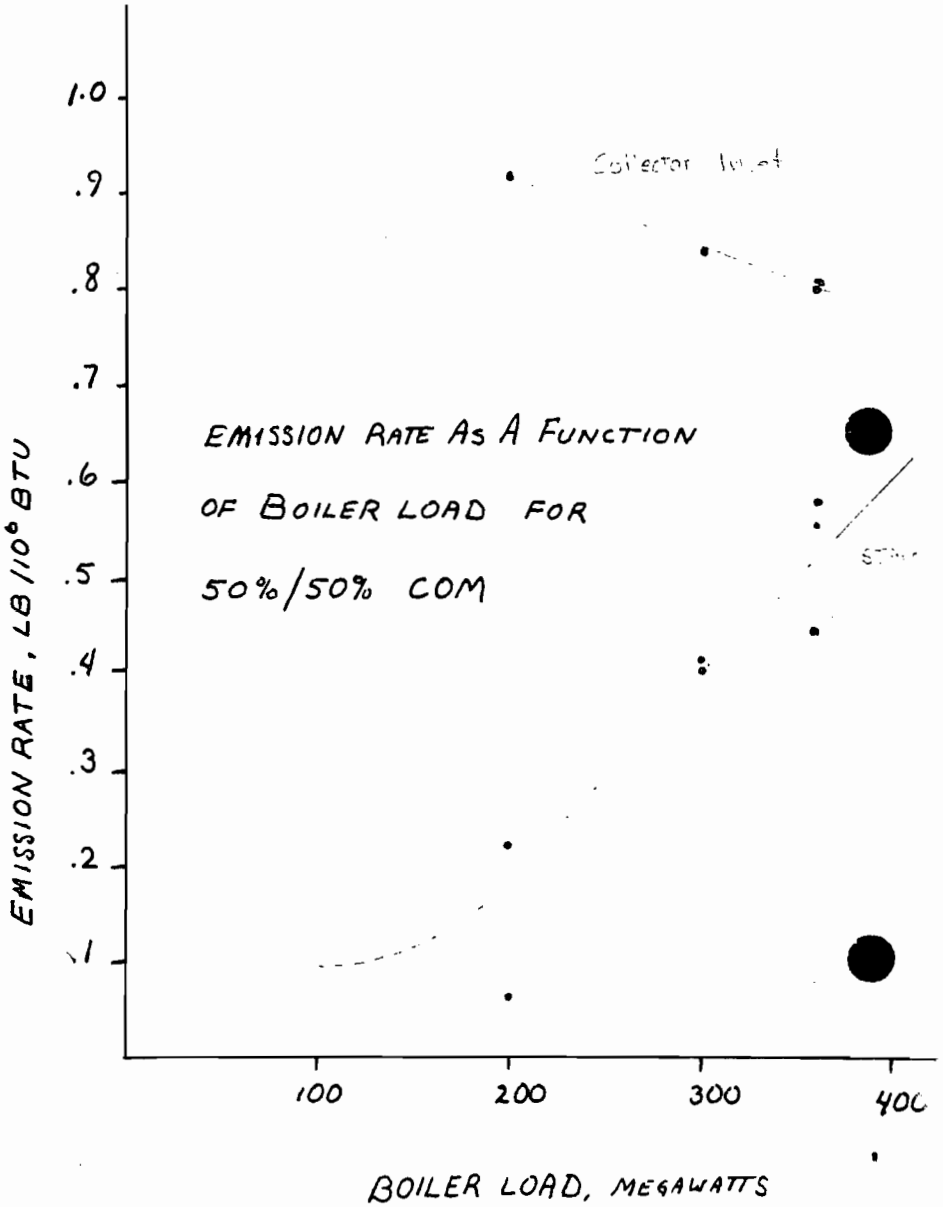
② Two types of boiler burners fired into a flame tube. Benification - dry grinding, flotation, agglomeration.

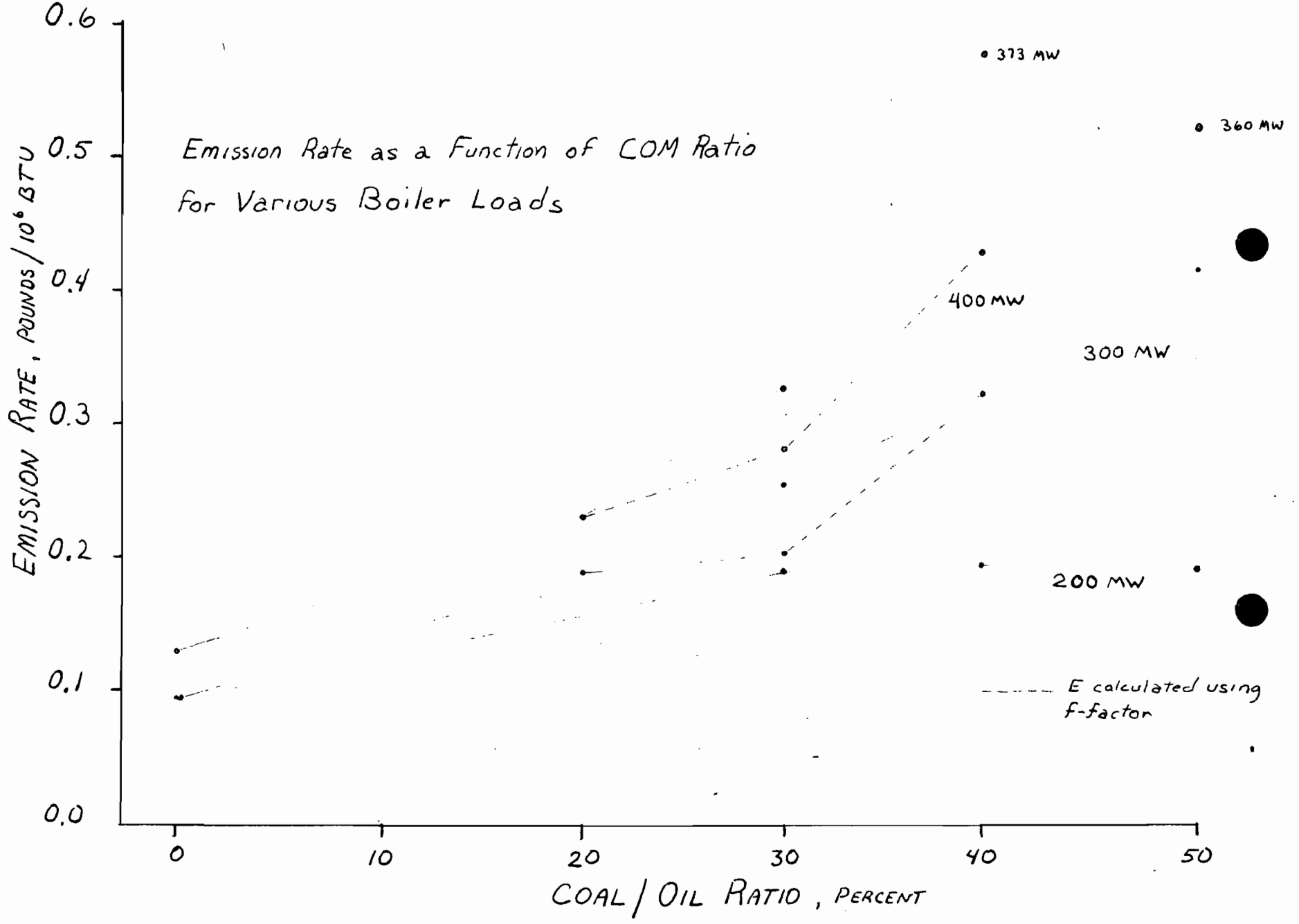
* Based present standards of: oil - 0.10 lb/MMBTU heat input
coal - 0.30 lb/MMBTU heat input

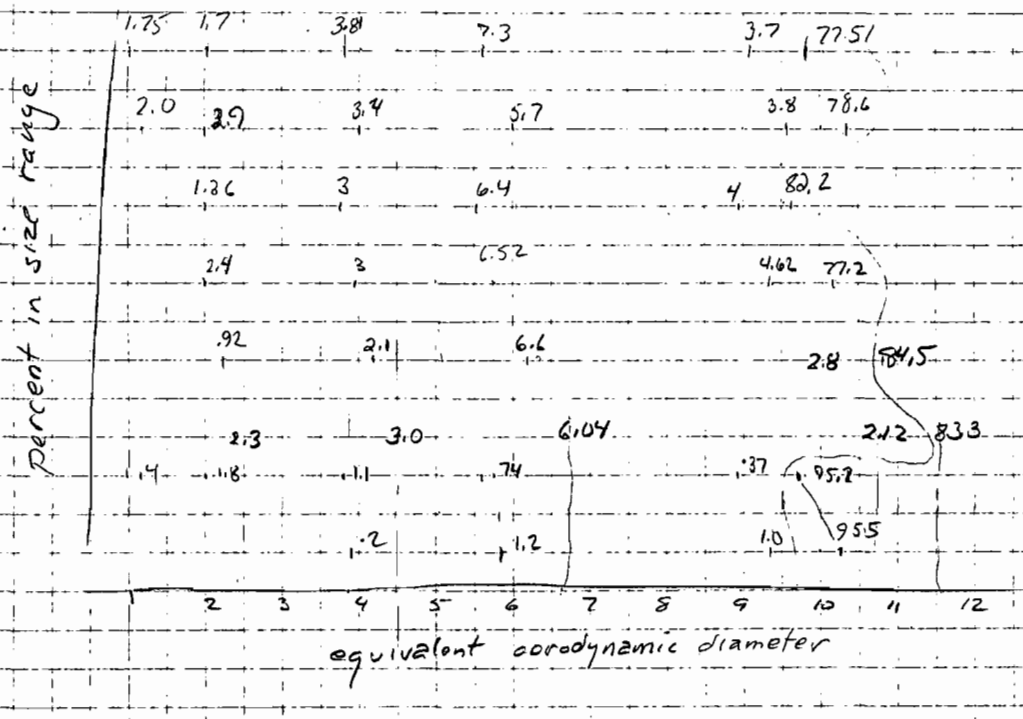
ONLY OUTLET FIGURES


GRAIN LOADINGS AT
VARIOUS LOADS
FOR MECHANICAL COLLECTOR
INLET AND STACK OUTLET
Collector
Inlet
Stack Outlet
GRAIN LOADING GR/DSCF
.8
.7
.6
.5
.4
.3
.2
.1
0
100
200
300
400
BOILER LOAD, MW


Transmissometer Opacity, Percent
50
40
30
20
10
.1
.2
.3
.4
Grain Loading, Gr/DSCF
COM RATIO
30/70
40/60
50/50
OPACITY VS. GRAIN LOADING
FOR VARIOUS COAL OIL
MIXTURES


EMISSION RATE, LB/10⁶ BTU
1.0
.9
.8
.7
.6
.5
.4
.3
.2
.1
100
200
300
400
BOILER LOAD, MEGAWATTS
EMISSION RATE AS A FUNCTION
OF BOILER LOAD FOR
50%/50% COM


Emission Rate as a Function of COM Ratio
for Various Boiler Loads
EMISSION RATE, POUNDS / 10⁶ BTU
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
10
20
30
40
50
COAL / OIL RATIO, PERCENT
373 MW
360 MW
400 MW
300 MW
200 MW
E calculated using f-factor



LOAD	TEST RUN II
360	22.1
360	22.2
360	22.3
360	22.4
300	23.1
300	23.2
200	21.1
200	21.2

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To: _____ Loctn.: _____
From: _____ Date: _____

Reply Optional [ ] Reply Required [ ] Info. Only [ ]
Date Due: _____ Date Due: _____

TO: Steve Smallwood

THROUGH: Bill Blommel

FROM: Rick Vail

DATE: February 19, 1981

SUBJECT: FP & L quarterly summary

According to all records the Bureau has, and data supplied by Mr. Bob Righter of FP & L; the following is a summary of the data you requested.

1) Riveria unit 3 was down due to mechanical problems

2) Sanford unit 3 was down due to mechanical problems

3) All other units show complete data

RV/BB/dt

State of Florida
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To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

TO: Steve Smallwood

THROUGH: Bill Blommel

FROM: Rick Vail

DATE: December 10, 1980

SUBJECT: FP&L Plants under Variance Stack Test Status

According to all records the Bureau has, and data supplied by Mr. Bob Allen of FP&L, the following is a summary of the data you requested.

1) No oil sample for both tests at the Ft. Myers Plant. The sample was assumed lost by Mr. Allen.

2) Manatee unit 2 shows no test during the quarter. This was due to numerous malfunctions with the unit.

3) Sanford unit 4 is now conducting a Coal-Oil Mixture burn.

4) Port Everglades unit 4 and Turkey Point unit (1) both have installed low excess air burners.

RV/mr

FPL PLANT	UNIT	QUARTERLY PERIOD (OCT-DEC) TESTED	EMISSION AVG $lbs/10^6BTU$	% SULFUR	% ASPHALTENES
Ft Myers	1	Oct 6	.133	2.3%	4.3%
Ft Myers	2	Oct 6	.116	2.3%	4.4%
Manatee	1	Oct 22	.10	1.03%	1.4%
Manatee	2	Nov 8	.06	0.96%	1.5%
Cape Canaveral	1	Dec 2	.125	2.5%	4.5%
Cape Canaveral	2	Dec 4	.110	2.4%	4.2%
Port Everglades	1	Oct 2	.058	1%	4.0%
Port Everglades	2	Oct 27	.068	1%	3.4%
Port Everglades	3* (LEAB)	Oct 2	.07	1%	3.8%
Port Everglades	4* (LEAB)	Oct 27	.052	1%	3.0%
Riveria	3* (LEAB)	Unit down due to mechanical problems			
Riveria	4	Nov 4	.110	0.92%	1.2%
Sanford	3	Unit down due to mechanical problems			
Sanford	4	COM			
Sanford	5	Nov 18	.111	2.2%	4.5%
Turkey Pt	1* (LEAB)	Dec 10	.061	1%	2.3%
Turkey Pt	2	Oct 9	.07	1%	-3.2%

*Low Excess Air Burners COM (coal oil mixture)

FP&L Quarterly Summary

FPL Plant	Unit	Quarterly Period (July-September) Tested	Emission Avg. lbs./10^6 BTU	% Sulfur	% Asphaltene
Ft. Myers	1	July 7-10	.09	No sample Assumed lost	No sample Assumed lost
Ft. Myers	2	July 9-11	.15	No sample Assumed lost	No sample Assumed lost
Manatee	1	September 15	.07	1.0%	1.3%
Manatee	2	No Test	No Test	No Test	No Test
Cape Canaveral	1	September 1	.135	2.2%	1.6%
Cape Canaveral	2	September 1	.108	2.2%	1.6%
Port Everglades	1	August 1-2	.055	.9%	2.3%
Port Everglades	2	August 1-2	.050	1.0%	3.0%
Port Everglades	3	August 11-12	.09	1.0%	2.8%
Port Everglades	4 (LEAB)*	August 20-21	.065	0.8%	3.4%
Riveria	3	September 22	.096	0.93%	1.9%
Riveria	4	August 20-21	.12	1.0%	1.4%
Sanford	3	July 18-19	.17	2.1%	1.7%
Sanford	4	Coal Oil Mix	(COM)	(COM)	(COM)
Sanford	5	August 5	.21	2.3%	1.9%
Turkey Point	1 (LEAB)*	September 3-4	.07	1.0%	4.0%
Turkey Point	2	July 23-24	.09	1.0%	1.9%

*LEAB = Low Excess Air Burners

12 day 24 July (10.1%)
of the 120 full burn day

Dave Hailes-

Some of my
old notes on
JONFORD COM
Note I keep
if useful or
file (13)

SF
2-12-81

Monday
4-8-80

ESP modules
collecting 99.9%

Lear-Seigler
Opacity Monitor

metals analysis on ash
fly / bottom
have
particle dist
data on
cyclone inlet
distribution
flow (neg ΔP)
at randompoints
on inlet
outlet OK

will call
Charles Wolfe

collector
ash dry
gray with
tan tint

3% O_2 - 15% EA
slagging at 20-30% coal (2400°F+)
wall blower installed
2300°F at 40%
13-20% Carbon in fly ash
continue on 50%
burn design modification
bad erosion on stuf
burners at 40% prior
to mod.
mod not in tip
prior to tips.
more bottom ash than
anticipated
Cyclone 62-72% eff
will be taking inquest
Outlet
stack testing 250 - 330
(200 - 400 MW)
will be taken 2 run along
simultaneous (Method 5 - acclaim ...

40% COM

	1	T2	T1	T2	T1
	400 mw	400 MW	300	300	200 MW
Date	7-21	7-21	7-19	7-19	7-22
Opacity (T)	44%	48%	39%	39%	37%
Opacity (mg)	43%	42%	47%	40%	37%
#/hr	1481	1717	758	975	423
#/mmBtu	0.396	.459	.273	.351	.195

Prediction

base on 40% com data

50% com	200 MW	531 #/hr
	400 MW	2000 #/hr

50% com	200 MW	.245 #/mmBtu
	400 MW	.535 #/mmBtu

Plan to start monday

5-7 day

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____ Loctn.: _____		
To: _____ Loctn.: _____		
To: _____ Loctn.: _____		
From: _____ Date: _____		
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

TO: Jacob D. Varn

FROM: Steve Smallwood

DATE: November 18, 1980

SUBJ: Approval and Signature of Attached Air Construction Permit Modification described below.

Attached please find the proposed Modification to 1 Air Construction Permit (AC 64-25610) for which the applicant is Florida Power and Light Company. The proposed modification is to the Air Construction permit for the Sanford Coal Pulverizer (COM test project) located at Sanford, Volusia County, Florida.

The Modification would extend the Air Construction Permit expiration date from November 30, 1980 to December 30, 1980.

The Bureau recommends your approval and signature.

Steve Smallwood, Chief
Bureau of Air Quality Management

SS:caa

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

November 5, 1980

W. J. Barrow
Florida Power and Light Company
P. O. Box 529100
Miami, Florida 33152

Dear Mr. Barrow:

Modification of Conditions
Permit No. AC 64-25610

We are in receipt of your request for a modification of the permit conditions. The conditions are changed as follows:

Condition	From	To
Expiration date	November 30, 1980	December 30, 1980

This letter must be attached to your permit and becomes a part of that permit.

Sincerely,

Jacob D. Varn

Jacob D. Varn
Secretary

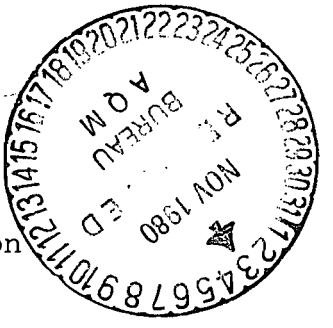
JDV:caa

DER Form 17-1.122(59)

P.O. BOX 529100 MIAMI, FL 33152

FLORIDA POWER & LIGHT COMPANY

October 31, 1980



Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32201

RE: Construction Permit No. AC-64-25610
FPL Sanford Coal Pulverizer (COM Test Project)

Dear Mr. Smallwood:

We are applying for a 30-day extension of the above permit, which expires November 30, 1980. Our request is being made to allow us to continue to operate the facility while in the process of obtaining the operating permit. Our past experience indicates that our compliance testing and application submittal, coupled with the process of DER review and permit issuance, cannot be accomplished in the remaining time period left in the construction permit.

On October 2 and 3, 1980, particulate emission testing was done by EAD (Environmental Analysis & Design) on pulverizer baghouse systems "A" and "B." Emissions from system "A" met compliance as required in the permit, but emissions from system "B" did not. A copy of the compliance tests performed by EAD is enclosed for your information.

On subsequent inspection of the system "B" baghouse, it was discovered that 63 of the 255 bags had "failures" in similar areas. The manufacturer and Bechtel personnel have hypothesized that a known lightning strike at the facility could have heated coal particles and caused the holes in the bags.

New bags are now being installed, and we have scheduled a new particulate compliance test for system "B" with the Orlando DER office on November 18, 1980. This is the earliest possible date for re-testing system "B."

In light of the fact that the facility will meet particulate compliance limitations when the bags are good, as evidenced by the system "A" test results, we are requesting that you extend the construction permit allowing us to operate the facility until we can obtain the operating permit.

We have already lost valuable time in terms of the calendar year limitation in the DER variance as a result of Sanford Unit #4 down-time due to turbine inspection and generator overhaul. We need to prevent further inactivity in the COM Test Project. Expiration of the construction permit on November 30, 1980 will cause us to lose additional testing time, which we feel is necessary to obtain full evaluation of the project.

We have contacted you due to the fact that the construction permit was issued from your office. Your early attention to this matter would be appreciated. Please call me at (305)552-3561 if you have any questions.

Sincerely,

W. J. Barrow, Jr.
Assistant Manager
Environmental Permitting & Programs

WJBjr/RTKjr/kb

Enclosure

cc: w/o enclosure
Mr. Charles Collins - DER, Orlando
Mr. Roger Caldwell - DER, Orlando

1

Meeting 8-1-80

Variance for FPL.

1 Aug 28 - sets emission rates - opacity - at set not TSO or opacity limit.

* alternate Particulate limit
- by UNIT basis .3 or .4.

* limit will change - will install low excess air burners

limit will be .3 in the LEAB
.4 that do not have LEAB

(1)
* Asphaltene Content - less than or = 9%

(2) then it is .2 lb for LEAB.
.3 lb of do not have

load

45 day after

if they are burning 1% sulfur in Turkey Pt and Port Everglades do not have to submit the fuel quality a stat test

Bill Blommel

State of Florida

DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or Other Than The Addresses

To: _____ Loctn.: _____

To: _____ Loctn.: _____

To: _____ Loctn.: _____

From: _____ Date: _____

TO: Steve Smallwood

THROUGH: Bill Blommel

FROM: Rick Vail

DATE: July 25, 1980

SUBJECT: Electric Generating Facilities under Variance
Stack Test Status

According to all records that the Bureau has on electric generating facilities under a variance, the following is a summary of the data you requested.

1) No data on the John R. Kelly and Deerhaven plants, VE tests were scheduled for 3-1-80.

2) Manatee units 1 and 2 show no test data for the second quarter (April-June). Tests were scheduled for June 9.

3) Cape Canaveral units 1 and 2 show no test data for the second quarter (April-June). Tests were scheduled for May 12 (Unit 1) and June 16 (Unit 2).

4) Port Everglades unit 4 shows no test data for the first quarter (Jan-March).

5) Riveria unit 3 shows no test data on first quarter (Jan-March).

6) Sanford units 3, 4 and five show no test data for the second quarter (April-June). Unit 3 was scheduled to be tested July 14.

7) Turkey Point unit 1 shows no test data for the second quarter (April-June).
Turkey Point unit 2 shows no test data for the first quarter (Jan-March).

8) No data on Lauderdale units 4 and 5. Tests were scheduled for March 14 and March 24, 1980.

9) No data on the TECO plant in Tampa.

10) No data on the City of Key West's plant.

		Quarterly Periods		First Quarter/Second Quarter		
Plant	Unit	Jan.-March Tested	April-June Tested	Emission Avg. lbs./10^6 BTU	% Sulfur	% Asphaltenes
Ft. Myers	1	Jan. 29-30	April 8	.17/.142	2.35/2.21%	2.73/4.0
Ft. Myers	2	Missing	April 9-10	Msg./.1011	*/2.2%	*/4.0
Manatee	1	March 11-14	Missing	.105/Msg.	*	*
Manatee	2	March 11-14	Missing	.09/Msg.	*	*
Cape Canaveral	1	Jan. 16-17	Missing	.184/Msg.	*/2.37	3.1
Cape Canaveral	2	March 25-26	Missing	.106/Msg.	2.17%	4.5
Port Everglades	1	Jan. 21-22	May 8-9-12	.08/.12	*	*
Port Everglades	2	March 3-4	May 5-7	.056/.09	*	*
Port Everglades	3	Jan. 23-24	April 16-17	.078/.073	*	*
Port Everglades	4	Missing	April 15-16	Msg./.04	*	*
Riveria	3	Missing	Week of April 21	.04/.06	.86/.90%	1.9%/1.9%
Riveria	4	Feb. 13	Week of April 21	.02/.045	.86/.88%	1.9/1.8%
Sanford	3	Feb. 20-21	Missing	.154	1.76%	4.5%
Sanford	4	Feb. 7	Missing	.072/Msg.	1.63%/*	4.3%/*
Sanford	5	Feb. 5-6	Missing	.104/Msg.	1.64%	4.3%
Turkey Pt.	1	Jan. 15-17	Missing	.10/Msg.	*	*
Turkey Pt.	2	Missing	April 8-9	Msg./.10	Msg./1.24	Msg./4.6

*Indicate oil was analyzed as received and there is no indication of when or what units it was utilized in.

State of Florida

DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices Or To Other Than The Addressee

To: file Loctn.:

To: Loctn.:

To: Loctn.:

From: Date:

TO: Chuck Collins

FROM: Bill Thomas BT

DATE: August 4, 1980

SUBJ: Florida Power and Light Request for Modification to Operating Hour Limitation a Sanford Coal Pulverizer (AC 64-25610)

The attached letter from Florida Power and Light to DER (July 21, 1980) requesting change in operating hour limitations presents the background for the request. The recirculation operation creates a desparity between preparation capacity and boiler demand that makes the change necessary in order to meet the objectives of the facility.

The specific wording requested is, however, unacceptable in view of the bases of the original determinations.

Fundamental to the determination was the annual particulate emissions of less than 15 tons. Recirculation at a lower coal input rate would have no effect on emissions, only on operating hours and therefore limitations were placed on an improper parameter.

In order to restate the conditions to eliminate unintended restrictions while preserving the intent, I recommend that the operating hour limitation (#3, Specific Conditions) be deleted and replaced with a cap on coal input of 96,000 lb./hr. and 150,000 tons/year to maintain the facility within the range considered to be de minimus.

Additionally, to maintain the tie between this facility and the test burn at Sanford Unit #4 a proviso should be added to provide for early expiration of the operating permit upon completion of that test burn.

Since this constitutes a restatement of conditions rather than a change in limits and application for an operating permit is imminent I suggest, with your concurrence, that inclusion in the operating permit upon issuance might be more appropriate than an amendment to the construction permit.

Attachment

cc: Tom Kirk
Florida Power and Light file AC 64-25610

H6 - Rev 7/76

P.O. BOX 529100, MIAMI, FL 33152

FLORIDA POWER & LIGHT COMPANY

June 25, 1980

Mr. Tommie Gibbs
Chief, Air Facilities Branch
Air & Hazardous Materials Division
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, GA 30308

RE: PSD-FL-047, FPL Sanford COM
(Coal/Oil Mixture) Test Project

Dear Mr. Gibbs:

Enclosed is a summary of particulate test data obtained from burning 30% COM (30% coal/70% oil) at Sanford Plant Unit #4. Visual opacity readings have been added to the data summary. The data for pounds per hour and pounds per million BTU's have been graphed on additional enclosures. Using the 30% COM data, we have projected 50% COM particulate emissions. The graphs indicate we would be well below the established limits at 50% COM.

Our estimated date for burning 40% COM (40% coal/60% oil) at the present time is July 7, 1980. Particulate test data from this run will be used for a projection to assure that the next COM increment will not violate the established limits.

Complete compliance test results for 30% COM will be forwarded shortly.

Sincerely,

R. Thomas Kibler, Jr.

for: W.J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJB:RTK:jrh

Enclosures

cc: Mr. Roger Pfaff, EPA, Atlanta
Mr. J.T. Wilburn, EPA, Atlanta
Mr. Steve Smallwood, DER, Tallahassee

DATA SUMMARY

COMO PROJECT - UNIT #4 TRK

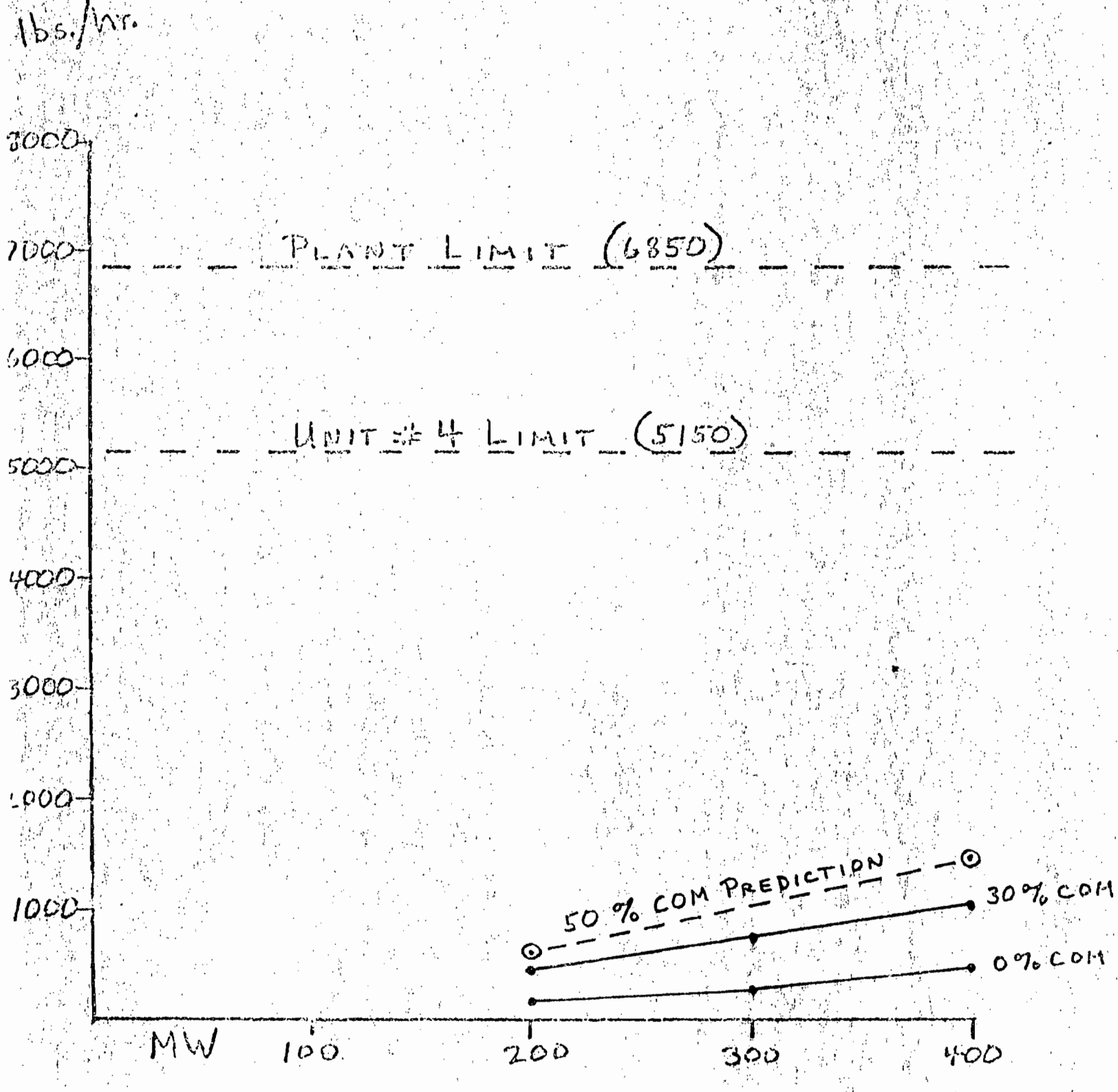
6/25/80

ITEM	400 MW			300 MW			200 MW			100 MW		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3	Test 1	Test 2	Test
30% COH												
Date	5/28	5/28		5/29	5/29		5/30					
Opacity (Monitors)	38%	32%		30%	30%		39%					
Opacity (Visual)	36%	42%		—	28%		32%					
lbs./hour	1,101	1,043		630	726		385					
lbs./mBTU	.327			.263			.243					
Date												
Opacity (Monitors)												
Opacity (Visual)												
lbs./hour												
lbs./mBTU												
Date												
Opacity (Monitors)												
Opacity (Visual)												
lbs./hour												
lbs./mBTU												

FPL SANFORD COM PROJECT

RNA
6-25-80

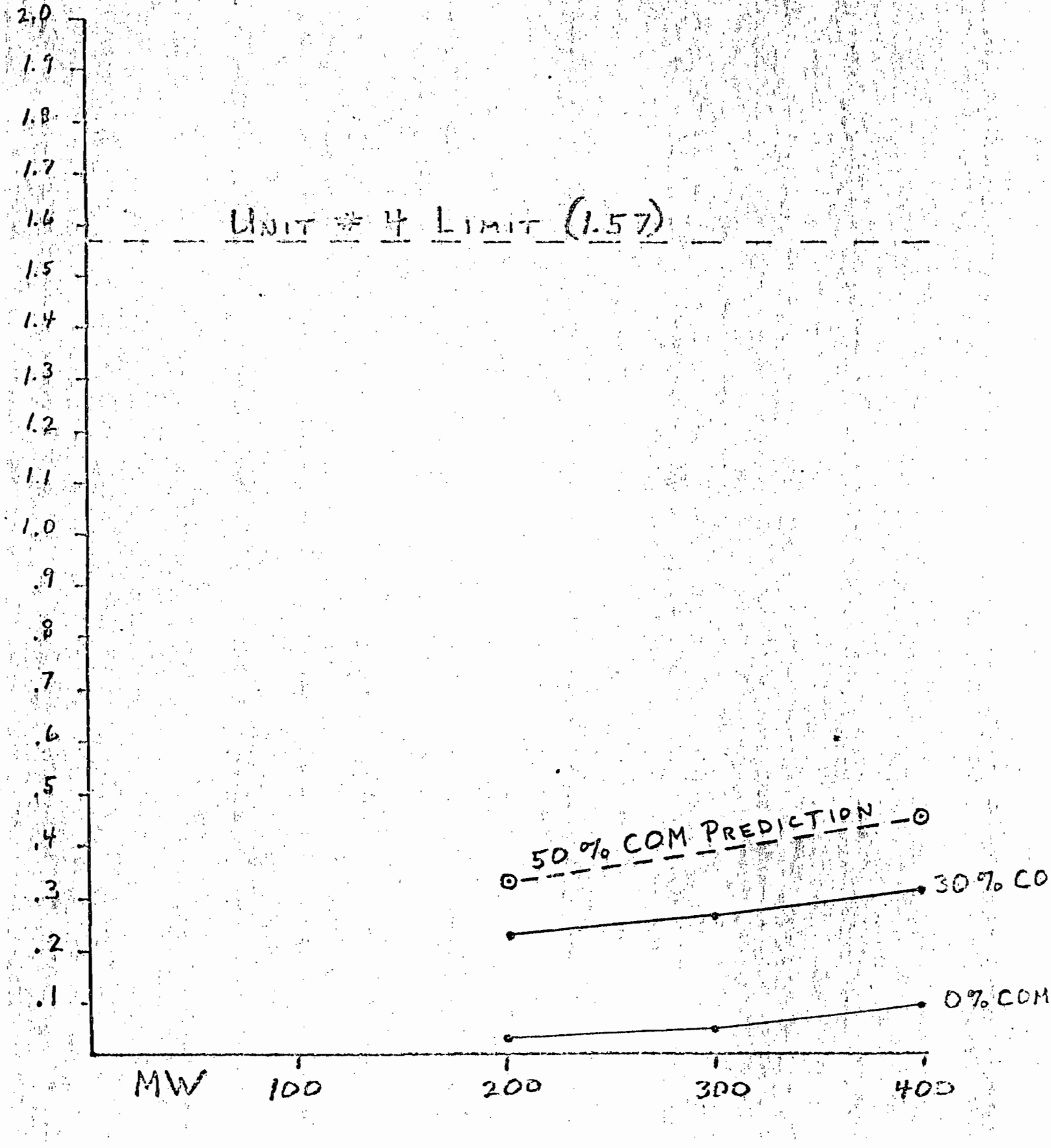
GRAPH #1 - LBS./HR. PROJECTIONS
(Based on latest 30% COM data)



FPL SANFORD COM PROJECT

RTK
6/25/80

GRAPH # 2 – LBS./mBTU PROJECTIONS
(Based on latest 30% COM data)



COM DATA. Particulate Outputs

	Florida Power Light, Unit #4 FFFSG								New Brunswick Electric Power ① Chatham, FFFSG			Ontario Research ② Boiler Burners	
Case #	1	2	3	4	5	6	7	8	9	10	11	12	13
% Mix COAL/OIL	0/100			20/80		30/70			0/100	12/88		35/65	35/65
Load, Megawatts	200	300	400	300	400	200	300	400	10	10	10	2	2
Emissions Pounds/million BTU	.091	.092	.13	.19	.23	.19	.20	.28	.24	1.0	.99	.94	1.4
Allowable Pounds/Million BTU	0.10			0.14		0.16			—	—		—	
Opacity						39	30	35	5-20	20-30	25-35		

① A small power boiler, Foster Wheeler Type SA, 38.8 lbs. steam/sec, dual-fired, (coal, oil) with seperate burners. Fuel benification (agglomeration process) for 70% ash reduction, 50% sulfur. # cyclone Dust collector control device.

② Two types of boiler burners fired into a flame tube. Benification - dry grinding, flotation, agglomeration.

P.O. BOX 529100, MIAMI, FL 33152

FLORIDA POWER & LIGHT COMPANY

July 21, 1980

Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32201

RE: Construction Permit No. AC-64-25610
FPL Sanford Coal Pulverizer (COM Test Project)

Dear Mr. Smallwood:

We are applying for an amendment to the total hours of operation for the above-referenced permit for the coal pulverizer.

The construction permit limits operation of the coal pulverizer to 2,880 hours (Page 3 of 4, Specific Condition No. 3). The pulverizer facility is used to crush and mix all fuel (coal and oil) for boiler unit #4. As of July 19, 1980 we have used approximately 8% of the megawatt hour limitation allowed on the boiler. However, we have used approximately 23% (668 hours as of July 21, 1980) of the 2,880 hours specified in the coal pulverizer facility construction permit.

The coal pulverizers can operate in the range of two tons up to twelve tons per hour (per pulverizer). When mixing higher levels of the coal/oil mixture, a good amount of recirculation through the lines and operation of the pulverizer(s) at low ranges are the norm. Although the facility is not operating at the maximum range, each operating hour (for one or more pulverizers) counts against the 2,880 total. At the present rate, we will reach the pulverizer facility operating hours limit before we fully utilize the time permitted to us to test the fuel in the boiler.

We are requesting that Specific Condition number 3 be amended to read:

> "The maximum hours of operation shall be 24 hours/day, for a total number of hours not to exceed what is necessary to provide coal/oil mixture fuel to Sanford Unit #4 to complete 120 full-power burn test days (or 1,152,000 megawatt hours)."

We are not seeking to amend any other conditions and still intend to comply with the maximum allowable emissions as stated in Specific Condition Nos. 1 and 2 of the permit. This should not increase the total emissions for the period of the test from that originally permitted. The facility baghouse operates at its normal efficiency regardless of the tons of coal processed.

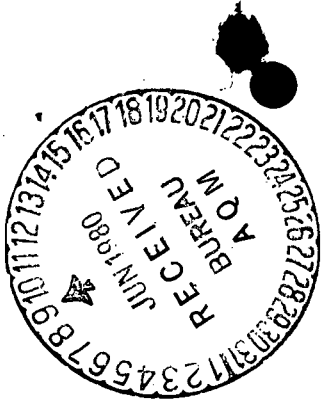
This amendment was discussed with Mr. Bill Thomas of your office by phone today, and we are applying for this amendment by this letter at his suggestion. If any additional information is required, please contact Tom Kirk at (305)552-3559.

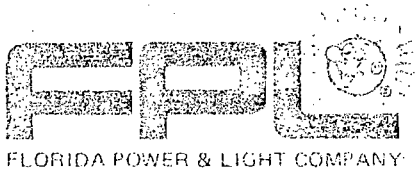
Sincerely,

W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJBjr/RTKjr/kb

P.O. BOX 529100 MIAMI, FL 33152





June 3, 1980

Mrs. Mary Clark
Assistant General Counsel
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mary:

Per our conversation the other day regarding your May 14th visit to Sanford Plant, the following paragraph describes why you were blessed with our emissions.

On May 9 our air heater soot blowing steam was not available due to a defective pressure relief valve on the high pressure side of the reducing station. This malfunctioning valve was repaired and soot on the air heaters was blown on May 14 for the first time in five days for which you had the pleasure of experiencing. During this malfunction the opacity exceeded the sixty percent limit for 34 minutes. The air heater prior and subsequent to this have not exceeded sixty percent opacity.

I have talked to our Power Resources Department and they have assured me that every measure will be taken to prevent a recurrence of this nature. If you have any questions, please do not hesitate calling me.

Sincerely,

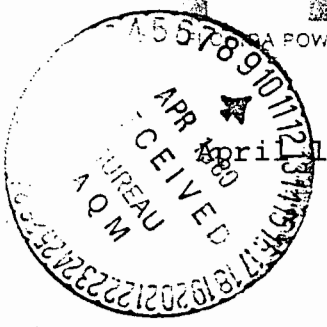
W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJB:jr:sal

cc: Mr. Steve Smallwood✓

P.O. BOX 529100, MIAMI, FL 33152

FLORIDA POWER & LIGHT COMPANY



April 11, 1980

Mr. Steve Smallwood
Chief, Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Smallwood:

In accordance with the State Variance granted January 2, 1980 for our COM (Coal/Oil Mixture) Test Project at Sanford, we are hereby notifying you of our estimated start-up date of April 11, 1980.

Very truly yours,

W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJB:jr:sal

P.O. BOX 529100, MIAMI, FL 33152

FPL
FLORIDA POWER & LIGHT COMPANY

April 1, 1980

Mr. Tommie Gibbs
Chief, Air Facilities Branch
Air & Hazardous Materials Division
U. S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, GA 30308

RE: PSD-FL-047

Dear Mr. Gibbs:

In accordance with General Condition #1 of the above permit for our Sanford COM (Coal/Oil Mixture) Test Project, we are hereby notifying your office of our estimated start-up date of operation of April 11, 1980.

Sincerely,

for: R. T. Hinds, Jr.
W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJBjr:RTK:eab

cc: Mr. Steve Smallwood
Florida Department of
Environmental Regulation
Tallahassee, Florida

Steve Smallwood

MAR 5 1980

REF: 4AH-AF

Mr. W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs
Florida Power and Light Company
P. O. Box 529100
Miami, FL 33152

Re: PSD-FL-042

Dear Mr. Barrow:

As discussed recently with Mr. Frank Collins of my staff, we would appreciate your cooperation in displaying the attached PSD Final Determination and public comments in the Office of the Comptroller, Volusia County, Florida for thirty days. The Final Determination is for the proposed Florida Power and Light coal-oil test burn. The requirement for display of the Final Determination and comments is given at 40 CFR 52.21(r)(2)(viii).

If you have any comments or questions regarding this letter, please call Mr. Collins (404/881-4552).

Sincerely yours,

Tommie A. Gibbs
Chief
Air Facilities Branch

cc: FL DER

P.O. BOX 529100, MIAMI, FL 33152

FPL
FLORIDA POWER & LIGHT COMPANY

March 3, 1980

Mr. Thomas W. Devine, Director
Air & Hazardous Materials Division
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30308

Dear Mr. Devine:

Please reference your letter of February 20, 1980 to Florida Power & Light Company transmitting the PSD permit (PSD-FL-047) for our Sanford Plant Coal/Oil Mixture Test Project. We wish to further clarify some information contained in the permit.

In Table II, "BACT For Fugitive TSP Sources", bottom ash is stated to be disposed of by sluicing. Actual disposal will consist of the bottom ash being removed from the hopper bottom of the boiler directly to a truck, which will transport it to the disposal site. The truck will be enclosed by a canvas cover, and if necessary, the bottom ash will be sprayed with water to hold down fugitive dust.

This method has been determined to be the most effective, considering the physical, monetary, environmental and time constraints placed on this test project.

Very truly yours,

W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJB:jr:sal

bcc: Messrs.
Tom Hines
A. S. Mendelssohn
L. D. Slepow
Steve Smallwood-DER
A. Kasprik

P.O. BOX 529100 MIAMI, FLA 33152

FPL
FLORIDA POWER & LIGHT COMPANY

February 12, 1980

Mr. Mark G. Hodges
Bureau of Air Quality Management
Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Sir:

Enclosed is the last of the affidavits of publication of "Public Notices" on the construction permit for the coal pulverizer at our Sanford Plant. This notice was published in the ORLANDO SENTINEL STAR on December 26, 1979. You already have an affidavit for the notice published on the same date in the SANFORD EVENING HERALD.

Sincerely,

W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJBjr:RTK:eab

enclosures

Public Notice
Construction Permit

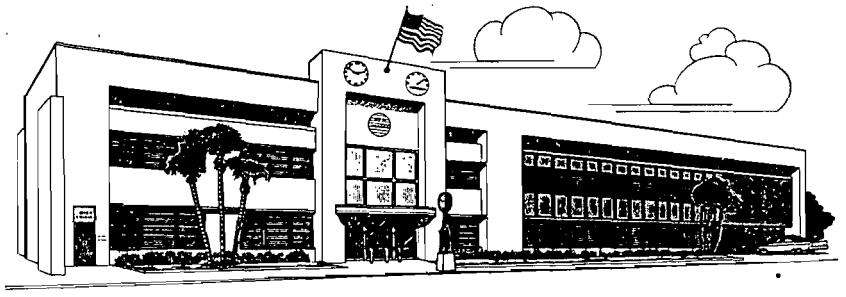
The Florida Department of Environmental Regulation (DER) has received an application from and intends to issue a Construction Permit to the Florida Power and Light Company for the construction of a coal pulverizer at the Sanford Power Plant located on Barwick Road, near Sanford, Volusia County, Florida. No determination of Best Available Control Technology was required. Copies of the application, Technical Evaluation and Proposed Construction Permit are available for inspection at the following locations:

St. Johns River District Office, FDER
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

Seminole Co. Courthouse
N. Park Avenue
Sanford, Florida 32711

Bureau of Air Quality Management, FDER
2600 Blair Stone Road
Tallahassee, Florida 32301

Persons wishing to comment on this action shall submit comments to Mr. Bill Thomas, of the Tallahassee Office within 30 days of this notice.



Sentinel Star
Florida Magazine

Published by Sentinel Star Company
P. O. BOX 2833
ORLANDO, FLORIDA 32802
(305) 420 -

February 5, 1980

TO WHOM IT MAY CONCERN:

Before the undersigned authority personally appeared R.F. MacLeish who on oath says that he is the Financial Advertising Manager of the Sentinel Star, a daily newspaper published at Orlando, in Orange County, Florida; that a 2 column by 6 inch advertisement in the matter of Florida Power & Light Notice of Public Notice was published in said newspaper in the issue of December 26, 1979.

R. F. MacLeish

Sworn to and subscribed before me this 5th day of February 1980.

Marie M Manner
Notary Public
Notary Public, State of Florida at Large
My Commission Expires May 14, 1981
Bonded By American Fire & Casualty Company

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#00000000025610 COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FLORIDA POWER & LIGHT DATE FIRST REC: 11/13/79 APPLICATION TYPE:AC
APPL NAME:BARROW, W.J. JR. APPL PHONE:(305)552-3561 PROJECT COUNTY:64
ADDR: CITY:TAMPA ST:FLZIP:
AGNT NAME:SURABIAN, M. AGNT PHONE:( )948-2700
ADDR:15740 SHADY GROVE ROAD CITY:GAITHERSBURG ST:MDZIP:20760

ADDITIONAL INFO REQ: / / / / / / REC: / / / / / /
APPL COMPLETE DATE: / / COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N
*** RECORD HAS BEEN SUCCESSFULLY UPDATED *** 01/31/80 14:39:30
FEE PD DATE#1:11/13/79 $0020 RECEIPT#00033520 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:IS DATE:01/31/80
REMARKS:COAL PULVERIZER AND HANDLING FACILITY, SANFORD UNIT #4. LOCATED ON BARWICK ROAD, SANFORD. UTM = 468.340 E./ 3190.380 N. LAT/LON = 28-50-40 N. / 81-19-30 W. VOLUSIA CO.

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

January 30, 1980

Mr. Wilbur L. Dumph
Rt. 1 Box 208-A
Sanford, Florida 32771

RE: Florida Power and Light Sanford Coal Processing Plant

Dear Mr. Dumph:

Your comments of 1/2/80 were received and actually addressed considerably more than the specific permit noticed.

I will try to give you a brief summary of the overall situation.

The present project is a test of the feasibility and cost of burning a mixture of pulverized coal and fuel oil as an alternative to continued complete dependency on oil or complete conversion to coil. If successful it could be a major step in reducing oil problems that could be taken relatively quickly and cheaply. This test involves only unit #4 of the plant and is the subject of a separate action from this permit. It is for a limited time only and is being treated as a variance in order to prove the practicality of the idea as quickly as possible. If it is proven to be feasible and burning of the coal-oil mix is to be a permanent thing, then considerably more pollution control equipment will be required. If that occurs then you may well see pollution levels reduced from those presently existing.

The notice which you answered was separate from this in that it covered only the facilities necessary to prepare the coal-oil mix for the test. In the preparation plant coal will be pulverized prior to mixing the #6 fuel oil. While coal is in the dry state all equipment will be sealed with a vacuum system pulling the dust to a baghouse filter. After mixing, of course, there will be no potential for dust.

Determination of "Best Available Control Technology" is required only of larger pollution sources that have the potential to degrade the environment. This coal plant, by nature of the processes and design has a much smaller potential than that which would require a determination. The permit will naturally require testing and record-keeping to ensure that everything will continue to work properly.

I hope this will answer your questions and if I can be of further service, let me know.

Sincerely,

William A. Thomas
Engineer

WAT:caa

RULES

OF THE

DEPARTMENT OF ENVIRONMENTAL REGULATION

CHAPTER 17-2

AIR POLLUTION

17-2.01 Declaration and intent
17-2.02 Definitions
17-2.03 Best Available Control Technology
17-2.04 Prevention of Significant Deterioration (PSD)
17-2.05 Prohibitive Acts
17-2.06 Ambient Air Quality Standards
17-2.07 Air Pollution Episode
17-2.08 Sampling and Testing
17-2.09 Local Regulations
17-2.091 Public Comment
17-2.10 Local Government
17-2.11 Low Sulfur Fuel Shortages
17-2.12 Source Testing Method

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

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

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

Specific Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061 FS. History—Revised 1-18-72, Amended 6-8-78.

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

(1) "Acid Mist" — Liquid drops of any size of any acid including but not limited to sulfuric acid and sulfur trioxide, hydrochloric acid and nitric acid as measured by test methods approved by the Department.

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

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

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

(5) "Area of Impact" — The geographical region surrounding a facility and extending from the facility out to a distance of fifty kilometers or to a distance where the impact of emissions from the facility decreases to less than 1 ug/m^3 annual arithmetic average, whichever distance is less.

(6) "Baseline air quality concentration" or "Baseline" — For sulfur dioxide and particulate matter, the applicable ambient concentration levels existing during 1974 plus any additional concentrations for the area of impact estimated to result from sources permitted for construction but not operating prior to January 1, 1975. These concentrations shall be established for all time periods covered by the standards set forth under Section 17-2.06, Florida Administrative Code, and may be either measured or estimated. In the case of the 3-hour and 24-hour concentrations, only the second highest concentrations shall be considered.

(7) "Best Available Control Technology" or "BACT" — an emission limitation based on the maximum degree of reduction of each pollutant emitted or resulting from any major emitting facility or major modification which the Department, taking into account, on a case-by-case basis, energy, environmental and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including but not limited to fuel cleaning or treatment, innovative fuel combustion, or other techniques for control of each such pollutant.

(8) "Capacity factor" — The ratio of the average load on or output of a machine or unit operation to the permitted capacity rating of the machine or unit operation for a normal operating period of cycle. The "capacity factor" shall be expressed as a percent of rating.

(9) "Carbonaceous Fuel" -- Solid materials composed primarily of vegetative matter such as tree bark, wood waste, bagasse, and/or the combustible fraction of municipal wastes.

(10) "Carbonaceous Fuel Burning

Equipment" — A fire box, furnace or combustion device which burns carbonaceous fuel or a combination of carbonaceous and fossil fuels for the primary purpose of producing steam or to heat other liquids or gasses. The term includes bagasse burners, bark burners and waste wood burners, but does not include teepee or conical wood burners or incinerators.

(11) "Continuous monitoring system" -- All equipment, required under a Section 17-2.08, used to calibrate, sample, condition (if applicable), and analyse air emissions, or used to provide a permanent record of emissions or process parameters.

(12) "Emission Limiting Standard" or "Emission Limits" or "Emission Limitation" — The maximum allowable emission rate, concentration of emission, or level of opacity for an air pollutant source.

(13) "Department" — The State of Florida, Department of Environmental Regulation.

(14) "Excess Emissions" — Emissions of pollutants in excess of those allowed by Sections 17-2.03; 17-2.04 or 17-2.05 or by a permit issued pursuant to 17-4, Florida Administrative Code. The term applies only to conditions which occur during startup, shutdown, or malfunction.

(15) "Existing Source" — A source which is in existence, in operation or under construction or which has received a permit to begin construction prior to January 18, 1972, the revised date of this chapter.

(16) "Fossil Fuel" — Natural gas, petroleum, coal or any form of solid, liquid, or gaseous fuel derived from such material.

(17) "Fossil Fuel Steam Generators" — Furnaces and boilers which produce steam by combustion of oil, coal or gas of fossil origin.

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

(19) "Kraft Pulp Mill" — An industrial operation that processes wood to produce cellulose or cellulose materials by means of chemically cooking the wood with a liquor consisting of an alkaline sulfide solution containing sodium hydroxide and sodium sulfide, also known as the sulfate process.

(20) "Major Emitting Facility" or "Facility" — Any building structure, installation or source which has the potential to emit 100 tons per year or more of any air pollutant and which falls within one of the following categories:

(a) Fossil-fuel fired steam electric plants of more than two hundred and fifty million British thermal units per hour heat input,

(b) Coal cleaning plants,

(c) Kraft pulp mills,

(d) Portland cement plants,

(e) Primary zinc smelters,

(f) Iron and steel mill plants,

(g) Primary aluminum ore reduction plants,

(h) Primary copper smelters,

(i) Municipal incinerators capable of charging more than two hundred and fifty tons of refuse per day,

(j) Hydrofluoric acid plants,

(k) Sulfuric acid plants,

(l) Nitric acid plants,

(m) Petroleum refineries,

(n) Lime plants,

(o) Phosphate rock processing plants,

(p) Coke oven batteries,

(q) Sulfur recovery plants,

(r) Carbon black plants (furnace process),

(s) Primary lead smelters,

(t) Fuel conversion plants,

(u) Sintering plants,

(v) Secondary metal production facilities,

(w) Chemical process plants,

(x) Fossil-fuel boilers of more than two hundred and fifty million British thermal units per hour heat input,

(y) Petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels,

(z) Taconite ore processing facilities,

(aa) Glass fiber processing plants,

(bb) Charcoal production facilities; Any other building, structure, installation, or source which has the potential to emit 250 tons per year or more of any air pollutant.

(21) "Malfunction" — Any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.

(22) "New Source" — Any source other than an existing source.

(23) "Nitric Acid Plant" — Any facility producing weak nitric acid by employing either the pressure or atmospheric pressure process.

(24) "Objectionable Odor" — Any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.

(25) "Odor" — A sensation resulting from stimulation of the human olfactory organ.

(26) "Opacity" — A condition which renders material partially or wholly impervious to rays of light causing obstruction of observer's view.

(27) "Particulate Matter" — Any material, others, than uncombined water, which exists in a finely divided form as a liquid or solid, as measured by the sampling methods approved by the Department.

(28) "Plant Section" — A part of a plant consisting of one or more unit operations including auxiliary equipment which provides the complete processing of input (raw) materials to produce a marketable product, including but not limited to, granular triple super phosphate, phosphoric acid, run-of-pile triple super phosphate and di-ammonium phosphate, or one or more unit operations including auxiliary equipment or structures which are used for the functions such as; storage, shipping, loading, unloading, or bagging.

(29) "Portland Cement Plant" — Any facility manufacturing Portland Cement by either the wet or dry process.

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

(31) "Redesignation of an area" — The reclassification of an area to a different deterioration class or the redefinition of the boundaries of an area.

(32) "Ringelmann Chart" — The Chart published and described in the U.S. Bureau of Mines Information Circulars No. 8333 and No. 7718. The above references are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. and may be inspected at the Department's Tallahassee Office.

(33) "Secretary" — Means the Secretary of the Department.

(34) "Shutdown" — The cessation of the operation of a source for any purpose.

(35) "Stagnant Atmospheric Condition" — The atmospheric and meteorological conditions which cause a reduction in the diffusion and dispersement of air pollutants in the atmosphere.

(36) "Standard Conditions" — A gas temperature of 70° Fahrenheit and a gas pressure of 14.7 pounds per square inch absolute.

(37) "Startup" — The Commencement of operation of any source which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical, or pollution control device imbalances, which result in excess emissions.

(38) "Sulfur Recovery Plant" — Any plant that recovers sulfur from crude (unrefined) petroleum materials.

(39) "Sulfuric Acid Plant" — Any installation producing sulfuric acid by burning elemental sulfur, alkylation acid, hydrogen sulfides, organic sulfides and mercaptans, or acid sludge.

(40) "Visible Emission" — An emission greater than 5 percent opacity or ¼ Ringelmann measured by standard methods.

(41) "Volatile Organic Compounds" or "Organic Solvents" — Any compounds containing carbon and hydrogen or carbon and hydrogen in combination with any other element which have a vapor pressure of 1.5 pounds per square inch absolute (77.6 mm. Hg) or greater under actual storage conditions.

Specific Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061 FS. History—Revised 1-18-72, Amended 4-9-74, 12-28-74, 7-20-76, 1-3-78, 6-8-78.

17-2.03 Best Available Control Technology.

(1) Determination

Following receipt of a complete application for a permit to construct an air pollution facility to be constructed after the effective date of this rule, which does not have applicable Emission Limiting Standards in Section 17-2.05, Florida Administrative Code, or which requires a determination of Best Available Control Technology pursuant to Subsection 17-2.04(6)(c), Florida Administrative Code, the Department, following receipt of a complete application for a Best Available Control Technology determination, shall make a determination of Best Available Control Technology. In making the BACT determination the Department shall give consideration to;

(a) The Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, 42 USC 7401 et seq., Clean Air Act Amendments of 1977, PL 95-95 Aug. 7, 1977 and Environmental Protection Agency determinations of Standards of Performance for New Stationary Sources, pursuant to 40 C.F.R. Part 60. The above references are available from the Superintendent of Documents, U.S. Government Printing Office, Washtington, D.C. and may be inspected at the Department's Tallahassee Office.

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determinations of any other state.

(d) The social and economic impact of the application of such technology.

(2) Within fifteen (15) days after receipt of application for construction permit for an air pollution source, which requires determination of BACT, the Department shall give notice of receipt of the application in the Florida Administrative Weekly and a newspaper of general circulation in the affected area.

(3) Exceptions

(a) Any source which has received a written determination of Latest Reasonably Available Control Technology from the Department prior to the effective date of this Subsection shall be exempt from the requirements of Best Available Control Technology.

(b) Any pending petition or proceeding involving a determination of Latest Reasonably Available Control Technology (LRACT) in process on the effective date of this Subsection, and any construction permit application or construction permit proceeding affected by such LRACT determination, petition or proceeding or relating to a category of sources encompassed by such proceeding shall be governed by the provisions of the LRACT rule, Chapter 17-2.02(30), and 17-2.03(1), Florida Administrative Code (Repealed).

Specific Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061 FS. History—Revised 1-18-72, Amended 12-28-74, 6-10-76, 7-20-76, 1-3-78, 6-8-78.

17-2.04 Prevention of Significant Deterioration (PSD).

(1) In order to prevent significant deterioration of the ambient air quality, only limited increases in the ambient concentration of sulfur dioxide and particulate matter shall be allowed. The magnitude of the maximum allowed increases in ambient pollutant concentration over the baseline shall be determined for each area of the State by designating each area as one of three specified deterioration classes. Any increase in the ambient concentration of sulfur dioxide or particulate matter over the baseline, which is greater than the maximum allowable increase, shall be considered significant deterioration of the ambient air quality. For the purposes of this paragraph, areas designated as Class I, II, or III shall be limited to the following increases in pollutant concentration ocurring over the baseline concentration. For any 24-hour or 3-hour period the applicable maximum allowable increase may be exceeded during one such period per year at any receptor site.

(a) For any Class I area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline of such air pollutants shall not exceed the following amounts:

Maximum allowable increase (in micrograms per cubic meter) Pollutants	
Particulate matter:	
Annual geometric mean	5
Twenty-four hour maximum	10
Sulfur dioxide:	
Annual arithmetic mean	2
Twenty-four hour maximum	5
Three-hour maximum	25

(b) For any Class II area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline of such pollutants shall not exceed the following amounts:

Particulate matter:	
Annual geometric mean	19
Twenty-four hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four hour maximum	91
Three-hour maximum	512

(c) For any Class III area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline of such pollutants shall not exceed the following amounts:

Maximum Allowable Increase (in micrograms per cubic meter) Pollutants	
Particulate matter:	
Annual geometric mean	37
Twenty-four hour maximum	75
Sulfur dioxide:	
Annual arithmetic mean	40
Twenty-four hour maximum	182
Three-hour maximum	700

(d) In all cases, ambient concentrations in excess of the ambient air quality standards as set forth in Section 17-2.06, Florida Administrative Code, shall be considered significant deterioration of ambient air quality and are expressly prohibited. Except as provided in Subsection (1) above, no net increase in ambient concentrations shall be allowed in an area over the specified increments.

(2) All areas of the State are hereby designated as Class II except for those areas specified in Subsections (3) and (4) below.

(3) Class I designations

(a) The following areas are designated as Class I and shall not be redesignated:

1. Everglades National Park
2. Chassahowitzka National Wilderness Area
3. St. Marks National Wilderness Area
4. Bradwell Bay Wilderness Area

(b) (Reserved for areas redesignated as Class I subject to future redesignation)

(4) (Reserved for areas redesignated as Class III)

(5) Redesignation

(a) Redesignation of an area may be proposed by filing a petition for Rulemaking with the Environmental Regulation Commission showing sufficient justification for redesignation. This petition shall conform to the requirements of Section 120.54, Florida Statutes. The Department may also initiate redesignation procedures.

(b) Decisions regarding whether an area should be redesignated shall be based on the following criteria:

1. The baseline in the area proposed for redesignation.
2. The level of deterioration considered significant.
3. The anticipated environmental impact of redesignation upon the proposed and adjacent areas.
4. The anticipated social, energy, and economic effects of redesignation upon the proposed and adjacent areas.

(c) The following areas shall not be redesignated as Class III:

1. An area which exceeds ten thousand acres in size and is a national monument, a national primitive area, a national preserve, a national recreation area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore, or
2. A national park or national wilderness area established after August 7, 1977 which exceeds ten thousand acres in size.

(d) Any area other than an area referred to in Subsection 1. or 2. or an area established as Class I under Section 17-2.04(3)(a) may be redesignated as Class III.

(6) Prevention of Significant Deterioration — PSD Review

(a) An applicant for a Permit to Construct a facility shall affirmatively provide the Department with reasonable assurance based on plans, test results, or other information that the facility will not cause a violation of the applicable maximum allowable increases or the applicable ambient air quality standard.

(b) Baseline and changes in pollutant concentration may be determined by using numerical, analytical, or physical models. These models, together with any computer code and data used to implement them, shall be approved by the Department prior to their use.

(c) No increase in pollutant concentration over the baseline will be allowed unless BACT is employed to control emissions from the facility.

(d) None of the following shall be considered a modification to any facility which would subject that facility to this subsection:

1. Routine maintenance, replacement, and repair;
2. An increase in the hours of operation, provided that the facility has a permit from the Department which allows for such an increase;
3. The use of an alternate fuel or raw material if the source was designed and has a permit from the Department to accomomodate that alternative use;
4. The addition or use of any system or

device whose primary function is the reduction of air pollutants, except when an emission control system would be removed or replaced by a system that would be less environmentally beneficial;

5. The change in ownership of an existing facility;

6. The use of innovative technology in fuel burning emissions control if such innovative technology is for research and development purposes and is approved by the Secretary in writing.

(e) Any change in ambient concentration resulting from any source or facility issued a construction permit after December 31, 1974 shall be counted against the class increment.

(f) It is a violation of this rule for any source of facility, solely or in combination with others, to cause or contribute to a significant deterioration of the ambient air quality.

(7) Exclusion from Increment Consumption

(a) Any person may apply to the Department for an order providing that for the purpose of determining compliance with the maximum allowable increase in ambient concentrations of an air pollutant, the following concentrations of such pollutant shall not be taken into account:

1. Concentrations of such pollutant attributable to the increase in emissions from stationary sources operated by the person applying which have converted from the use of petroleum products, or natural gas, or both, by reason of an order which is in effect under the provisions of Subsections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any subsequent legislation which supersedes such provisions) over the emissions from such sources before the effective date of such order.

2. The concentrations of such pollutant attributable to the increase in emissions from stationary sources operated by the person applying which have converted from using natural gas by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act or the documented inability to obtain natural gas, over the emissions from such sources before the effective date of such plan or documented date of inability to obtain natural gas.

3. Concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities.

4. The increase in concentrations attributable to new sources outside the United States over the concentrations attributable to existing sources which are included in the baseline concentration determined in accordance with Section 17-2.02(6).

(b) Applications for an exclusion from increment consumption shall be treated as licensing proceedings under Section 120.60, Florida Statutes, and shall be filed with the Department.

(c) If the Department finds that the proposed exclusion qualifies under the provisions of Section 17-2.04(3)(a), it shall, within 90 days of receipt of the completed application, forward its analysis of the effects that the exclusion would have upon air quality in the area of impact and its final order constituting final agency action to the Governor. If the Governor concurs with the exclusion by issuing executive order pursuant to his constitutional authority approving the Department's final order, the Department shall, within 10 days, issue the order, modify any necessary permits, and forward the entire record of the proceedings to the Administrator of the Environmental Protection Agency for his review.

(d) No action taken with respect to a source under Section 17-2.04(7)(a)1. or 2. of this Section shall apply more than five years after the effective date of the order referred to in Section 17-2.04(7)(a)1., or the plan or documentation referred to in Section 17-2.04(7)(a)2., whichever is applicable. If such order and plan or documentation are applicable, no such action shall apply more than five years after the later of such effective dates.

(8) Sources impacting Class I areas — additional requirements.

(a) Notice to Environmental Protection Agency. The Department shall transmit to the Administrator of the Environmental Protection Agency a copy of each permit application relating to a major stationary emitting facility received and provide notice to the Administrator of every action related to the consideration of such permit.

(b) Denial-impact on air quality related values. The Federal Land Manager may present to the Department after the preliminary determination required under Subsection (9) of this section, a demonstration that the emissions from an applicable facility will have an adverse impact on the air quality-related values (including visibility) of any Federal mandatory Class I lands, notwithstanding the fact that the change in air quality resulting from emissions from such source will not cause or contribute to concentrations which exceed the maximum allowable increases for a Class I area. If the Department concurs with such demonstration, the Department shall not issue the permits.

(c) Alternate Class I Increments

1. The owner or operator of a proposed facility may demonstrate to the Federal Land Manager that the emissions from such facility will have no adverse impact on the air quality-related values of such lands (including visibility), notwithstanding the fact that the change in air quality resulting from emissions from such source will cause or contribute to concentrations which exceed the maximum allowable increases for a Class I area. If the Federal Land Manager concurs with such demonstration and so certifies, the Department may issue the permit, pursuant to the requirements of Subsection (8)(c)2. of this section; provided, the applicable requirements of this subsection are otherwise met.

2. In the case of a permit issued pursuant to Subsection (8)(c)1. of this section, such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur dioxide and particulate matter will not exceed the following maximum allowable increases over baseline concentration for such pollutants:

	Maximum allowable increase (micrograms per cubic meter)
Particulate Matter:	
Annual geometric mean	19
24-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
24-hour maximum	91
3-hour maximum	325

(d) Alternate Increments for sulfur dioxide with concurrence of the Governor and the Federal Land Manager. The owner or operator of a proposed major stationary facility or major modification which cannot be approved under paragraph c. of this section may, as part of the construction permit application (or in the case of electrical generating plants as part of the application for site certification under Chapter 403, Part II, Florida Statutes), demonstrate to the Department that the facility cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for a period of twenty-four hours or less applicable to any Class I area and, in the case of Federal mandatory Class I areas, that the use of alternate increments under this clause will not adversely affect the air quality related values of the area (including visibility). If such demonstration is not rebutted, the Department, after consideration of the Federal Land Manager's recommendations (if any) and subject to his concurrence, shall issue a final order constituting final agency action to the Governor, recommending the use of alternate increments for such source. If the Governor, by executive order, recommends the use of alternate increments, the permit for the source may be issued pursuant to the requirements of paragraph (f) of this subsection: Provided that the applicable requirements of this Section 17-2.04(1) are otherwise met.

(e) Alternate Increments with the President's concurrence. The Department shall transmit the executive order of the Governor and the recommendations of the Federal Land Manager to the President in any case where the Governor recommends the allowance of alternate increments under this subparagraph in which the Federal Land Manager does not concur. The alternate increments shall become applicable if the President approves the Governor's recommendation. If the use of alternate increments is allowed, the Department may issue a permit pursuant to the requirements of paragraph (f) of this section, provided, that the applicable requirements of this Section 17-2.04(1) are otherwise met.

(f) Emission limitations for Presidential/Gubernatorial variance. In the case of a permit issued pursuant to paragraph (d) or (e) of this subsection, such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur dioxide from such source together with all other sources, will exceed the otherwise applicable maximum allowable increases for a period of exposure of twenty-four hours or less on not more than eighteen (18) days during any annual period and that during such day such emissions will not exceed the following maximum allowable increases occuring over the baseline concentration of such pollutant:

Maximum Allowable Increase
(in Micrograms per cubic meter)

Period of Exposure	Low Terrain Areas	High Terrain Areas
24-hour maximum	36	62
3-hour maximum	130	221

(9) Public participation

(a) After receipt of an application to construct an air pollutant source or any addition to such application, the Department shall, pursuant to Section 120.60(2), Florida Statutes, advise the owner or operator of any deficiency in the information submitted in support of the application. In the event of such a deficiency, the date of receipt of the application for the purpose of this section shall be the date on which all required information is received by the Department.

(b) Within 90 days after receipt of a completed application or within 15 days after conclusion of any public hearing held on the application, whichever is latest, the Department shall:

1. Make a determination whether the application should be approved, approved with conditions, or disapproved pursuant to the requirements of this section.

2. Make available in at least one location in each district in which the proposed source would be constructed, a copy of all materials submitted by the owner or operator, a copy of the Department's determination and a copy or summary of other materials, if any, considered by the Department in making a preliminary determination.

3. Notify the public, by prominent advertisement in a newspaper of general circulation in each region in which the proposed source would be constructed, of the opportunity for comment at a public hearing as well as written public comments on the information submitted by the owner or operator and the Department's preliminary determination on the approvability of the source.

4. Send a copy of the notice required in Subsection (9)(b)3. of this subsection to the applicant, the Governor, the Administrator and to officials and agencies having cognizance over the locations where the facility will be sitated as follows: Local air pollution control agencies, the chief executive of the city and county; any comprehensive regional land use planning agency, and any State, Federal Land Manager, or Indian Governing Body whose lands may be significantly affected by the facility's emissions. In the case of an application for alternate sulfur dioxide increments affecting a Federal Mandatory Class I area, the Federal Land Manager shall submit his recommendation to the Department within 45 days of receipt of a copy of the public notice and application. If the Federal Land Manager fails to submit his recommendation within this time, the Department shall presume that he consurs with the proposed alternate increments.

5. Provide opportunity at any public hearing held during the public comment period for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirement, and other appropriate considerations.

6. Consider all public comments submitted in writing within a time specified in the public notice required in paragraph (9)(b)3. of this subsection and all comments received at any public hearing(s) conducted pursuant to Subsection (9)(b)5. of this subsection in making its final decision on the approvability of the application. All comments shall be made available for public inspection in at least one location in the region in which the source

would be located.

7. Make a final determination whether the application should be approved, approved with conditions, or disapproved pursuant to the requirements of this section.

8. Notify the applicant in writing of its final determination. Such notification shall be made available for public inspection in at least one location in the region in which the source would be located.

(10) Notwithstanding any other provisions in this Section 17-2.04 to the contrary, applications for exclusion from increment consumption and applications for alternate Class I increments involving electrical power plants governed by the Florida Electrical Power Plant Siting Act, Sections 403.501-403.517, Florida Statutes, shall be processed as follows:

(a) Applications shall be filed as part of the application for site certification as that term is defined at Section 403.504(2), Florida Statutes;

(b) The Department shall provide a copy of the application to the Federal Land Manager of any Class I area which may be impacted by construction of the plant;

(c) The Department shall include an evaluation of the proposed exclusion from increment consumption and/or alternate Class I increments as part of the studies required by Section 403.507, Florida Statutes;

(d) Final action on such application shall be taken by the Governor and Cabinet as part of the application for site certification, provided that the Governor must individually concur with the grant of any exclusion from increment consumption or allowance of alternate Class I increments;

(e) Applications for site certification which are pending upon the effective date of this rule may be amended to include an application for increment exclusion and/or an application for alternate Class I increments.

Specific Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061 FS. History—Revised 1-18-72, Amended 12-28-74, 6-10-76, 6-20-76, 12-1-77, 6-8-78, Formerly included in 17-2.03.

17-2.05 Prohibitive Acts.

(1) Visible Emissions — No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere any air pollutants from:

(a) New, and after July 1, 1975, or existing sources, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart the opacity of which is equal to or greater than 20 percent.

(b) This Subsection, 17-2.04, 17-2.05(1), does not apply to emission emitted in accordance with specified emission limiting standards or in accordance with specified emission limiting standards or in accordance with the process weight table (Table I) provided in this chapter.

(c) If the presence of uncombined water is the only reason for failure to meet visible emission standards given in this section, such failure shall not be a violation of this rule.

(2) Particulate Matter — No person shall cause, let, permit, suffer or allow the emission of particulate matter from any air pollutant source in total quantities in excess of the amount shown in Table I, except as otherwise provided for in this chapter for specific emission limiting standards of particulate matter from specified sources.

Interpolation of the data in Table I for the process weight rates up to 30 tons per hour shall be accompolshed by the use of the equation: $E=3.59P^{0.62}$, P less than or equal to 30 tons per hour and interpolation and extrapolation of the data for process weight rates in excess of 30 tons per day hour shall be accomplished by use of the equation: $E=17.31P^{0.16}$, P is greater than 30 tons per hour. Where: E=Emissions in pounds per hour, P=Process weight rate in tons per hour. Application of mass emission limitations on the basis of all similar units at a plant is recommended in order to avoid unequal application of this type of limitation to plants with the same total emission potential but different size units. Upon establishing the total mass limitation, individual source emissions will be determined by prorating the mass emission total on the basis of the percentage weight input to each source process.

PROCESS WEIGHT TABLE
TABLE I

Rate (Tons Per Hour)	Emission Rate (Pounds per Hour)
.025	0.30
.050	0.55
.250	1.53
.50	2.25
2.5	6.34
5	9.73
10	14.99
30	29.83
40	31.23
60	33.33
80	34.90
100	36.17
200	40.41
500	46.79

(3) Fugitive Particulate — No person shall cause, let, permit, suffer or allow the emissions of particulate matter, from any source whatsoever, including but not limited to vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission, except particulate matter emitted in accordance with the process weight table (Table I), the visible emission standards or specific source limiting standards specified in this chapter.

(4) Objectionable Odor Prohibited — No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

(5) Volatile organic compounds emissions or organic solvents emissions.

(a) No person shall store, pump, handle, process, load, unload or use in any process or installation volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.

(b) All persons shall use reasonable care to avoid discharging, leaking, spilling, seeping, pouring or dumping volatile organic compounds or organic

solvents.

(6) Stationary sources — No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere emissions from the listed sources greater than any emission limiting standard given in Table II.

TABLE II

EMISSION LIMITING STANDARDS

Stationary Sources	Particulates	Objectionable odor	Visible emissions	SO_2 per ton of 100% acid produced	Acid mist per ton on 100% acid produced	Fluorides (water soluable or gaseous-atomic weight 19) expressed as pounds of fluoride per ton of phosphatic materials input to the system as tons of P_2O_5
A. INCINERATORS						
(1) New incinerators with a charging rate of fifty or more tons per day	0.08 grains per standard cubic foot dry gas corrected to 50 percent excess air	None allowed	None allowed (except for up to three minutes in any one hour at densities up to but not more than a density of Ringelmann number 1 (20 percent opacity)			
(2) New and existing incinerators with a charging rate of less than 50 tons per day						
(3) Existing incinerators with a charging rate of fifty or more tons per day	0.1 grains per standard cubic foot dry gas corrected to 50 percent excess air					
B. SULFURIC ACID PLANTS			A plume with visibility no greater than ten percent opacity	29 pounds	0.15 pounds	
(1) Existing plants - Effective July 1, 1975						
(a) Florida portion of the Jacksonville, Florida - Brunswick, Georgia, Interstate Air Quality Control Region as defined in 40 C.F.R. Section 81.91				10 pounds		
(b) All other areas of the State of Florida				4 pounds		
(2) New plants						
C. PHOSPHATE PROCESSING						
(1) New plants or plant sections						0.02 pounds
(a) Wet process phosphoric acid production and auxiliary equipment						
(b) Run-of-pile triple superphosphate (TSP) mixing belt and den and auxiliary equipment						0.05 pounds
(c) Run-of-pile TSP curing or storage process and auxiliary equipment						0.12 pounds

TABLE II

EMISSION LIMITING STANDARDS

Stationary Sources	Particulates	Objectionable odor	Visible emissions	Fluorides (water-soluable or gaseous-atomic weight 19) expressed as pounds of fluoride per ton of phosphatic materials input to the system expressed as tons of P_2O_5
C. PHOSPHATE PROCESS (cont.)				
(1) (d) Granular triple superphosphate (GTSP) production and auxiliary equipment				
1. GTSP made by granulating run-of-pile TSP				0.06 pounds
2. GSTP made from phosphoric acid and phosphate rock slurry				0.15 pounds
(e) GTSP storage and auxiliary equipment				0.05 pounds
(f) Diammonium phosphate production and auxiliary equipment				0.06 pounds
(g) Calcining or other thermal phosphate rock processing and auxiliary equipment excepting phosphate rock drying and defluorinating				0.05 pounds
(h) Defluorinating phosphate rock by thermal processing and auxiliary equipment				0.37 pounds
(i) All plants, plant sections or unit operations and auxiliary equipment not listed in 17-2.05(6) Table II items C.(1) (a) through (h).	Must comply with best technology pursuant to 17-2.03(1)			
(2) Existing plants or plant sections. Emissions shall comply with 17-2.05(6) Table II Item C.(1). Effective July 1, 1975 or				
(3) Existing plant complexes with an operating wet process phosphoric acid section (including any items 17-2.05(6) Table II items C.(1)(a) through (f) and other plant sections processing or handling phosphoric acid or products or phosphoric acid processing.				Total emission of the entire complex shall not exceed 0.4 pounds per ton of P_2O_5 input to the wet process phosphoric acid section
(4) Individual plant sections included in 17-2.05(6) Table II items C.(1) (a) through (f) but not included as a part as defined in C. (3)	If it can be shown by comprehensive engineering study and report to the Department that the existing plant sections are not suitable for the application of existing technology, which may include major rebuilding or repairs and scrubber installations, the emission limiting standard to apply will be the lowest obtained by any similar plant section existing and operating.			

TABLE II
EMISSION LIMITING STANDARDS

Stationary Sources	Particulates	Visible emissions	Total reduced sulfur	Sulfur dioxide per million BTU heat input	Nitrogen oxides, per million BTU heat input, Maximum 2 hr. avg. expressed as NO_2
O. KRAFT (SULFATE LIQUOR) PULP MILLS BLACK LIQUOR RECOVERY FURNACES (1) New plants	No greater than three pounds per each 3000 pounds of black liquor solids fed.		No greater than one ppm as H_2S on the dry basis or 0.03 pound per 3000 pounds black liquor solids fed, whichever is the more restrictive		
(2) Existing plants			17.5 ppm expressed as H_2S on a dry gas basis, or one-half (0.5) pounds per 3000 pounds of black liquor solids fed, whichever is more restrictive		
E. FOSSIL FUEL STEAM GENERATORS (1) Plants with more than 250 million BTU per hour heat input (a) New sources burning 1. Liquid fuel	0.1 pounds per million BTU heat input, maximum two hour average	Density of which is equal to or greater than Number 1 of the Ringelmann Chart (20 percent opacity) except that a shade as dark as Number 2 of the Ringelmann Chart (40 percent opacity) shall be permissible for no more than 2 minutes in any hour.		0.8 pounds maximum two hour average	0.30 pounds
2. Solid fuel				1.2 pounds maximum two hour average	0.70 pounds
3. Gaseous fuel					0.20 pounds
(b) Existing sources 1. Liquid fuel a. Duval County North of Heckscher Drive excluding Jacksonville Electric Authority Northside Generating Stations.				2.5 pounds maximum two hour average	

TABLE II
EMISSION LIMITING STANDARDS

Stationary Sources	Particulates	Visible emissions	Sulfur dioxide per million BTU heat input
E. FOSSIL FUEL STEAM GENERATORS (cont.)			
(1) (b) 1. b. All other sources in Duval County.	0.1 pounds per million BTU heat input, maximum two hour average	Density of which is equal to or greater than Number 1 of the Ringelmann Chart (20 per cent opacity) except that a shade as dark as Number 2 of the Ringelmann Chart (40 per cent opacity) shall be permissible for not more than 2 minutes in any one hour	1.65 pounds per million BTU heat input
c. Hillsborouth county including Tampa Electric Co. Gannon Station units 1 through 4 and Hooker's Point Generating Station.			1.1 pounds per million BTU heat input
d. Escambia county, Gulf Power Co. Crist Steam Plant units 1, 2 and 3.			1.88 pounds per million BTU heat input
e. Escambia county, Monsanto Textiles Co. boiler units 1 through 8 in the aggregate.			57.5 tons per any 24 hour period
f. All other areas of the State			2.75 pounds per million BTU heat input
2. Solid fuel a. Hillsborough county, Tampa Electric Co. Francis J. Gannon Generating Station Units 5 and 6.			2.4 pounds per million BTU heat input
b. All other areas of the State.			6.17 pounds per million BTU heat input
3. Existing sources rule re-evaluation — This rule shall be re-evaluated and reconsidered by the Commission at public hearing prior to October 1, 1978. As part of the re evaluation and reconsideration required by this rule, the Department shall consider and give due weight to all competent substantial evidence including any findings and conclusions of any studies directed or supervised by the Commission. Unless the Commission finds that the sulfur dioxide emission limitations set forth in 17-2.05(6) Table II, item E. (1)(b) adequately protect public health and welfare, existing fossil fuel steam generators shall be subjected to compliance schedules which must be submitted to the Department on or before November 1, 1978, and which propose increments of progress dated that will as expeditiously as possible bring them into compliance with the following:			
a. Liquid fuel			1.1 pounds per million BTU heat input
b. Solid fuel			1.5 pounds per million BTU heat input
If the Commission finds that the sulfur dioxide emission limitations set forth in 17-2.05(6) Table II item E. (1)(b) 3. adequately protect public health and welfare this rule shall be continued or amended to reflect such findings and conclusions.			
4. Owners of fossil fuel steam generators shall monitor their emissions and the effects of the emissions of ambient concentrations of sulfur dioxide, in a manner, frequency, and locations approved, and deemed reasonably necessary and ordered by the Department. The owners shall submit to the Department a written proposal for such monitoring program on or before July 1, 1975.			
5. A rule for limitlng nitrogen oxides emission from existing fossil fuel steam generators will be considered by the Environmental Regulation Commission by July 1, 1979.			

TABLE II

EMISSION LIMITING STANDARDS

Stationary Sources	Particulates	Visible emissions	Sulfur dioxide	Nitrogen oxides, (NO_2 per million BTU heat input, Maximum 2 hour average
E. (1) (c) New sources not subject to Federal standards of performance for stationary sources promulgated under section 111(a), Federal Clean Air Act (42 U.S.C. 1857, et seq.) 1. Tampa Electric Company's Bit Bend Generating Station Units 1, 2, and 3 burning solid fuel. a. Units 1, 2, and 3 i. Prior to October 1, 1977. The contingency plan, which is now in force which includes steps to be taken in order to curtail emissions when ambient concentrations may exceed the standard, shall be resubmitted by May 1, 1977, and implemented by July 1, 1977.	0.1 pounds per million BTU heat input, maximum two hour average	Density of which is equal to or greater than Number 1 of the Ringelmann Chart (20 percent opacity) except that a shade as dark as Number 2 of the Ringelmann Chart (40 percent opacity) shall be permissible for no more than 2 minutes in any hour.	Units 1, 2, and 3 in total shall not emit more than 35 tons per hour of sulfur dioxide on a three hour average but in no case to exceed a two hour average emission of 6.5 pound of sulfur dioxide per million BTU Units 1, 2, and 3 in total shall not emit more than 32 tons per hour of sulfur dioxide on a 24 hour average.	0.70 pounds (Unit 3 only)
ii. After September 30, 1977, through and including July 1, 1979			Units 1, 2, and 3 in total shall not emit more than 35 tons per hour of sulfur dioxide on a three hour average but in no no case to exceed a two hour average emission of 6.5 pounds of sulfur dioxide per million BTU Units 1, 2, and 3 in total shall not emit more than 25 tons per hour of sulfur dioxide on a 24 hour average	
b. Unit 3 - after July 1, 1979			1.20 pounds of sulfur dioxide maximum two hour average per million BTU heat input	
2. Florida Power and Light Company's Manatee Generating Station, Willow Site, Manatee County burning liquid fuel. a. Units 1 and 2 i. Prior to August 1, 1978			1.10 pounds of sulfur dioxide maximum two hour average per million BTU heat input	0.30 pounds maximum two hour average
ii. By August 1, 1978			0.8 pounds of sulfur dioxide maximum two hour average per million BTU heat input	

TABLE II

EMISSION LIMITING STANDARDS

Stationary Sources	Particulates	Visible emissions	Nitrogen oxides, (NO_2 per million BTU heat input, Maximum 2 hour average	Sulfur dioxide per million BTU heat input
E. (1) (c) 3. Jacksonville Electric Authority's Northside Generating Station, Jacksonville, Florida burning liquid fuel.	0.1 pounds per million BTU heat input, maximum two hour average	Density of which is equal to or greater than Number 1 of the Ringelmann Chart (20 percent opacity) except that a shade as dark as Number 2 of the Ringelmann Chart (40 percent opacity) shall be permissible for not more than 2 minutes in any one hour		
a. Units 1 and 2 i. Prior to August 1, 1978. A contingency plan, which shall include steps to be taken in order to curtail emissions when ambient concentrations may exceed the standard, shall be submitted by May 1, 1977, and implemented by July 1, 1977.				1.98 pounds, maximum two hour average
ii. By August 1, 1978				1.65 pounds
b. Unit 3 i. Prior to August 1, 1978. A contingency plan, which shall include steps to be taken in order to curtail emissions when ambient concentrations may exceed the standard, shall be submitted by May 1, 1977, and implemented by July 1, 1977.			0.30 pounds	1.98 pounds, maximum two hour average
ii. By August 1, 1978				0.80 pounds, maximum two hour average
4. Each of the above sources shall submit to the Department a compliance shcedule, containing increments of progress, no later than three (3) months prior to the date by which a specified generating unit is required to meet the sulfur dioxide standard applicable to new sources. Each schedule shall specify steps that have been or will be taken, together with the dates of each increment, to ensure that the source will comply with the applicable new source standard in accordance with this subsection.				
5. Upon completion of current sulfur oxide studies directed or supervised by the Commission, the Commission shall review the emission standards applicable to the sources contained in 17-2.05(6) Table II E(1) (C).				

TABLE II
EMISSION LIMITING STANDARDS

Stationary Sources	Particulates	Visible emissions	Sulfur dioxide per million BTU heat input	Nitrogen oxides, per million BTU heat input, maximum two hour average expressed as NO_2
E. (2) New and existing plants with 250 million or less BTU per hour heat input	Apply latest technology per 17-2.03(1)	Density equal to or less than 20% opacity (a density of 40% opacity is permitted not more than two minutes in any one hour)	Apply latest technology per 17-2.03(1)	Apply latest technology per 17-2.03(1)
(3) Compliance schedules (a) SO_2 emissions for existing plants regulated by 17-2.05(6) Table II items E. (1)(b) 1 and 2, are repealed as of the effective date of this rule.				
(b) All fossil fuel steam generators, regardless of size, need not comply with any existing compliance schedule for SO_2 emissions required by the Department, but shall as expeditiously as possible comply with the specific emission standards set forth in 17-2.05(6) Table II items E. (1)(b) 1 and 2 or, if applicable item E. (2), at option of the owner.				
(c) If at any time the Commission determines, after notice and public hearing, that appropriate and substantially lower sulfur fuels are available on a long term basis at a reasonably comparable cost (including all costs such as contract revisions or termination costs) with fuels allowed under this rule, the Commission may establish revised emission limiting standards.				

TABLE II

EMISSION LIMITING STANDARDS

Stationary Sources	Particulates	Visible Emissions Shall Not Exceed	Sulfur oxide calculated as sulfur dioxide shall be no greater than	Nitrogen oxides per ton of acid produced (100 percent basis)
F. PORTLAND CEMENT PLANTS (1) Existing sources Kilns and Clinker Coolers	Not greater than allowed by the Process Weight Table, Table I set forth in 17-2.05(2)			
(2) New Sources (a) Kilns	0.3 pound per ton of feed to the kiln			
(b) Clinker Coolers	0.1 pound per ton of feed to the kiln			
G. NITRIC ACID PLANTS (producing weak nitric acid (50-70 percent) by pressure or atmospheric pressure process) (1) New and existing plants. Effective July 1, 1975		10 percent opacity		3 pounds
H. SULFUR RECOVERY PLANTS (For sulfur recovery plants recovering sulfur from crude oil gas) (1) New plants			0.004 pounds of SO_2 per pound of sulfur input to the recovery system or no greater than 0.004 pounds of SO_2 per pound of sulfur removed from an oil well	
(2) Existing plants for which a valid Department Construction permit was issued prior to July 1, 1973			0.08 pounds of SO_2 per pound of sulfur input to the recovery system or 0.08 pounds of SO_2 per pound of sulfur removed from crude oil or gas processed	

TABLE II

EMISSION LIMITING STANDARDS

Stationary Sources	Particulate Matter Shall Not Exceed	Visible Emissions Shall Not Exceed
I CARBONACEOUS FUEL BURNING EQUIPMENT		
(1) Existing sources for which a valid Department operation or construction permit has been issued prior to July 1, 1974		
(a) Burners of capacity less than 30 million BTU per hour total heat input.		Ringelmann Number 1 or an opacity of 20 percent except that a density of Ringelmann Number 2 is permissible for not more than two minutes in any one hour.
(b) Burners of capacity equal to or greater than 30 million BTU per hour total heat input.	0.3 pounds per million BTU of heat input of carbonaceous fuel plus 0.1 pounds per million BTU heat input of fossil fuel	Ringelmann Number 1.5 or an opacity of 30 percent except that a density of Ringelmann Number 2 or opacity of 40 percent is permissible for not more than two minutes in any one hour.
(2) New sources for which a valid Department operation or construction permit is issued on or after July 1, 1974		
(a) Burners of capacity less than 30 million BTU per hour total heat input.		Ringelmann Number 1 or an opacity of 20 percent except that a density of Ringelmann Number 2 is permissible for not more than two minutes in any one hour.
(b) Burners of capacity equal to or greater than 30 million BTU per hour total heat input.	0.2 pounds per million BTU of heat input of carbonaceous fuel plus 0.1 pounds per million BTU heat input of fossil fuel.	Ringelmann Number 1.5 or an opacity of 30 percent except that a density of Ringelmann Number 2 or opacity of 40 percent is permissible for not more than two minutes in any one hour.
(c) The Department shall provide for an annual review and evaluation of the particulate and visible emission standards applicable to new sources.		
(3) The above standards shall not relieve any person from complying with more stringent Department permit conditions promulgated pursuant to Section 403.087, Florida Statutes and Department Rule 17-4.07(5), Florida Administrative Code.		

(7) Mobile Sources

(a) No person shall cause, let, permit, suffer or allow the emission of smoke from motor vehicles on public roadways that is visible within the proximity of the engine exhaust outlet for a period of more than five (5) seconds.

1. Definitions — apply to this Section 17-2.05(7)(a) only.

a. Smoke — Small gasborne and airborne particles, exclusive of water vapor, from a process of combustion, in sufficient number to be observable.

b. Motor vehicle — Any device powered by an internal combustion engine and on or in which any person or property may be transported.

2. Exception — all 2 stroke gasoline engines manufactured prior to the year 1976.

(8) Complex Sources

(a) For the purposes of this section the following definitions shall apply:

1. "Complex Source" — Any facility, or group of facilities, which is a source of air pollution by reason that it causes, directly or indirectly, significant increases or emissions of pollutants into the atmosphere or which reasonably can be expected to cause an increase in the ambient air concentrations of pollutants, either by itself or in association with mobile sources.

2. "Commencement of Construction" The actual on-site, continuous and systematic activity of land surface alterations, construction, and fabrication of the source.

3. "Modification" — Any physical change in the source that will result in the source causing or contributing to an increase of emissions to the ambient air.

(b) No person shall construct or modify or operate or maintain any complex source of air pollution that results in or causes an increase in ambient pollutant concentrations in violation of the Ambient Air Quality Standards.

(c) After December 15, 1973, no person shall commence construction or modification of any of the following listed complex sources without a permit from the Department, or other governmental agency authorized by the Department to issue such permit:

1. Any new complex source with which is associated a single level unenclosed parking facility with a design or use capacity of 1,500 cars or more, or any modification which will increase such unenclosed parking facility to a design or use capacity of 1,500 cars or more.

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

3. Any new road designed to accommodate 2,000 vehicles per hour or more at peak traffic flow rates, or a modification of an existing road the result of which is designed to accommodate 2,000 vehicles or more at peak traffic flow rates.

4. Any new road or modification to accommodate 1,000 vehicles per hour or more of peak traffic flow rates or a modification which results in a design capacity for accommodation of 1,000 vehicles per hour or more of peak traffic flow rates or a modification which results in a design capacity for accommodation of 1,000 vehicles per hour or more of peak traffic flow rates in the following urban counties: Dade, Broward, Palm Beach, Brevard, Hillsborough, Pinellas, Orange, Duval, Escambia, Polk, Leon, Sarasota, Volusia, Alachua, Pasco and Lee.

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

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

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

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

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

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

(e) No such permit shall be issued without an opportunity for public comment in accordance with 17-2.09, Florida Administrative Code.

(f) This Subsection 17-2.05(8), Florida Administrative Code, shall not apply to air pollution sources for which a permit is required by Chapter 17-4, Florida Administrative Code, and shall not apply to sources for which the commencement of construction was started prior to December 15, 1973, unless construction is, or has been, discontinued for more than ninety (90) days.

(g) Public highways projects which would otherwise be covered by this Subsection (17-2.05(8)) and for which bid letting has been advertised prior to April 1, 1974, are exempted from the formal permitting requirements of this section provided, however, that the staffs of the State of Florida Department of Transportation and Department of Environmental Regulation will re-examine the environmental assessments for each project to identify those projects which will violate State Ambient Air Quality Standards. Those projects so identified will not be exempted from the permitting requirements of this section.

(9) Existing Source Compliance — Except where compliance dates are specified, existing sources shall comply with this chapter as expeditiously as possible but in no case later than July 1, 1975.

(10) Operation Rates — No plant or source shall operate at capacities which exceed the limits of operation of a control device or exceed the capability of the plant or control device to maintain

the air emission within the standard limitation imposed by this chapter, or by permit conditions.

(11) Concealment — No person shall build, erect, install or use any article, machine, equipment or other contrivance, the use of which will conceal an emission which would otherwise constitute a violation of any of the provisions of this chapter.

(12) Circumvention — No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly.

(13) maintenance — All Air pollution control devices and systems shall be properly and consistently maintained in order to maintain emissions in compliance with Department Rules.

(14) Excess emissions during startup, shutdown, and malfunctions.

(a) Excess emissions resulting from startup, shutdown or malfunction of any source 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 a longer duration.

(b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.

(c) Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.

(d) In case of excess emissions resulting from malfunctions, each source shall notify the Department or the appropriate Local Program in accordance with Section 17-4.13, Florida Administrative Code. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

Specific Authority 403.061 FS. Clean Air Act of 1977 Law Implemented 403.021, 403.031, 403.061, 403.087 FS. Clean Air Act of 1977 History—Revised 1-18-72, Amended 11-21-73, 2-8-74, 4-9-74, 12-28-74, 6-30-75, 6-10-76, 7-20-76, 3-2-77, 5-10-77, 7-19-77, 9-1-77, 1-3-78, Formerly included in 17-2.03 and 17-2.04.

17-2.06 Ambient Air Quality Standards.

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

TABLE III (Ambient Air Quality Standards)

POLLUTANTS	MAXIMUM LIMITING LEVELS					
	Maximum one hour concentration, not to be exceeded more than once per year.	Maximum three hour concentration, not to be exceeded more than once per year.	Maximum eight hour concentration, not to be exceeded more than once per year.	Maximum 24 hour concentration, not to be exceeded more than once per year.	Annual Arithmetic Mean Not To Be Exceeded	Annual Geometric Mean Not To Be Exceeded
A. Sulfur Dioxide		1300 micrograms per cubic meter (0.5 ppm)		260 micrograms per cubic meter (0.1 ppm)	60 micrograms per cubic meter (0.02 ppm)	
B. Particulate Matter				150 microgram per cubic meter		60 micrograms per cubic meter
C. Carbon Monoxide	40 milligrams per cubic meter (35 ppm)		10 milligrams per cubic meter (9 ppm)			
D. Photochemical oxidents measured and corrected for interference due to nitrogen oxides and sulfur dioxide.	160 micrograms per cubic meter (0.08 ppm)					
E. Hydrocarbons - For use as a guide in devising implementation plans to achieve oxidant standards, To be measured and corrected to methane.		160 micrograms per cubic meter (0.24 ppm) between 6 to 9 am				
F. Nitrogen Dioxide					100 micrograms per cubic meter (0.05 ppm)	

(2) Sampling and analyses of contaminants in this section shall be performed by the methods approved by the Department.

(3) Abatement — a determination that any of the above standards in Section 17-2.06(1) Table III, above, has been exceeded, shall be adequate evidence for the Department to commence an investigation to determine the cause and to execute appropriate remedial measures.

(4) Air Quality Maintenance

(a) Air Quality Standards Violated — No person shall build, erect, construct, or implant any new source or operate, modify or rebuild an existing source or by any other means release or take action which would result in release of air pollutants into the atmosphere of any region, which will, as determined by the Department, result in, including concentrations of existing air pollutants, ambient air concentrations greater than Ambient Air Quality Standards.

Specific Authority 403.061(7) FS. Law Implemented 403.021, 403.031, 403.061(13) FS. History—Revised 1-18-72, Amended 7-20-76, Formerly 17-2.05, Amended 6-8-78.

17-2.07 Air Pollution Episode. An episode describes a condition which exists when meteorological conditions and rates of discharge of air pollutants combine to produce pollutant levels in the atmosphere which, if sustained, can lead to a substantial threat to the health of the people. In order to prevent episode conditions from continuing or from developing into more severe conditions, positive action and a rapid abatement response is necessary. The severity of an episode has been classified upon the basis of the criteria given in the following sections with the three levels, alert, warning and emergency, described in Table IV.

(1) Due to the exigent nature of named episodes the Secretary, pursuant to Subsection 120.59(3), Florida Statutes, shall determine and declare that an air pollution episode exists. His determination shall be in accordance with the following criteria:

(a) Air Pollution Forecast — the existence or forecast of a stagnant atmospheric condition as advised by a National Weather Service Advisory or by an equivalent state or local determination.

TABLE IV

POLLUTANT CONCENTRATIONS

	Sulfur Dioxide (SO_2) 24 hour average	Particulates 24 hour average	Sulfur Dioxide (SO_2) and Particulates combined 24 hour average	Carbon Monoxide (CO) 8 hour average	Oxidant (O_3) 1 hour average	Nitrogen dioxide (NO_2)	
						1 hour average	24 hour average
A. ALERT - The alert level is that concentration of pollutants at which first stage control actions are to begin. An "ALERT" shall be declared when any one of the pollutant concentration levels is reached at any monitoring site and with meteorological conditions such that this condition can be expected to continue for twelve (12) or more hours.	800 Micrograms per cubic meter (0.3ppm)	3.0 COH_s or 375 micrograms per cubic meter	Product of SO_2 ppm, 24 hour average, and COH_s equal to 0.2 or product of SO_2 micrograms per cubic meter, 24 hour average and particulate micrograms per cubic meter, 24 hour average equal to $65X10^3$.	17 milligrams per cubic meter (15ppm)	200 micrograms per cubic meter (0.1ppm)	1130 micrograms per cubic meter (0.6ppm)	282 micrograms per cubic meter (0.15ppm)
B. WARNING - The warning level indicates that air quality is continuing to degrade and that additional control actions are necessary. A "WARNING" shall be declared when any one of the pollutant concentration levels is reached at any monitoring site and with meteorological conditions such that this condition can be expected to continue for twelve (12) or more hours.	1600 micrograms per cubic meter (0.6ppm)	5.0 COH_s or 625 micrograms per cubic meter	Product of SO_2 ppm, 24 hour average, and COH_s equal to 0.8 or product of SO_2 micrograms per cubic meter, 24 hour average and particulate micrograms per cubic meter, 24 hour average equal to $261X10^3$.	34 milligrams per cubic meter (30ppm)	800 micrograms per cubic meter (0.4ppm)	2260 micrograms per cubic meter (1.2ppm)	565 micrograms per cubic meter (0.3ppm)
C. EMERGENCY - The emergency level indicates that air quality is continuing to degrade to a level that should never be reached and that the most stringent control actions are necessary. An "EMERGENCY" shall be declared when any one of the pollutant concentration levels is reached at any monitoring site and with meteorological conditions such that this condition can be expected to continue for twelve (12) or more hours.	2100 micrograms per cubic meter (0.8ppm)	7.0 COH_s or 875 micrograms per cubic meter	Product of SO_2 ppm, 24 hour average, and COH_s equal to 1.2 or product of SO_2 micrograms per cubic meter, 24 hour average and particulate micrograms per cubic meter, 24 hour average equal to $393X10^3$.	46 milligrams per cubic meter (40ppm)	1200 micrograms per cubic meter (0.6ppm)	3000 micrograms per cubic meter (1.6ppm)	750 micrograms per cubic meter (0.4ppm)

(b) Area of Episode — The Secretary shall, when declaring any episode level, declare the counties in which the episode exists.

(c) Termination — Once declared, any episode level will remain in effect until the pollutant concentration increases to meet the next higher level criteria or decreases to a point below the declared criteria level.

(2) Emission Reduction Plans and Actions — Upon a declaration by the Secretary that any episode level exists (alert, warning, or emergency) any person responsible for the operation or conduct of activities which result in emission of air pollutants shall take actions as required for such source or activity for the declared episode level as set forth in Episode Tables V, VI, and VII of this section and shall put into effect the Preplanned Abatement Strategy set forth below.

(3) Preplanned Abatement Strategies — Any person responsible for one or more air pollutant sources shall prepare and submit upon written request from the Department a standby plan which describes the action which will be taken by that person to reduce emissions when an episode is declared. The plan shall be submitted within 30 days of the request and will be subject to approval, modification or rejection by the Department. The plan shall be in writing and shall include but not be limited to:

(a) Identity and location of pollutant sources and of contaminants discharged.

(b) Approximate amount of normal emission and of reduction of emission expected.

(c) A brief description of the manner in which reduction will be achieved, for each of the episode levels, alert, warning and emergency.

(4) During an episode (alert, warning, or emergency) whenever any person responsible for the operation of a source or conduct of activities which result in emission of air pollutants does not take actions as required for the source or activity for the declared episode level or put into effect the Preplanned Abatement Strategy, the Secretary shall immediately institute proceedings in a court of competent jurisdiction for injunctive relief to enforce this chapter.

Specific Authority 403.061, 120.59(3), 120.60(6) FS. Law Implemented 403.021, 403.031, 403.061 FS. History—Revised 1-18-72, Formerly 17-2.06, Amended 6-6-78.

TABLE - V
Alert Level Emission Reduction Plans

Part A. General

During an "alert" level episode:

1. All forms of open burning are prohibited.

2. The use of incinerators for disposal of any form of solid waste or liquid waste is prohibited.

3. Persons operating fuel-burning equipment which requires boiler lancing or soot blowing shall perform such operations only between the hours of 12 noon and 4 p.m.

4. Persons operating motor vehicles should eliminate all unnecessary operations.

Part B. Source Curtailment.

During an alert level episode any persons responsible for the operation of a source of air pollutants listed below shall take all required control actions for this alert level:

Source of Air Pollution	Required Control Action:
1. Coal or oil-fired electric power generating facilities.	a. Substantial reduction by utilization of fuels having low ash or sulfur content. b. Maximum utilization of midday (12 noon to 4 P.M.) atmospheric turbulence of boiler lancing and soot blowing. c. Substantial reduction by diverting electric power generation to facilities outside of alert area.
2. Process steam generating facilities which fire coal or oil.	a. Substantial reduction by utilization of fuels having low ash and sulfur content. b. Maximum utilization of midday (12 noon to 4P.M.) atmospheric turbulence of boiler lancing and soot blowing. c. Substantial reduction of steam demands consistent with continuing plant operations.

Source of Air Pollution	Required control action:
3. Process steam generating facilities which fire wood, bark or bagasse; totally or in combination with other fuels.	a. Substantial reduction by switching to fossil fuels with low ash and sulfur content or by diverting steam demands to steam generators utilizing low ash and sulfur content fuels. b. Maximum utilization of midday (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing and soot blowing. c. Substantial reduction of steam demands consistent with continuing plant operations.
4. Manufacturing industries of the following classifications: Pulp and paper industries Citrus industries Mineral Processing industries Phosphate and allied chemical industries Secondary metal industry Petroleum operations.	a. Substantial reduction of air pollutants from manufacturing operations by enacting preplanned abatement strategies including curtailing, postponing or deferring production and all operations. b. Curtail trade waste disposal operations which emit air pollutants.
5. Bulk handling operations which transfer or store material including but not limited to: Cement Fertilizer Phosphate rock Grain or Feed	a. Maximum reduction of fugitive dust by curtailing, postponing or deferring bulk handling operations.

Source of Air Pollution	Required control action:
ROP Triple Super Phosphate Lime Sand and Gravel Dolomite 6. Any other industrial or commercial establishments which emit air pollutants.	a. Substantial reduction of air pollutants by curtailing, postponing or deferring operations. b. Curtail trade waste disposal operations which emit air pollutants.

TABLE - V

Warning Level Emission Reduction Plans

Part A. General

During a "Warning" Level episode.

1. All forms of open burning are prohibited.
2. The use of incinerators for disposal of any form of solid waste or liquid waste is prohibited.
3. Persons operating fuel burning equipment which requires boiler lancing or soot blowing shall perform such operations only between the hours of 12 noon and 4 p.m.
4. Persons operating motor vehicles must reduce operations by the use of car pools, increased use of public transportation and elimination of unnecessary operation.
5. Unnecessary space heating or cooling is prohibited.

Part B. Source Curtailment:

During a warning level episode any persons responsible for the operation of a source of air pollutants listed below shall take all required control actions for this warning level:

Source of Air Pollution:	Required control action:
1. Coal or oil-fired electric power generating facilities.	a. Maximum reduction by utilization of fuels having lowest ash and sulfur content. b. Maximum utilization of midday (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing and soot blowing. c. Maximum reduction by diverting electric power generation to facilities outside of warning area or to generating stations emitting less pollutants per kilowatt generated.
2. Process steam generating facilities *that* fire oil or coal.	a. Maximum reduction by utilization of fuels having the lowest available ash and sulfur content. b. Maximum utilization of midday (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing and soot blowing. c. Standby to enact preplanned emergency action plan
3. Process steam generating facilities *that* fire wood, bark or bagasse.	a. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage. b. Maximum utilization of midday (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing and soot blowing.

Source of Air Pollutants:	Required Control Action:
4. Manufacturing industries of the following classifications: Pulp and paper industries Citrus industries Mineral processing industries Phosphate and allied chemical industries Secondary metal industry Petroleum operations	a. Commence preplanned abatement strategies for the elimination of all air pollutants. b. Elimination of air pollutants from trade waste disposal operations which emit air pollutants.
5. Bulk handling operations which transfer or store material including but not limited to: Fertilizer Phosphate Rock Grain or Feed ROP Triple Super Phosphate Cement Lime Sand and Gravel Dolomite	a. Elimination of fugitive dust by ceasing, curtailing, postponing or deferring transfer or storage of material.
6. Any other industrial or commercial establishments *that* emit air pollutants.	a. Maximum reduction by curtailing, postponing or deferring operations. b. Eliminate trade waste disposal operations which emit air pollutants.

TABLE VII

Emergency Level Emission Reduction Plans
Part A General
During an "Emergency" level episode:
1. All forms of open burning are prohibited.
2. The use of incinerators for disposal of any form of solid or liquid waste is prohibited.
3. All places of employment described below shall immediately cease operations.
a. Mining and quarrying of nonmetallic minerals.
b. All construction work except that which must proceed to avoid emergent physical harm.
c. All manufacturing establishments except those required to have in force an air pollution emergency plan.
d. All wholesale trade establishments; i.e., places of business primarily engaged in selling merchandise to retailers or industrial, commercial, institutional or professional users, or to other wholesalers, or acting as agents in buying merchandise for or selling merchandise to such persons or companies, except those engaged in the distribution of drugs, surgical supplies and food.
e. All offices of local, county and State government including authorities, joint meeting, and other public bodies excepting such agencies which are determined by the chief administrative officer of local, county, or State government, authorities, joint meetings and other public bodies to be vital for public safety and welfare and the enforcement of the provisions of this order.
f. All retail trade establishments except pharmacies, surgical supply distributors, and stores primarily engaged in the sale of food.
g. Banks, credit agencies other than banks, securities and commodities brokers, dealers, exchanges and services, offices of insurance carriers, agents and brokers, real estate offices.

h. Wholesale and retail laundries, laundry services, cleaning and dyeing establishments, photographic studios, beauty shops, barber shops, shoe repair shops.

i. Advertising offices; consumer credit reporting, adjustment and collection agencies; duplicating, addressing, blueprinting; photocopying, mailing, mailing list and stenographic services; equipment rental services, commercial testing laboratories.

j. Automobile repair, automobile services, garages.

k. Establishments rendering amusement and recreational services including motion picture theaters.

l. Elementary and secondary schools, colleges, universities, professional schools, junior colleges, vocational schools, and public and private libraries.

4. All commercial and manufacturing establishments not included in this section will institute such actions as will result in maximum reduction of air pollutants from their operation by ceasing, curtailing or postponing operations which emit air pollutants to the extent possible without causing injury to person(s) or damage to equipment.

5. The use of motor vehicles is prohibited except in emergencies with the approval of local or state police.

6. Unnecessary lighting, heating or cooling in unoccupied structures is prohibited.

Part B Source Curtailment

During an emergency level episode any persons responsible for the operation of a source of air pollutant listed below shall take all required action for this emergency level.

Source of Air Pollutants:	Required Control Action:
1. Coal or oil-fired electric power generating facilities:	a. Maximum reduction by utilization of fuels having lowest ash and sulfur content. b. Maximum utilization of midday (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing or soot blowing.

Source of Air Pollutants:	Required control action:
	c. Maximum reduction by diverting electric power generation to facilities outside of emergency area or to generating stations emitting less pollutants per kilowatt generated.
2. *Steam generating facilities that fire* coal, oil, natural gas, wood, bark or bagasse.	a. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage. b. Maximum utilization of midday (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing or soot blowing. c. Taking the action called for in preplanned emergency action plan.
3. Manufacturing industries of the following classification: Pulp and paper industries Citrus industries Mineral Processing industries Phosphate and allied chemical industries Secondary metal industries Petroleum operations	a. Continuation of preplanned abatement strategies for the elimination of air pollutants. b. Elimination of air pollutants from trade waste disposal operations which emit air pollutants.

Source of Air Pollutants:	Required Control Action:
4. Bulk handling operations *that* transfer or store material including but not limited to: Cement Fertilizer Phosphate Rock Grain ROP Triple Super Phosphate Lime Sand and Gravel Dolomite	a. Elimination of fugitive dust by ceasing, curtailing, postponing or deferring transfer or storage of material.
5. Any other industrial or commercial establishments which emit air pollutants.	a. Elimination of air pollutants by ceasing, curtailing, postponing or deferring operations. b. Elimination of air pollutants from trade waste disposal *operations* which emit air pollutants.

17-2.08 Sampling and Testing.

(1) General Conditions — All owners or operators of an air pollutant source specified in Section 17-2.08(1) shall install, calibrate, operate and maintain a continuous monitoring system for continuously monitoring the pollutants specified in Section 17-2.08(1) and (2). Complete installation and performance tests of continuous monitoring systems shall be completed no later than 18 months after adoption of this Rule for existing sources. Sources issued construction permits after adoption of this Rule shall have the systems installed prior to issuance of an operating permit. Installation may be completed at a later date if approved in writing by the Department. Performance specifications, location of monitor, data requirements, data reductions, reporting, and special considerations shall conform with the requirements in: C.F.R. 40, Part 51, Appendix P, July 1, 1976; C.F.R. Vol. 40 No. 194, October 6, 1975; and C.F.R. 40, Part 60, Appendix B, July 1, 1976, C.F.R. Vol. 40 No. 194, October 6, 1975, available from the Superintendennt of Publications, U.S. Government Printing Office, Washington, D.C. and specifically incorporated as part of this Rule, for existing sources and new sources. Any monitoring equipment purchased prior to adoption of this Rule, is exempt from meeting test procedures specified in Appendix B. of Part 60 until October 1, 1981. Alternative procedures (as specified in 3.9, Appendix P, C.F.R. Vol. 40 No. 194, October 6, 1975) or Special Considerations (as specified in 6.0, Appendix P, C.F.R. Vol. 40, No. 194, October 6, 1975) may be approved in writing on a case by case basis by the Department. All of the above references which are available from the Superintendent of Publications, U. S. Government Printing Office, Washington, D.C., are available for review at the District and Subdistrict Offices of this Department. For air pollutant sources where the operator considers the operating procedures, location, or installation of continuous monitoring equipment to be impractical or impossible, any request for special consideration or alternate procedures shall be submitted within six (6) months from the adoption of this Rule, to the District Office in which the source is located. The request must show that the requirements are impractical and/or impossible and that a proposed alternative will provide equivalent data. Sources scheduled to cease operations prior to January 1, 1984, shall be relieved from the requirements of this Rule by providing evidence within eighteen (18) months from the adoption of this Rule that the existing source will cease operations prior to January 1, 1984.

(a) Existing fossil fuel steam generators with more than 250 million BTU per hour heat input and with a capacity factor of greater than 30% for the latest year of record or as otherwise documented to the Department by the owner or operator, shall install continuous monitoring systems as set forth in Subsections (1)(a)1., 2., and 3. below. Any reactivated or previously exempted unit whose operated capacity factor for the previous six (6) months is greater than 30% must install continuous monitoring systems as set forth in Subsections (1)(a)1., 2., and 3. below, no later than twelve (12) months following the previous six (6) month period of achieving a capacity factor greater than 30%.

1. Opacity — All air pollutant sources as set forth in Subsection (1)(a) shall install continuous monitoring systems for monitoring opacity. Exempted are:

a. Sources burning only gas and/or oil which comply with the applicable state visible emission limiting standard without the use of emission control equipment. This exemption may be voided by the Department when a facility has been found to be in violation of any visible emission limiting standard pursuant to administrative proceedings conducted pursuant to Chapter 120, Florida Statutes, or judicial proceedings after the effective date of this Rule. No later than ninety (90) days following the date an order establishing such violation becomes final and enforceable, the Department may require the owner or operator of such a source to submit a compliance schedule for installing continuous opacity monitoring systems. When such a schedule is approved by the Department, the source owner shall install the continuous monitoring systems in accordance with the schedule.

b. Any source of emission using a wet scrubber.

2. Sulfur dioxide — All air pollutant sources as set forth in Subsection (1)(a) shall install sulfur dioxide continuous monitoring equipment on sources which have installed sulfur dioxide control equipment.

3. Nitrogen Oxides — All new air pollutant sources as set forth in Subsection (1)(a) with more than 1000 million BTU per hour heat input shall during construction install continuous monitoring systems for monitoring nitrogen oxides during construction.

4. Oxygen or carbon dioxide — A continuous monitoring system shall be installed at each air pollutant source, as set forth in Subsection (1)(a), where measurements of oxygen or carbon dioxide in the flue gas are utilized to convert either sulfur dioxide or nitrogen oxides continuous emission monitoring data to units of the emission limiting standards for proof of compliance as set forth in 17-2.04(6)e) Table II E.

(b) Sulfuric Acid Plants — PLants greater than 300 tons per day production capacity, expressed as 100% acid, shall install continuous monitoring systems for the measurement of sulfur dioxide emissions for each sulfuric acide emission source.

(c) Where two or more sources as set forth in Subsection (1)(a) emit through a common stack, continuous monitoring systems, if required, shall be installed on each source prior to combination of the emission.

(2) Reporting — The owners or operators of facilities for which monitoring is required shall submit to the Department a written report of emissions in excess of emission limiting standards as set forth in Table II E for each calendar quarter. The nature and cause of the excessive emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the source for a period of two (2) years.

(3) All persons shall provide facilities for continuously determining the input process weight

or input heat when such factors are the basis for limiting standards.

(4) A person responsible for the emission of air pollutants from any source shall, upon request of the Department, provide in connection with such sources and related source operations, such sampling and testing facilities exclusive of instruments and sensing devices as set forth in the Standard Sampling Techniques and Methods of Analysis for the Determination of Air Pollutants from Point Sources, July 1975, as adopted by the Department.

(5) When the Department after investingation has good reason to believe that the provisons of this chapter concerning emission of pollutants are being violated, it may require the person responsible for the source of pollutants to conduct tests which will identify the nature and quantity of pollutant emissions from the source and to provide the results of said tests to the Department. These tests shall be carried out under the supervison of the Department, and at the expense of the person responsible for the source of pullutants.

(6) All analyses and tests shall be conducted in a manner specified by the Department. Results of analyses and tests shall be calculated and reported in a manner specified by the Department.

(7) Analyses and tests for compliance may be performed by the Department at the cost of the person responsible for the emission of air pollutants.

(8) Air Pollutant emissions shall be tested and analyzed in accordance with the Standard Sampling Techniques and Methods of Analysis for the Determination of Air Pollutants from Point Sources, July 1975, as adopted by the Department and as may be amended from time to time by the Department.

Specific Authority 403.061, 403.101 FS. Law Implemented 403.021, 403.031, 403.061, 403.101 FS. History—Revised 1-18-72, Amended 1-3-78, Formerly 17-2.07, Amended 6-8-78.

17-2.09 Local Regulations. Regulations controlling air pollution may be adopted by local governmental authorities provided that such regulations shall not be in conflict herewith or that standards so adopted shall not be less stringent than those established herein.

Specific Authority 403.061, 403.182 FS. Law Implemented 403.021, 403.031, 403.061, 403.182 FS. History—Revised 1-18-72, Formerly 17-2.08, Amended 6-8-78.

17-2.091 Public Comment.

(1) Before any Department construction permit is issued for any source of air pollution, the Department shall provide an opportunity for public comment which shall include as a minimum the following:

(a) Availability for public inspection in at least one location in the district affected, the information, other than confidential records under Section 403.111, Florida Statutes, submitted by the owners or operator and the Department's analysis of the effect of such construction or modification on ambient air quality, including the Department's proposed approval or disapproval.

(b) A 30-day period for submittal of public comment; and

(c) A notice by prominent advertisement in the district affected, specifying the nature and location of the proposed source, whether BACT will be determined and the location of the information specified in Subsection (1) above.

(d) A copy of the notice provided for in Subsection (3) above shall also be sent to the Regional Office of the U.S. Environmental Protection Agency and to all other state and local air pollution control agencies having jurisdiction in the district in which such new or modified installation will be located.

(e) A copy of the notice shall be displayed in the appropriate District, Subdistrict, Branch and Local Program Offices.

Specific Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061 FS. History—New 11-21-73, Formerly 17-2.09, Amended 6-8-78.

17-2.10 Local Government.

Specific Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061 FS. History—New 11-21-73, Repealed 6-8-78.

17-2.11 Low Sulfur Fuel Shortage.

Specific Authority 120.041, 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087 FS. History—New 2-8-74, Repealed 6-8-78.

17-2.12 Source Testing Method.

Specific Authority 403.061(7) FS. Law Implemented 403.031, 403.061 FS. History—New 12-28-74, Transferred to 17-2.08(6), Repealed 6-8-78.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION FOR DETERMINATION OF BEST AVAILABLE CONTROL TECHNOLOGY FOR AIR POLLUTION SOURCES

SOURCE STATUS: ( ) New ( ) Modification

Company Name: _____ County: _____

Source Identification: _____

Source Location: Street: _____ City: _____

UTM: East _____ North _____

Appl. Name and Title: _____

Appl. Address: _____

Appl. Phone: _____

DEPARTMENT USE ONLY

Date Appl. Received: _____

Notice of Receipt:

Newspaper: _____ Date: _____

Florida Administrative Weekly Date: _____

BACT Determination: _____

Declared by Secretary: _____ Date: _____

BACT: _____

NOTICE OF DETERMINATION

Newspaper: _____ Date: _____

Florida Administrative Weekly Date: _____

I. DETAILED DESCRIPTION OF SOURCE

A. Describe the manufacturing process at the facility and the unit operation to be controlled. Discuss the source of emissions, existing control devices, the expected improvement in performance, and state whether the project will result in compliance with ambient air quality standards or applicable PSD increments. Attach additional sheet if necessary.

B. For this source indicate any previous DER permits, orders, and notices; including issuance dates and expiration dates.

C. Raw materials, fuels, and chemicals used:

DESCRIPTION	HOURLY USE	CONTAMINANTS		RELATION
		TYPE	% WT.	TO FLOW DIAGRAM

O. Process Rate

1. Total Process Input Rate:
2. Product Output Rate:
3. Operating Time:

a. Hrs./Day: b. Days/Wk: c. Wks./Yr.: d. Seasons:

II. BEST AVAILABLE CONTROL TECHNOLOGY DATA

A. Emission limitations for any pollutants emitted from the source pursuant to 17-2 F.A.C.?

Yes ( ) No ( )

CONTAMINANT	RATE OR CONCENTRATION

B. 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

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

Yes ( ) No ( )

CONTAMINANT	RATE OR CONCENTRATION

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

CONTAMINANT	RATE OR CONCENTRATION

E. Describe the existing control and treatment technology (If any)

1. Control Device:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions

*Explain method of determining E . 3 above.

CONTAMINANT	RATE OR CONCENTRATION	
	Before Device	After Device

10. Stack Parameters

a. Height: Ft. b. Diameter: Ft.

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

F. 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: d. Capital Cost:

e. Life: f. Operating Cost:

g. *Energy: 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: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Costs:

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:

*Energy to be reported in units of electrical power - KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

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:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

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:

G. Describe the control technology selected:

1. Control Device:

2. Efficiency:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:

CONTAMINANT	RATE OR CONCENTRATION

(8) Process Rate:

b.

(1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:

CONTAMINANT	RATE OR CONCENTRATION

(8) Process Rate:

c.

(1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:

CONTAMINANT	RATE OR CONCENTRATION

(8) Process Rate:

d.

(1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:

CONTAMINANT	RATE OR CONCENTRATION

(8) Process Rate:

e.

(1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:

CONTAMINANT	RATE OR CONCENTRATION

(8) Process Rate:

10. Reason for selection and description of systems:

11. Emissions:

CONTAMINANT	RATE OR CONCENTRATION

12. Stack Parameters:

a. Height: Ft.

b. Diameter: Ft.

c. Flow Rate: CFM

d. Temperature: °F

e. Velocity: FPS

13. Fuels:

TYPE	HOURLY USE*		HOURLY HEAT INPUT MILLION BTU/HR.	
	AVG.	MAX.	AVG.	MAX.

TYPE	DENSITY	%S	%N	%ASH

*Gaseous: Cu. Ft./Hr.; Liquid & Solid: Lbs./Hr.

14. Wastes generated, disposal method, cost of disposal:

H. Discuss the social 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.

III. ADDITIONAL ATTACHED INFORMATION

A. Show derivation of total process input rate and product weight.

B. Show derivation of efficiency estimation

C. An 8½" 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 exist, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

D. An 8½" x 11" plot plan showing the exact location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

E. An 8½" x 11" plot plan showing the exact location of the establishment, and points of airborne emissions in relation to the surrounding area, residences and other permanent structures and roadways.

F. Attach all 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.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30308

JAN 4 1980

REF: 4AH-AF

Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Division of Environmental Programs
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Re: EPA #PSD-FL-047

Dear Mr. Smallwood:

Enclosed for your review and comment are the Public Notice and Preliminary PSD Determination for the Florida Power and Light Corporation's modification of the Sanford Power Plant Unit No. 4 to be fired with a coal/oil mixture. The public notice will appear in a local newspaper in the near future.

Please let my office know if you have comments or questions regarding this determination. You may contact Frank Collins of my staff at 404/881-4552 or Jeffrey L. Shumaker of TRW Inc. at 919/541-9100. TRW Inc. is under contract to EPA, and TRW personnel are acting as authorized representatives of the Agency in providing aid to the Region IV PSD review program.

Sincerely yours,

Tommie A. Gibbs
Chief
Air Facilities Branch

PUBLIC NOTICE

An existing air pollution source is proposed to be modified by the Florida Power and Light Company at their plant near the City of Sanford in Volusia County. Emitting facilities in the modification at the Sanford Power Plant Unit No. 4 are to be fired with a coal-oil mixture rather than fuel oil for a test period not to exceed 365 days.

The proposed modification has been reviewed by the U. S. Environmental Protection Agency (EPA) under Federal Prevention of Significant Deterioration Regulations (40 CFR 52.21). EPA has made a Preliminary Determination that the modification can be approved provided certain conditions are met. A summary of the basis for this determination and the conditions for a permit for Florida Power and Light Company are available for public review in the Office of the County Controller in the Volusia County Courthouse Annex, Daytona Beach, Florida.

The allowable emissions from this modification are included in the EPA Preliminary Determination.

Any person may submit written comments to EPA regarding the proposed modification. All comments, postmarked not later than 30 days from the date of this notice, will be considered by EPA in making a Final Determination regarding approval for construction of this source. These comments will be made available for public review at the above location.

Furthermore, a public hearing can be requested by any person. Such requests should be submitted within 15 days of the date of this notice. Letters should be addressed to:

Mr. Tommie A. Gibbs, Chief
Air Facilities Branch
U. S. Environmental Protection Agency
345 Courtland Street, NE
Atlanta, Georgia 30308

PSD-FL-047

Preliminary Determination

I. Applicant

Florida Power and Light Company
P. O. Box 529100
Miami, Florida 33152

II. Location

The proposed modification is to a plant located off U.S. Highway 17-92 in Volusia County, Florida. The UTM coordinates of the proposed modification are 468310 east and 3190380 north.

III. Project Description

The applicant proposes to modify the method of operating the existing Sanford Power Plant Unit No. 4 by firing the steam generator (3600 million Btu per hour boiler) with a coal-oil mixture rather that the previously fired fuel oil. The weight ratio of bituminous coal to residual fuel oil fed to the boiler will vary from zero to a maximum of one.

It is important to note that the modification is to be temporary. Normal operation is being modified to assess the feasibility of coal/oil firing, and this modified firing "test" will not exceed the equivalent of 120 days at maximum capacity (3600 MBtu/hr; 400 megawatts) within a one-year maximum "test" period.

IV. Source Impact Analysis

The modification increases this steam generating unit's potential emissions of particulate matter (TSP) by greater than 100 tons per year as shown in Table I. Therefore, preconstruction review is required under Federal Prevention of Significant Deterioration (PSD) Regulations (40 CFR 52.21). Full PSD review includes an analysis of the following:

1. Best Available Control Technology (BACT);
2. National Ambient Air Quality Standards (NAAQS) Impact;
3. Increment Impact;
4. Soils, Vegetation and Visibility Impacts;
5. Growth Impacts; and
6. Class I Area Impact.

TABLE I

EMISSIONS SUMMARY

(Tons/Yr)

	TSP	SO_2	NO_x	CO
Previously Permitted Emissions[a]	5,361	41,010	(11,515)	(561)
Proposed Potential Emissions[b]	8,120	14,232	3,783	192
Net Increase in Potential Emissions	2,759	None	None	None
Proposed Allowable Emissions	8,120	c	c	c

a. TSP and SO_2 are based on SIP and variance requirements (2.5% S fuel oil, 8760 hr/yr, 0.34 lb TSP/MM Btu). NO_x and CO limits are not included in state permits. Actual emissions of NO_x and CO are estimated from AP-42 factors.

b. Based on proposed worst case conditions (2880 hours of operation, 3600 MM Btu/hr, 50/50 coal-oil firing, and 60% collection of TSP in an existing cyclone collector). TSP collection in the cyclone was included in the potential emissions estimate because it is existing and will not be affected by the modification. Additional controls are considered in the BACT analysis.

c. The modification will not increase potential emissions of these pollutants by greater than 100 T/yr. Therefore, PSD review does not apply.

Modifications such as this which have allowable emissions which exceed 50 tons per year, generally require full PSD review. However, this modification is temporary, as explained previously, and consistent with Paragraph (k) of the PSD regulation, the modification is exempt from air impact analyses providing that emissions impact no Class I area or area where the increment is known to be violated. The modification is located greater than 100 kilometers from the nearest Class I area. Further, no areas of known increment violations will be impacted, therefore, PSD review for this modification is limited to a BACT analysis.

A. BACT Analysis

The applicant proposes only to maintain the existing multicyclone collectors as BACT for TSP from the boiler. No additional controls are to be constructed at this time. The applicant contends and EPA agrees that construction of additional equipment such as a baghouse or an electrostatic precipitator (ESP) is unwarranted for this temporary modification.

The BACT determination in this case is based on two major considerations. First, purchasing and installing an alternate control device will require at least two years. This delay must be weighed against the urgency of finding innovative alternate fuel capabilities which the combined oil-coal firing represents. Second, the cost of a high technology device such as an ESP or a baghouse is excessive considering that the costs (16 to 30 million dollars) would be amortized over only the one-year test period. This cost penalty would be offset if the test is successful and subsequent permanent modifications are made. However, this is a different case than the proposed modification and a permanent modification will be subject to separate consideration for applicability and review under the PSD regulation.

Emissions of particulate also emanate from the coal and fly ash handling and transfer facilities. BACT for these sources is proposed by the applicant and accepted by EPA as outlined in Table II.

TABLE II

BACT FOR FUGITIVE TSP SOURCES

Bottom Ash	Transfer to disposal by sluicing.
Fly Ash	Transfer to disposal or sale by sluicing or a closed loop pneumatic conveying system.
Coal Storage	Compacting and water spraying.
Coal Transfer	Purchase of washed coal.
Coal Pulverizer	Cyclone primary collectors and baghouse filters (99+% control) on pneumatic conveying air.

As with the boiler, more costly control equipment for fugitive TSP sources was determined not to be warranted as BACT for this temporary modification.

BACT for pollutants other than TSP also are not required because potential emissions do not exceed 100 tons per year and PSD review for these pollutants does not apply.

V. Conclusion

EPA Region IV proposes a preliminary determination of approval with conditions for the modification of Florida Power and Light, Sanford Unit No. 4. This determination is based on the information contained in the application received on December 14, 1979. The conditions set forth in the permit are as follow:

1. The modification will be constructed in accordance with the capacities and specifications presented in the application (PSD-FL-047) except as otherwise required in the conditions of this permit. This specifically includes a maximum firing rate of 3600 million Btu's per hour for the boiler.

2. Combined coal-oil firing of Unit No. 4 is permitted for a period of not more than 365 consecutive calendar days starting with the first day that the coal-oil mixture is fired in the unit. In addition, the heat value of the total quantity of fuel fired in the unit within this period shall not exceed 1.04×10^{13} Btu's. Further, the quantity and types and heat values of fuels burned during this period will be monitored continuously and recorded in a log on a daily basis for the purposes of determining compliance with this condition.

3. The maximum allowable particulate emissions limits from the modified Unit No. 4 are 5639 pounds per hour and 1.57 pounds per million Btu's. Maximum allowable limits for other pollutants and opacity will remain in the existing state permit for this facility.

4. Compliance with the allowable emissions limit for TSP will be determined with performance tests carried out in accordance with EPA standard methods (Method 5 for TSP) and the applicable provisions of 40 CFR Part 60.46 and Part 60.8.

5. The applicant will notify EPA Region IV in writing within 10 days of the date which ends the 365 day "test" period referred to in Condition 2 of this permit. Such notification will also include certification that the operations approved in this permit have been discontinued.

6. The applicant will control fugitive emissions of TSP by implementing the practices and techniques outlined in Table II of the determination for each source of fugitive TSP.

7. The applicant will comply with the provisions of the attached general conditions.

GENERAL CONDITIONS

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.

2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.

3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.

4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.

5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall provide the permitting authority with the following information in writing within five (5) days of such conditions:

   (a) description of noncomplying emission(s),

   (b) cause of noncompliance,

   (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,

   (d) steps taken by the permittee to reduce and eliminate the noncomplying emission,

   and

   (e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

   Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.

7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.

8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the the presentation of credentials:

   (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;

   (b) to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;

   (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

   (d) to sample at reasonable times any emission of pollutants;

   and

   (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.

9. All correspondence required to be submitted by this permit to the permitting agency shall be mailed to the:

   Chief, Air Facilities Branch
   Air and Hazardous Materials Division
   U.S. Environmental Protection Agency
   Region IV
   345 Courtland Street
   Atlanta, Georgia 30308

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

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

Evening Herald
Herald Advertiser

POST OFFICE BOX 1657
SANFORD, FLORIDA 32771

December 28, 1979

To Whom it May Concern:-

This is to certify that the attached Public Notice appeared in the December 26, 1979, issue of The Evening Herald, a newspaper published by The Sanford Herald, Inc., at Sanford, Seminole County, Florida.

Signed Wayne D. Doyle
Wayne D. Doyle, Publisher

Sworn to and subscribed before me this 28th day of December, 1979.

Robert Lowery
Notary Public

Notary Public, State of Florida at Large
My commission expires June 12, 1983
Bonded with Lawyers Surety Corp.

Public Notice

Construction Permit

The Florida Department of Environmental Regulation (DER) has received an application from and intends to issue a Construction Permit to the Florida Power and Light Company for the construction of a coal pulverizer at the Sanford Power Plant located on Barwick Road, near Sanford, Volusia County, Florida. No determination of Best Available Control Technology was required. Copies of the application, Technical Evaluation and Proposed Construction Permit are available for inspection at the following locations:

St. Johns River District Office, FDER
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

Bureau of Air Quality Management, FDER
2600 Blair Stone Road
Tallahassee, Florida 32301

Seminole Co. Courthouse
N. Park Avenue
Sanford, Florida 32771

Persons wishing to comment on this action shall submit comments to Mr. Bill Thomas, of the Tallahassee Office within 30 days of this notice.

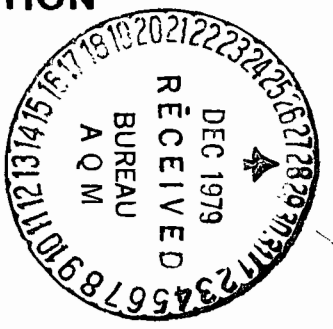
TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION



W. J. Barrow
Florida Power and Light Company
P. O. Box 529100
Miami, Florida 33152

Dear Buzz:

In accordance with your conversation of December 12, 1979, with Vicki Tschinkel, Steve Smallwood and I re construction of a coal handling facility at your Sanford plant. It was agreed that preliminary work, including installation of a culvert under a new road, driving of pilings and pouring of a concrete pad could begin as soon as necessary. This letter does not authorize operation of any coal pulverizing equipment prior to issuance of an air construction permit. It is also my understanding that no coal will be delivered to the site prior to permit issuance.

Any work done at the site is done wholly at the company's risk. In addition should any formal action be instituted by a third party relative to this work, construction of the facility must be halted.

If you have any questions in this regard, please feel free to call.

Sincerely,

Mary

Mary F. Clark
Assistant General Counsel

MFC/dg

cc: William H. Green
Steve Smallwood
Victoria Tschinkel
David Gluckman
Alex Senkevich
Charles Collins

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

MEMORANDUM

CERTIFIED MAIL

TO: Alex Senkevich, Manager
St. Johns River District, FDER
County Court Clerk, Seminole County

FROM: Steve Smallwood, Acting Bureau Chief
Bureau of Air Quality Management, FDER

DATE: December 26, 1979

SUBJ: Proposed Department Action regarding an application for construction of a Coal Pulverizing and Coal-Oil mixing facility, to be constructed by the Florida Power and Light Company, FP&L at the Sanford Power Plant, near Sanford, in Volusia County, Florida.

Attached please find one copy of the proposed Construction Permit drafted by the BAQM in response to the aforementioned application submitted by FP&L. Also attached please find one copy of the Technical Evaluation, original application and pertinent correspondence.

Pursuant to 17-2.091 and 40 CFR 51.18, this information is to be maintained, on file, for public review for 30 days following issuance of public notice.

Comments are to be submitted in writing to Mr. Bill Thomas, of the Bureau of Air Quality Management.

SS:caa

ENCLOSURES: 1

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

MEMORANDUM

CERTIFIED MAIL

TO: W. J. Barrow, Jr., Assistant Manager
Environmental Affairs
Florida Power and Light Company

FROM: Steve Smallwood, Acting Bureau Chief
Bureau of Air Quality Management, FDER

DATE: December 26, 1979

SUBJ: Proposed Department Action regarding an application for construction of a Coal Pulverizing and Coal-Oil mixing facility, to be constructed by the Florida Power and Light Company, FP&L at the Sanford Power Plant, near Sanford, in Volusia County, Florida.

Attached please find one copy of the proposed Construction Permit drafted by the BAQM in response to the aforementioned application submitted by FP&L. Also attached please find one copy of the Technical Evaluation, original application and pertinent correspondence.

Comments are to be submitted, in writing, to Bill Thomas of the Bureau of Air Quality Management.

SS:caa

ENCLOSURES:caa

TO: Buzz Barrow

FROM: Mark Hodges, Bureau of Air Quality Management
Department of Environmental Regulation

Please return an affidavit of publication to me at the following address:

M.G. Hodges
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Public Notice

Construction Permit

The Florida Department of Environmental Regulation (DER) has received an application from and intends to issue a Construction Permit to the Florida Power and Light Company for the construction of a coal pulverizer at the Sanford Power Plant located on Barwick Road, NEAR Sanford, Volusia County, Florida. No determination of Best Available Control Technology was required. Copies of the application, Technical Evaluation and Proposed Construction Permit are available for inspection at the following locations:

St. Johns River District
Office, FDER
3319 Maguire Blvd, Suite 232
Orlando, Florida 32803

Seminole Co. Courthouse
N. Park Avenue
Sanford, Florida 32711

Bureau of Air Quality Management, FDER
2600 Blair Stone Road
Tallahassee, Florida 32301

Persons wishing to comment on this action shall submit comments to Mr. Bill Thomas, of the Tallahassee Office within 30 days of this notice.

To appear on or before
December 28, 1979

1. Sanford Newspaper
2. Orlando Newspaper

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

TECHNICAL EVALUATION

AND

PRELIMINARY DETERMINATION

FLORIDA POWER AND LIGHT COMPANY

MIAMI, FLORIDA

(COAL PULVERIZER, COAL-OIL MIXING FACILITY, SANFORD POWER PLANT, VOLUSIA COUNTY, FLORIDA)

CONSTRUCTION PERMIT

APPLICATION NUMBER:

AC 64-25610

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

BUREAU OF AIR QUALITY MANAGEMENT

CENTRAL AIR PERMITTING

December 21, 1979

I. PROPOSED DEPARTMENT ACTION

The Department intends to issue the requested construction permit to the Florida Power and Light Company to construct a coal pulverizer and coal-oil mixing facility at the Sanford Power Plant, near Sanford, in Volusia County, Florida. Issuance thereof is subject to public comment received in response to required public notice.

Any person wishing to file comments on this proposed action may do so by submitting such comments, in writing, to:

Mr. William Thomas
Florida Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
Tallahassee, Florida 32301

Comments received within 30 days after publication of this notice will be considered and noted in the Departments Final Determination.

Any person whose substantial interest would be affected by the issuance or denial of this permit may request an administrative hearing by filing a petition for hearing in accordance with Chapter 28-51.15, Florida Administrative Code (copy attached). Such petition must be filed within 14 days of the date of this notice. Such petition is to be filed with:

Mary Clark, Esq.
Office of General Counsel
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

II. SUMMARY OF EMISSION AND AIR QUALITY ANALYSIS:

a. The proposed construction is located in Volusia County, Florida, at the Florida Power and Light Sanford Power Plant. Volusia County and the immediately adjacent Seminole County are currently in "attainment" status as regards all criteria air pollutants, as monitored for determination of compliance with ambient air quality standards.

b. The emissions for this project are listed below:

Process: Pulverizer air heating.

Fuel: Natural Gas (Approximately 370 CFM (18 MMBTU/HR)).

Pollutant	lbs./hr	lbs./yr.*
Particulate	0.00037	1.036

Process: Coal Pulverizer and Coal-oil mixing (Maximum) (Input Rate, 96,000 lb/hr)

Fuel: None

Pollutant	lbs/hr.	tons/yr.*	**
Particulate	7.7	11.09	

* Total operation not to exceed 120 days
** Emissions based on AP-42 factors

III. SYNOPSIS OF APPLICATION:

a. Name and address of applicant:

Florida Power and Light Company
P. O. Box 529100
Miami, Florida 33152

b. Description of project and controls:

This project involves the construction of a coal unloading, storage and reclamation system; coal pulverizer, coal-oil mixing, transportation and storage system; burner fuel supply system; ash handling system; and fugitive particulate control system.

A detailed description of the individual processes, proposed process rates and emissions follows, in the testimony of George Bastien of the Bechtel Power Corporation. The testimony is entitled "Sanford Unit Number 4 COM (Coal-oil mixture) test facility".

Raw material input; process rates;pollutants emitted (estimated, allowable and potential); and control device efficiencies are to be found in Section III, Parts A,B,C and D of the attached permit application.

IV. RULE APPLICABILITY

The proposed construction is located in Volusia County. Volusia County and adjoining Seminole County are both in an "attainment" status as regards the criteria airpollutants. The project is therefore subject to the Prevention of Significant Deterioration Requirements of 17-2.04. However, as the emissions are de minimus, no monitoring or modeling will be requested.

This project is also subject to 17-4.23, which requires the use of Best and Latest Technology on new sources, as well as 17-4.07, which authorizes imposition by the Department, of reasonable permit conditions to assure a minimization of air pollutants discharged into the atmosphere.

V. FINDINGS

1. Based upon the combined emissions of the coal pulverizer and natural gas fired heater. (7.7 #/hr + 0.00036 lbs./hr = 7.7 lbs./hr. and 11.09 tons/yr.* = 11.09 tons/yr), total emissions will be de minimus.

The de minimus determination, however, is based upon 120 days (2880 hours) of operation. Should an extended period of operation be desired it will be deemed a modification to the operation permit, and most likely subject the pulverizer/mixing facility to the full requirements of 17-2.04, i.e., monitoring and emissions modeling for the purposes of PSD.

*Year meaning 120 days, as applied for and utilized in applicants' computations.

2. Construction should commence and be completed within a reasonable time, as noted in the draft permit.

3. Construction should reasonably conform with the plans submitted.

4. The applicant should report any material deviation from the projected construction progress.

VI. PROPOSED ALLOWABLE EMISSIONS AND PERMIT CONDITIONS

See Draft Permits.

Attachment: 28-5.15 FAC, Requests for Formal and Informal Proceedings.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Power & Light Company
P. O. Box 529100
Miami, Florida 33152

PERMIT/CERTIFICATION NO. AC 64-25610

COUNTY: Volusia

PROJECT: Coal Pulverizer, Coal-oil mixer

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

The installation of a coal handling and pulverizing facility and at Sanford Unit #4, Barwick road, near Sanford, in Volusia County, Florida. This facility is being constructed to provide a coal-oil mixture for an initial 120 day test burn period at Sanford unit #4.

The universal transverse mercators and latitude and longitude coordinates are 468.340 Easting by 3190.380 Northing, and 28°50'40" North by 81°33'11" West, respectively.

Construction shall be in accordance with the attached permit application, attached plans, documents and drawings except as otherwise noted on page 3, "Specific Conditions".

Attachments are as follows:

1. "Application to Construct Air Pollution Sources" DER Form 17-1.122(16).

2. "Limitation of prepermit Construction letter, Nov. 24, 1979, Mary Clark, to W.J. Barrow.

3. Testimony of George Bastien, Nov. 29, 1979.

4. "Answers to Supplementary Questions from DER". (Given to Bechtel by W. J. Barrow at the conclusion of the 11/30/79 Hearing)

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 Section 403.161(1), Florida Statutes. Permittee is hereby placed

on notice that the department will review this permit periodically and may initiate court 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 indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact 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. 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.

4. As provided in subsection 403.087(6), 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 Section 403.111, F.S.

7. In the case of an operation permit, 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.

8. 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 penalities 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 64-25610
APPLICANT: Florida Power & Light Company
P. O. Box 529100

SPECIFIC CONDITIONS

1. The maximum allowable emissions from thepulverizing operation shall be:

Pollutants	Pounds/hr.	Tons/yr.
Particulate	7.7	11.09

2. The maximum allowable emissions from the gas fired air heater serving the pulverizer shall be:

Pollutants	Pounds/hr.	Tons/yr.
Particulates	Negligible	Negligible

3. The maximum hours of operation shall be 24 hours/day, for a total of 2880 hours, the tolling of which shall commence upon issuance of the operation permit.

4. The maximum fuel consumption shall be 400 CFM of natural gas to the pulverizer air heaters.

5. The maximum coal input to the pulverizer shall be 96,000 pounds per hour.

6. Any material deviation in construction or the modes of operation as specified to the Bureau of Air Quality Management (BAQM) immediately.

7. The operating permit shall require maintenance of records reflecting hours of operation, coal and oil inputted to the pulverizer and mixer amount of coal-oil mixture produced and amounts of fuel consumed, by fuel type. Said records shall be submitted to the BAQM immediately following the 120 day test period.

PERMIT NO.: AC 64-25610
APPLICANT: Florida Power and Light Company

8. After initial testing and prior to expiration of this permit or any operational usage of the aforementioned coal pulverizer, the applicant shall submit an application for an operation permit, to the St. Johns River FDER District Office.

Expiration Date: August 31, 1980

Issued this _____ day of _____, 19 _____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

P.O. BOX 529100, MIAMI, FL 33152

FLORIDA POWER & LIGHT COMPANY

December 4, 1979

Mr. Steve Smallwood
Acting Bureau Chief
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Smallwood:

In reference to your concerns expressed at the Sanford November 30, 1979 DER hearing on our proposed COM test facility, attached are our responses.

Sincerely,

W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJBjr/kb

Attachment

cc: Mary Clark
Vicki Tschinkel

TO: A. Kasprik

cc: B. F. Gilbert
W. J. Barrow

FROM: H. Causilla

ANSWERS TO SUPPLEMENTARY QUESTIONS FROM DER

(Given to Bechtel by W. J. Barrow
at the conclusion of the 11/30/79 Hearing)

1. Question: Control measures on unloading area

   Answer: Equipment utilized to unload coal cars will involve very low free-fall distances which will limit dust generation to below normal at transfer points. Because the purchased coal will be washed at the mine, the higher moisture content and reduced fines associated with washed coal should also act to inhibit dust generation.

2. Question: Control measures on reclaim conveyor to coal silos

   Answer: Reclaim equipment to the silo feeding conveyor will also involve very low free-fall distances. Top transfer point to silo conveyor will be enclosed. Again, the use of washed coal should act to inhibit dust generation.

3. Question: Control on coal silo vents

   Answer: Coal silos are open top, and as such there are no special provisions for venting.

4. Question: Fuel and capacity of air heater

   Answer: The pulverizer air heaters are direct natural gas fired units with a total rating of approximately 18 million btu/hr requiring 370 cfm of natural gas.

5. Question: Nitrogen inerting system

   a. Question: Used continuously or only for emergency?

      Answer: Nitrogen inerting system is provided for both continuous and intermittent inerting as follows:

Item	Continuous	Intermittent
Coal/oil mix tank	X	
Gravimetric feeder	X	
Pulverized coal storage bin	X	
Coal pulverizers		X

   b. Question: Do C&O mixing and storage tanks have vents? Filters?

      Answer: It is presently planned to vent the pulverized coal bin and the coal/oil mix tank to the bag filter through a mist eliminator. The coal oil mixture storage tank will be vented to atmosphere through the existing atmospheric vent. Since the coal and oil are intimately mixed prior to entering this tank, no fugitive dust will be emitted from this vent.

AK2 MARCO COFORDA

c. Question: If other than emergency use, why are vents not led back to baghouse?

Answer: See item b.

d. Question: Give operation details of vents - Flow - Filter space.

Answer: Design vent flows for the pulverized coal bin and the coal/oil mix tank are expected to be 20 cfm and 40 cfm respectively. The filter efficiency will be 99.9+% as stated in the application.

6. Question: Shouldn't estimate of annual emissions be 7.7 lb/hr x 2880 hrs = 11.088 T/yr, rather than 8.8 as given?

Answer: The 7.7 lb/hr of coal fines emitted from the bag filter will result in a total emission of 11.09 tons for the 120 day demonstration.

7. Question: Ash disposal?

Answer: Because of the increased quantities of ash generated when firing COM, temporary ash handling facilities will be provided. The ratings of these systems will be based on firing 50% COM (approximately 42 tons/hr of coal) and a maximum of 10% ash in the coal.

Bottom ash is expected to comprise 10% (maximum) of the total ash generated. A system rating of one ton/hr will be utilized to provide margin and to allow for some on-line maintenance of the system. Bottom ash will be collected in a hopper(s) and will be disposed of by sluicing to a pond or dewatering facilities. Material will be removed from the site by a third party.

Fly ash will be collected in the hoppers of the existing dust collector. A system rating of five tons/hr will be utilized to provide margin, and to allow for some on-line maintenance of the system. Fly ash will be collected and disposed of by one of the following schemes:

1. Fly ash will be pneumatically conveyed to a silo, loaded into trucks and utilized and/or disposed of by a third party. The ash removal system will be a closed loop system, such that any pollutant carryover will be injected into the boiler furnace.

2. Fly ash will be hydraulically conveyed to a pond. Material will be removed from the site by a third party.

8. Question: Describe coal dryer pulverizing process (is coal crushed or dried first, is coal screened or pneumatically sized?)

Answer: The coal pulverizing process is typical of that utilized in direct firing applications in a coal fired power plant. Coal is admitted to a bowl mill and is pulverized between a bowl and a grinding roll. Hot air admitted to the mill serves two functions. First, the finely divided coal particles are exposed to the hot air and the surface moisture is evaporated. Secondly, the velocity of the hot air stream conveys the pulverized coal through a size classifier and out of the pulverizer. The classifier is a centrifugal device and does not employ any screens.

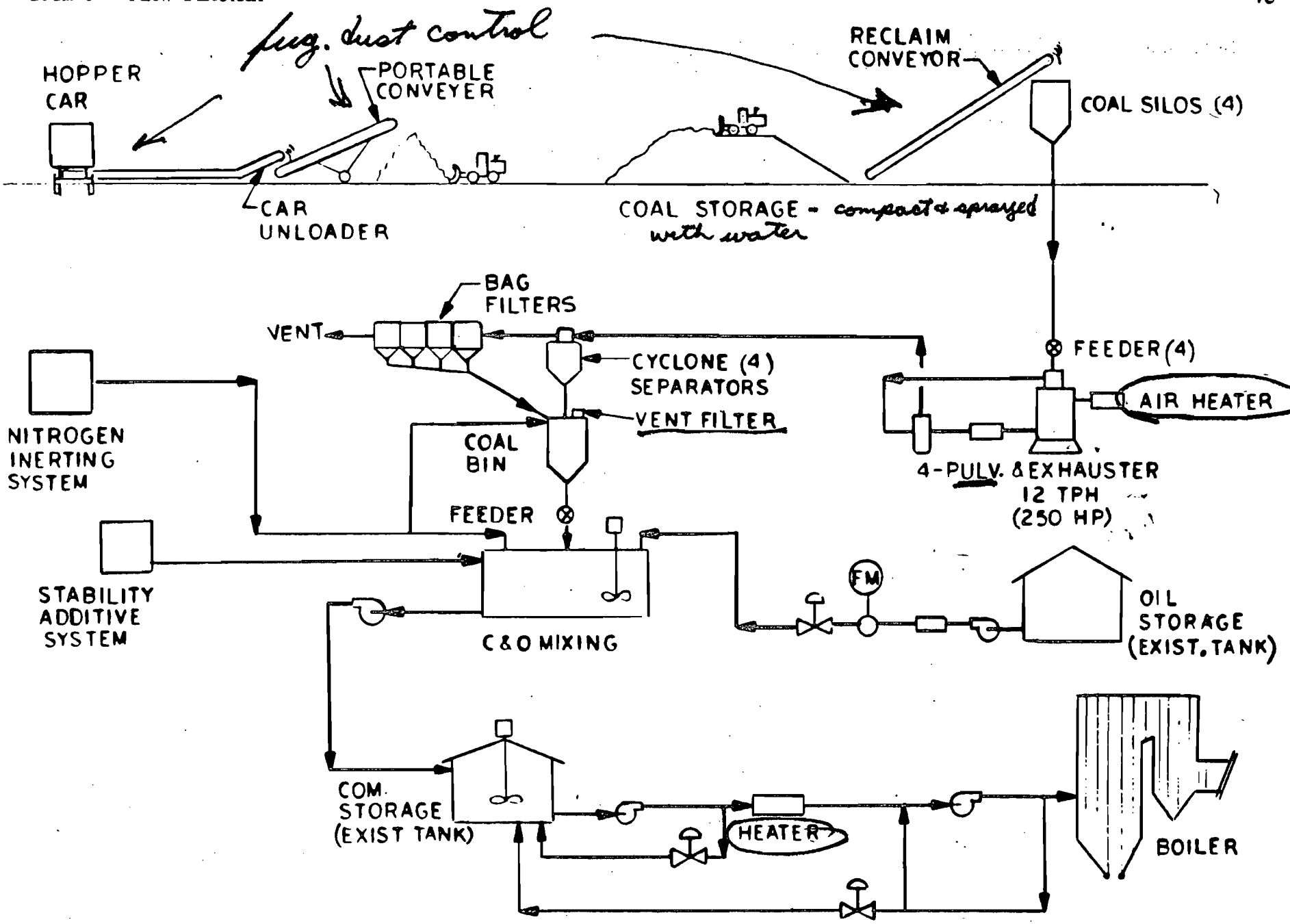
Prelim. questions —
Transmitted by Steve Smallwood
to WJBarrow 11/30/79

FP&L Sanford Coal Proj.

1. Control measures on unloading area.
   " " reclaim conveyor
2. " to coal silos
3. Control on coal silo vents.
4. Fuel & capacity of air heater
5. Nitrogen inerting system
   a. Used continuously or only for emergency?
   b. Does C&D inerting tank have vent? Filtered?
   c. If other than emergency use why are vents not ducted back to baghouse?
   d. Give operation details of vents —
      Flow
      Filter specs.
6. Shouldn't estimate of annual emissions be 7.7 lb/hr x 2880 hrs = 11.0 [illegible] rather than 8.8 given?
7. Ash disposal

Above questions could but annual [illegible] over 15 TPY de minimis. Other points [illegible] explained by are not pertinent [illegible] emissions alone in <15 TPY [illegible]

Describe coal dryer pulverizing process (is coal crushed or dried first, is coal screened or pneumatically sized?)



COM=COAL/OIL MIX
12,200 bbl/day

FLORIDA POWER & LIGHT Co.
SANFORD STATION
COAL/OIL MIX FACILITY

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

November 29, 1979

W. J. Barrow, Assistant Manager
Environmental Affairs
P. O. Box 529100
Miami, Florida 33152

Dear Mr. Barrow:

This is to acknowledge receipt and transaction of your "Application to Construct an Air Pollution Source" fee check(s).

The permit number(s) assigned are as follows:

Permit # AC 25610	Coal handling and pulverizer, Sanford Unit #4.

If we may be of further assistance please call me at (904) 488-1344.

Sincerely,

M. G. Hodges
FDER/BAQM

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 33520

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from FLA. POWER & LT. CO. (COAL-OIL MIXING FACILITY, SANFORD) Date 11/13/79

Address MIAMI, FLA., 33152 (P.O. BOX 529100) Dollars $ —20⁰⁰

Applicant Name & Address W. J. BARROW, (NOT GIVEN) 305-552356[illegible]

Source of Revenue

Revenue Code 0101 Application Number AC25610

By M. Hodg

DEPARTMENT OF ENVIRONMENTAL REGULATION

DAILY CASH LISTING

DATE: November 30, 1979

DATE FINANCE & ACCOUNTING RECEIVED: _____

LISTER'S SIGNATURE: M. Hodg

SIGNATURE OF RECEIVER: _____

REMITTER	CHECK NUMBER	CHECK AMOUNT	REVENUE OBJECT CODE	APPLICATION NUMB
Florida Power and Light	388270 Account # 057513 S.E. 1st National Bank, Miami, Florida	$20.00	0101	AC 25610

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 33520

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from _____ Date _____

Address _____ Dollars $ _____

Applicant Name & Address _____

Source of Revenue _____

Revenue Code _____ Application Number _____

By _____

THIS CHECK IS IN SETTLEMENT OF

FPL
FLORIDA POWER & LIGHT COMPANY
MIAMI, FLORIDA
GENERAL OFFICE FUND

No. 388270 63-F/660

1979 NOV 19

PAY
TO THE ORDER OF

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

FPL 20 AND 00/100

80

$ 20.00

SOUTHEAST FIRST NATIONAL BANK
MIAMI, FLORIDA

⑆0660⑈0058⑆ ⑈05⑈751⑈3⑈

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee	
To:	Locln.:
To:	Locln.:
To:	Locln.:
From:	Date:

TO: Finance & Accounting
ATTN: Doris Crosby

FROM: M. G. Hodges MGH.

DATE: November 30, 1979

SUBJ: Receipts for Applications to Construct Air Pollution Sources in Nonattainment Areas or Their Area(s) of Influence.

Attached are the following:

1 Checks @ $20.00 each

_____ Checks @ _____ each

Total amount enclosed $ 20.00 .

Receipt numbers:

33520 (AC 25610)

Certified Mail No. _____
Return Receipt Requested

Steve

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

November 27, 1979

Mr. W. J. Barrow
Assistant Manager
Florida Power and Light
Post Office Box 529100
Miami, Florida 33152

Dear Mr. Barrow:

The following is a summary of various points of information which we feel you need to address at the November 30, 1979 public hearing in Sanford on FP&L's variance request for test burning of various coal-oil mixtures in Unit #4 at the Sanford power plant.

As we discussed by phone last week, we are also suggesting various conditions and actions that appear to be appropriate to provide reasonable assurance that the air quality of the area is adequately protected should the variance be granted, and to provide for a means of adjusting the test program at a later date should that become necessary to meet the test objectives.

The Bureau intends to recommend approval of the variance request provided FP&L demonstrates that:

1. The test burns will not result in a violation of any ambient air quality standard or result in significant deterioration of air quality; and,

2. There are compelling economic and social reasons for conducting the test burns at this time and at this place.

In order to answer these questions and questions that the people of Sanford may have, we suggest that you be prepared to discuss at least the following points.

1. Why does FP&L need to conduct these test burns? Why cannot FP&L use the test results from other studies such as the tests on New England Power Service Corporation's Salem Harbor Unit #1, tests at the FPC Crystal River Plant; and/or proposed future tests at other Florida power plants which would be equipped with high efficiency particulate collection equipment?

2. If the tests do need to be conducted on a FP&L facility, why the Sanford plant and why is a year needed to complete the tests?

3. If the tests do need to be conducted at Sanford, why on Unit #4, that has the new low excess air oil burners, when Unit #5 is the same size and has the older excess air burners, and it generally requires more excess air to burn coal than to burn oil?

4. FP&L should be prepared to address establishment of an emissions cap for the test program for two reasons. First, the Environmental Protection Agency might well require a cap in reviewing any variance issued by the State as a revision to the State Implementation Plan. Second, a number of assumptions made in estimating the emission rate upon which the air quality impact analysis was based are subject to uncertainties. The following comments specifically address some of these uncertainties. The predicted ambient impacts of the proposed test burns depend upon the magnitude of the estimated increase in emissions due to burning coal. The emission estimates depend on the type of coal to be used and the amount of coal that is estimated to be needed to operate the boiler at full load while burning a 50/50 mixture (by weight) of the coal-oil mixture. The amount of coal needed depends on the maximum heat input rating of the boiler.

   The ambient air quality impact analysis submitted to the Department indicates that the maximum particulate emission rate for Unit #4, while burning a 50/50 coal-oil mixture, would be 4855 #/hr. At that emission rate, computer modeling predicts that the maximum increase in ambient particulate concentrations during any 24 hour period would be 37 ug/m^3 - the maximum that is allowed under both the State and Federal Prevention of Significant Deterioration (PSD) rules.

   When the maximum predicted impact of the test burn is combined with the predicted impacts of the baseline particulate sources in the area (under the same weather conditions) the maximum total ambient particulate concentration that is predicted

to occur in the area is 108 ug/m^3 against the ambient standard of 150 ug/m^3. Based on a maximum sulfur dioxide (SO_2) emission rate of 8511 #/hr., the maximum increase in ambient SO_2 concentrations is predicted to be 423 ug/m^3, 3 hr. average, against a maximum allowable 3 hr. PSD increment of 512 ug/m^3. The maximum total ambient SO_2 concentration (considering the impacts of baseline SO_2 sources in the area) is predicted to be 831 ug/m^3 against the 3 hr. ambient SO_2 standard of 1300 ug/m^3.

The maximum particulate emission rate of 4855 #/hr. is based on burning a 50/50 mixture of 13% ash coal (12,000 BTU/lb.), with existing oil (1.7% Sulfur #6 oil), to provide 3100 mmBTU/hr. heat input to the boiler. The existing boiler is permitted to operate at the rate of 3600 mmBTU/hr. heat input at full load.

Burning oil alone, the unit is estimated to result in a maximum particulate emission of 1054 #/hr., which represents meeting the interim 0.34 # particulate/mmBTU emission standard for oil with a very high asphaltene content. At a 50/50 mixture (by weight) approximately 103,333 #/hr. of oil would be burned to provide approximately 60% of the heat input. The balance of the heat input would be provided by approximately 103,333 #/hr. of coal to provide 3100 mmBTU/hr.

If it is assumed that the actual maximum heat input for Unit #4 is 3717 mmBTU/hr (calculated from reports to PSC) and that #6 oil has 18,000 BTU/lb then at full rating the existing oil guns would fire a maximum of 206,500 #/hr. of #6 oil to the boiler. If the coal has a heating value of 12,000 BTU/lb., then a 50/50 mixture (by weight) would have an apparent heating value of 15,000 BTU/lb. If the existing oil guns, when modified to inject the coal-oil mixture, can still inject the fuel mixture at a rate of 206,500 #/hr., the maximum heat rate to the boiler would be (3717) (15000/18000) or 3097 mmBTU, which is equivalent to derating the boiler by about 17%.

If 103,333 #/hr. of 13% ash coal is needed at maximum derated load, approximately 13433 #/hr. of coal ash will be injected into the boiler. The ESE report assumes that 80% of this ash is entrained in the exit gas from the boiler, the other 20% falls out and is

removed with the bottom ash, which is a generally accepted estimating figure for pulverized fuel fired boilers. The actual percent entrained could easily vary by 10-15%. If complete coal combustion is not achieved, part of the carbon in the coal will be discharged to the stack as part of the fly ash. Typical values range from 1-5% (or higher) for pulverized coal.

The ESE report also assumed that the existing multiclone would remove 60% of the coal fly ash. Multiclone efficiencies on ash can range from 40-85% so 60% appears to be a reasonably conservative assumption.

If there is 5% carbon in the ash and 80% of the ash goes to the mechanical collector, and the collector removes 60% of this, then (13433)(0.80)(1.05)(0.40) or 4514 #/hr. of coal ash would be discharged to the stack. If half the weight of the mixture is oil that emits 0.34 #/mmBTU of oil heat input, the oil would contribute 632 #/hr. for a total particulate emission of 5146 #/hr. maximum.

At 4855 #/hr. the maximum allowable 24 hr. particulate PSD increment is just equaled (based on the ESE modeling). If the existing quality of oil is used, the oil ash contribution should be less than 632 #/hr. If low ash coal is used, the coal ash emission would be less. If the oil guns, when modified, can not inject coal-oil at the same rate as oil alone, the boiler would be further derated, and the emission would be less. If the multiclone is more efficient than 60%, and maintained in good operating condition, the emission would be less.

If more than 80% of the coal ash is entrained in the exit gas from the boiler, the emission would be greater. If the coal ash contains more than 5% carbon, the emission would be greater. Both of these possibilities may occur since generally oil-fired boilers have shorter combustion passes in the boiler than do coal-fired boilers.

To provide reasonable assurance that the PSD particulate increment is not violated we have concluded that a maximum particulate emission cap is needed for Unit #4. We suggest a maximum of 4850 #/hr. particulate.

As noted above, there are various means available to stay under this limit. However, if for any reason, higher emissions occur from #4, some mitigating action can be taken because of the location and characteristics of #5.

Unit #5 has the same stack height and emission characteristics as Unit #4. The two units are located reasonably close together. From an air quality impact point of view, a pound of ash discharged from #5 has essentially the same impact as a pound discharged from #4. This, however, is not true of #3 since it has a shorter stack. A pound of ash from #3 would have a relatively greater impact and it would occur at a different place than the impact of #4 and #5.

Considering these factors, the Bureau could recommend acceptance of a maximum combined emission cap for Units #4 and #5 that would apply during coal-oil test burns. Based on the ambient impact analysis we would suggest a maximum of 5900 #/hr. for the combined total emission from both units, provided adequate test and operational data are provided to reasonably verify compliance with the two stack emissions cap. As you probably know, this type of "bubble" is usually not favored by regulatory agencies because of the increased complexity in verifying compliance. However, in this case, due to the nature of the variance request adequate data should be available without substantial modification of the proposed test program.

5. It should be noted that it is the Bureau's understanding that FP&L is agreeable to being limited to using 1.7% sulfur oil with the lowest asphaltene content available. If 2.5% sulfur oil were fired during the coal-oil test burn periods, previous ESE computer modeling indicates that the maximum allowable 3 hr. PSD increment for SO_2 would be violated.

6. FP&L has requested that the variance be for 120 "full-power days", not to exceed one year.

"Full-power day" needs to be defined in terms of some readily measurable units, if this concept is to be used. We suggest "Megawatts-hours generated" as an equivalent.

Specifically what does full-power mean in light of the probability that the test unit cannot be operated at design heat input during the test burns? What does day mean in this context; a day during which testing is conducted or a period of 24 hours? We suggest that full-power means the nominal maximum rated capacity under test conditions and that it be fixed at some constant value such as the nominal megawatts generated at a heat input of about 3000 mmBTU/hr; for example, 300 MW x 24 hours, or 7200 MWH generated as equivalent to a full-power day.

Is it FP&L's intent that only the time of testing be counted or the total time that coal is being fired? We suggest the latter.

It is also our understanding that regardless of the number of "full-power days" remaining unused, if any, the coal-firing and testing will be terminated not later than one year after the first test burn.

7. Since the nature of the proposed test is such that the results of the early testing phase may determine the nature of subsequent testing needed, we suggest that FP&L as a condition to obtaining the variance, develop and submit a preliminary detailed test plan to the Department for approval prior to firing any coal at the Sanford plant. Such plan should be similiar to the Preliminary Test Plan for New England Power Service Company Coal-Oil Combustion Project, prepared for the Department of Energy (DOE). It is our understanding that FP&L has a copy of that document and is preparing such a test plan.

   Any major changes to the submitted and approved plan would have to be approved by the Department prior to operating the plant or conducting tests in accordance with the modified plan.

8. To verify compliance with the emissions standards established for the test periods (see item 4) we suggest at least one full compliance test be conducted (a) during the initial coal-burn, (b) each 10 full-power days, thereafter, (c) each time the coal-oil ratio in the mixture is increased, (d) each time major repairs to the burners or the multiclone is required, and (e) anytime the Department has reason to believe that the interim emission standards may be violated.

9. FP&L should notify the Department in advance of the initial test burn and of all major test activities and of any incidents that result in or may have resulted in excess emissions.

10. FP&L should be prepared to discuss the company's position and intention with respect to installing high efficiency particulate collection equipment on any units that are to be fired with a coal-oil mixture subsequent to the conclusion of the Sanford test program.

11. It should be understood that (a) if an ambient air quality standard violation is detected that is related to the emissions from the power plant, the test will terminate; and (b) if the interim emission limits set to prevent significant deterioration of air quality are exceeded, the testing shall be suspended until the Department has reasonable assurance that those limits will be met during any subsequent testing.

If you have any questions, I can be contacted at 904/488-1344.

Sincerely,

Steve Smallwood
Acting Bureau Chief
Bureau of Air Quality
Management

SS:jr

cc: Vicki Tschinkel
William J. Townsend, Jr.
Mary Clark
W. E. Starnes
Larry George
Jim Estler
Alex Senkevich

TECO EPRI
additive
factor 5-7

(4) 400 mw x 24
9600 megawatt hours

(1 year limiting)

(5) Make com
temporary com
facility

* ? Can 12,500 barrels
of oil now be
injected to boiler

max 2%
12,500

% sulfur problem?
Remodeling
must be done

30,000 T coal storage
100 T/hr reclaim conveyor
12 TPH - pulverizer

80-85% cyclone
80% + 200 mesh
+ baghouse

* % carbon in ash

* need air permit for
dry silo.

(?)

ok * 1) another test on 800 mw unit. why?

Cook - why program (V.P.)

Boston - com facility

Kaspvik - ESP

Andrew - Test

Koski - modeling

WHY? - reduce oil use - ok

ok
other unit
small;
designed forced

2) Why can't use ~~results of~~ other work? ok

9 - 400
4 - 800 } ok

3 or 4 year - ok

APC equipment
needed, paid for
by Δ saving. ok

ship & boiler
ind. boiler
Crystal (FPC)
Salem Harbor

(3) Why Seaboard
tail secure
room
back up regional
capacity ok

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

November 21, 1979

W. J. Barrow
Florida Power and Light Company
P. O. Box 529100
Miami, Florida 33152

Dear Buzz:

In confirmation of our telephone conversation of November 21, 1979, re construction of a coal handling facility at your Sanford plant. It was agreed that preliminary site prepartion work, including installation of a culvert under a new road, driving of pilings and pouring of a concrete pad could begin as soon as necessary. This letter does not authorize installation or operation of any coal pulverizing equipment prior to inssuance of an air construction permit. It is also my understanding that no coal will be delivered to the site prior to permit issuance.

If you have any questions in this regard, please feel free to call.

Sincerely,

Mary

Mary F. Clark
Assistant General Counsel

MFC/dg

cc: William H. Green
Steve Smallwood
Victoria Tschinkel

P.O. BOX 529100, MIAMI, FL 33152

FLORIDA POWER & LIGHT COMPANY

November 19, 1979

Mr. H. G. Hodges
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: Air Operating Permit Application
FPL Coal-Oil Mixing Facility, Volusia County

Dear Mr. Hodges:

Per our telephone conversation today, enclosed please find FPL Check No. 388270 in the amount of $20.00 to cover the application fee for the subject permit.

Sincerely,

Judy Barnett

W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs

WJBjr/MLR/kb

Enclosure

BEST AVAILABLE COPY

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#000000025610 COE# DER PROCESSOR:SVEC DER OFFICE:TL
FILE NAME:FLORIDA POWER & LIGHT DATE FIRST REC: 11/13/79 APPLICATION TYPE:A
APPL NAME:BARROW, W.J. JR. APPL PHONE:(305)552-3561 PROJECT COUNTY:6
ADDR: CITY:TAMPA ST:FLZIP:
AGNT NAME:SURABIAN, M. AGNT PHONE:( )948-2700
ADDR:15740 SHADY GROVE ROAD CITY:GAITHERSBURG ST:MDZIP:2076

ADDITIONAL INFO REQ: / / / / / / REC: / / / / / /
APPL COMPLETE DATE: / / COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:
THIS RECORD HAS BEEN SUCESSFULLY ADDED
FEE PD DATE#1:11/13/79 $0020 RECEIPT#00033520 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:11/13/7
REMARKS:COAL PULVERIZER AND HANDLING FACILITY, SANFORD UNIT #4. LOCATED ON BARWICK ROAD, SANFORD. UTM = 468.340 E./ 3190.380 N. LAT/LON = 28-50-40 N. / 81-19-30 W. VOLUSIA CO.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 33520

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from FLA. POWER & LT. CO. (COAL-OIL MIXING FACILITY, SANFORD) Date 11/13/79

Address MIAMI FLA. 33152 (P.O. BOX 529100) Dollars $ 20.00

Applicant Name & Address W. J. BARROW, (NOT GIVEN)

Source of Revenue

Revenue Code 0101 Application Number AC25-6[illegible]

By

11-29-1979

I am George Bastien of Bechtel Power Corporation, Gaithersburg, Maryland. Bechtel is responsible for design, construction and operation of the Coal/Oil Mixture (COM) preparation facility. The attached testimony includes a description of the COM facility from the coal unloading to COM delivery to the boiler, including fugitive dust emissions. A copy of my qualifications are appended to the attached testimony.

NAME G. F. BASTIEN

POSITION Mechanical Engineering Supervisor

EDUCATION BSCE, Worcester Polytechnic Institute
Post graduate study courses in mechanical engineering and nuclear engineering, Worcester Polytechnic Institute; Nuclear Power Engineering Course in conjunction with Combustion Engineering and MIT

SUMMARY

7 Years	Mechanical group supervisor, fossil-fueled power plants
6 Months	Project engineer, fossil-fueled power plant
3 Years	Mechanical design engineer, fossil-fueled power plants
1 Year	Mechanical group supervisor, nuclear power projects
3½ Years	Design engineer, testing and development of supercritical boilers

EXPERIENCE

Mr. Bastien is currently assigned as mechanical group supervisor on the 480 MW coal fired Vienna Unit 9 for Delmarva Power & Light Company

Previously, he was mechanical group supervisor on the Dickerson Particulate Control Project for Potomac Electrical Power Company. The project includes the installation of one 50% capacity particulate scrubber on each of two existing coal-fired boilers. He also was project engineer with responsibility for all engineering on the 130 MW combined cycle Dresser Station Repowering Unit for Public Service Indiana and mechanical group supervisor directing the design of all plant mechanical systems on the 400 MW oil-fired, base-loaded Edge Moor Unit 5 for Delmarva Power & Light Company.

In other Bechtel assignments, experience includes work on the 289 MW oil-fired Benning Unit 16 for Potomac Electric Power Company and the 400 MW oil-fired Montville Unit 6 for the Connecticut Light and Power Company. His responsibilities involved coordination with the boiler manufacturer and design of the mechanical systems relating to the boiler, feed supply, feedwater and combustion air supply. He also performed on the addition of the three gas turbine-generator units at the Missouri Avenue Station for Atlantic City Electric Company. He served as mechanical group supervisor on the 830 MW PWR Millstone Unit 2 for Northeast Nuclear Energy Company, and on the SNUPPS project, five 1150 MW units involving four sites for five utilities.

Prior to joining Bechtel, Mr. Bastien was employed by Combustion Engineering as an engineer in the research and development department on the design and field testing of coal-fired supercritical pressure boilers, and thermodynamic studies. He also spent some time on field assignments with the erection department and service department as part of the engineering training program.

REGISTRATION Registered Professional Engineer in Maryland

11/29/79

SANFORD UNIT NO. 4

COM TEST FACILITY

1.0 COAL UNLOADING STORAGE AND RECLAIM SYSTEM

1.1 System unloading design capacity is based on unloading a 16 to 20 car coal train with 100 ton cars in a target time of one day. Assuming unloading will only be conducted during daylight hours, this results in a mean unloading rate of 106 tons per hours, based on two-shift operation.

1.2 Maximum reclaim requirement is based on the COM Plant design rating of 12,000 bbl/day of 50% COM. This corresponds to approximately 42 tons/hour. Design reclaim capacity will be 100 tons per hour in order to provide surge capacity.

1.3 The system will be designed to handle clean, washed coal, with a minimum of fines, which has been crushed to minus 1 1/4 inches.

1.4 To minimize capital cost, silo storage will be kept to a minimum. (1 1/2 - 2 hours at COM plant design rating).

1.5 The coal storage pile will contain 30,000 tons of coal (approximately 30 days' storage). Provision will be made to collect the coal pile run-off.

1.6 Weighing of the coal will be at the mine, and no weigh facilities will be provided at the plant proper.

1.7 Fire protection will be accomplished utilizing water from existing local hydrants and from water trucks.

1.8 Coal Pile runoff will be collected in a pond for settlement and eventual disposal to an existing pond utilizing a portable pump.

1.9 To provide a location for unloading, a new spur will be installed parallel to the existing Seaboard Coastline Railroad tracks. This spur will start approximately 1670 feet north of Barwick Road. This is shown on Dwg C-001. This spur arrangement provides sufficient space to park one coal train (16-20 cars) to the north of Barwick Road, and to park twelve empty cars south of Barwick Road during unloading. Any additional cars will be stored on a nearby spur, perhaps at Benson Junction or Rand Yard.

1.10 Four (4) 75 ton/hr undercar unloaders will be utilized for a total instantaneous capacity of 300 tons/hr. The unloaders will be positioned approximately every 100 feet, and will simultaneously unload every other car of an 8-car string. Each unloader will discharge to a 50 ft. inclined conveyor rated at 100 ton/hr. Each conveyor will discharge to a small pile for removal with mobile equipment. To fully unload the first four cars will require repositioning of the train two or more times (random cars) to center each hopper bottom over the unloader. Car positioning will be accomplished utilizing a car puller. Upon completion of unloading of the first four cars, the unloaded coal will be moved west to the main storage pile with mobile equipment. The train will then be advanced approximately one car length, and a second group of four cars will be unloaded. Upon completion of unloading of this group of eight cars, the train will be advanced, and the eight empty cars will be stored on the spur on the south side of Barwick Road. A second group of eight cars can be unloaded similarly for a total of 16 cars for the day. Additional odd numbers of cars can then be unloaded to complete the trainload.

1.11 Coal will be reclaimed into the four coal silos from the south end of the coal pile. A reclaim hopper located near the main coal storage area will be fed by front end loaders. Coal from the reclaim hopper will be conveyed to the top of the silos by an inclined reclaim conveyor with a design capacity of 100 tons per hour. A magnetic separator will be provided at the downstream end of the reclaim conveyor. At the discharge end, this conveyor will feed coal onto a silo feeding conveyor. Filling of the first, second and third silos will be accomplished by adjusting three manual plows. The fourth silo will receive coal from the end discharge of the silo feeding conveyor.

1.12 Because coal will be unloaded along a 440-ft. section of the coal pile, it will be necessary to utilize mobile equipment to continuously shift inventory from the north to the south end of the pile where it will be within reach of the reclaim hopper.

1.13 Coal in the inactive portion of the coal storage area will be compacted to minimize the potential for fugitive coal dust emissions. Localized dust conditions will be controlled with suitable dust suppression agents.

2.0 COAL/OIL MIXING TRANSPORTATION AND STORAGE SYSTEM

2.1 The Coal/Oil Mixing, Transportation and Storage System is comprised of the following components:

2.1.1 Coal fed from the coal silos is metered to four pulverizers by four rotary feeders. Each feeder/pulverizer is rated at 10.5 tons per hour.

2.1.2 Primary air flow for the pulverizer is generated by an exhauster driven directly off the pulverizer gearbox.

2.1.3 Primary air temperature is raised to a temperature suitable for drying the coal in a direct fired gas air heater.

2.1.4 Dry pulverized coal is conveyed by the exhauster to four cyclone separators having an efficiency of approximately 80-85%.

2.1.5 Air and entrained coal fines from the cyclones are conveyed to a bag filter which separates the coal dust from the air stream with an efficiency of 99.9+%. An alarm will be provided to alert the operator to shut down the coal pulverizing equipment in case of dust collection system malfunction.

2.1.6 Pulverized coal from the bottom of the four cyclones and from the bag filter hoppers is fed by gravity through rotary airlocks to a single pulverized coal storage bin with a capacity of approximately 20 tons.

2.1.7 Pulverized coal from the storage bin is fed by a gravimetric feeder (maximum feed rate of 42 tons/hour) into the coal/oil mix tank. The coal/oil mix tank is a 12 foot diameter, 15 foot high tank with vertical turbine agitator to promote mixing. The tank has an approximate retention time of 30 minutes.

2.1.8 Oil will be fed to the coal/oil mix tank from existing fuel oil storage tank D (100,000 bbl) utilizing the existing fuel oil suction heaters and fuel oil pump transfer station.

2.1.9 Coal/oil mixture is transferred to the COM storage tank (existing fuel oil storage tank C, 55,000 bbl) via a new COM transfer pump station. Pump capacity will be approximately 300 gpm. Storage tank C will be modified to install a vertical turbine agitator and a tank heater suitable for maintaining the storage tank at 125°F.

2.1.10 A COM recirculation system from the COM storage tank back to the mixing tank is provided to facilitate varying the percent coal in the COM storage tank inventory. The capacity of the recirculation system will be approximately 300 gpm.

2.1.11 An inerting system will be provided to inhibit coal dust explosions. This will be accomplished by introducing nitrogen into system components to reduce the oxygen concentration of the resulting mixture below the flammability limit; i.e., the value below which ignition of the combustible dust in question cannot be initiated under the most severe ignition conditions expected.

The nitrogen inerting system will include a nitrogen storage tank, ambient air vaporizers, pressure reducing stations, and purge gas distribution piping system. The following equipment will be purged by nitrogen continuously or intermittently, as required by system operations.

a. Coal/oil mixing tank

b. Gravimetric feeder

c. Pulverized coal storage bin

d. Coal pulverizers

The nitrogen inerting system will be designed in accordance with the recommendations of the National Fire Protection Association (NFPA-69).

2.1.12 Instrumentation is provided to measure the quantity of coal and oil fed to the COM mixing tank. The quantity of COM delivered to the storage tank and to the boiler is measured.

3.0 BURNER FUEL SUPPLY SYSTEM

The burner fuel supply system will be comprised of the following components:

3.1 New burner fuel pumps (3 half capacity) will be installed adjacent to the COM storage tank. These pumps will be rated to match the heat input to the boiler, which results in an approximate rating of 250 gpm each.

3.2 Suction to these pumps will be provided from both the COM storage tank and from the Unit 4 metering tank. This will allow the new system to feed the new burners with either COM or No. 6 fuel oil.

3.3 Discharge from the new burner pumps will be connected into the existing burner piping and routed through the existing heaters and strainers to the new burner guns, bypassing the existing constant differential pumps.

3.4 A new steam atomizing system (approximately 25,000 lbs/hr) will be installed for the new burner guns.

4.0 ASH HANDLING SYSTEM

Because of the increased quantities of ash generated when firing COM, temporary ash handling facilities will be provided. The ratings of these systems will be based on firing 50% COM (approximately 42 tons/hr of coal) and a maximum of 10% ash in the coal.

4.1 Bottom ash is expected to comprise 10% (maximum) of the total ash generated. A system rating of one ton/hr will be utilized to provide margin and to allow for some on-line maintenance of the system. Bottom ash will be collected in a hopper(s) and will be disposed of by one of the following schemes:

4.1.1 Bottom ash will be pneumatically conveyed to a silo, loaded into trucks and utilized and/or disposed of by a third party.

4.1.2 Bottom ash will be sluiced to a pond or dewatering facilities. Material will be removed from the site by a third party.

4.2 Fly ash will be collected in the hoppers of the existing dust collector. A system rating of five tons/hr will be utilized to provide margin, and to allow for some on-line maintenance of the system. Fly ash will be collected and disposed of by one of the following schemes:

4.2.1 Fly ash will be pneumatically conveyed to a silo, loaded into trucks and utilized and/or disposed of by a third party.

4.2.2 Fly ash will be hydraulically conveyed to a pond.

5.0 FUGITIVE PARTICULATE EMISSIONS FROM COAL/OIL MIXING FACILITY

5.1 General

The sources of fugitive coal dust emissions are shown on Figure 1. Quantitative data on fugitive coal-dust emission from coal unloading, storing, conveying, transferring, etc., are very limited. The available emission factors for coal handling operations are, at best, rated below average to poor. However, fugitive coal-dust emissions can still be roughly estimated using these emission factors as presented in Table 1 (Reference 1). Estimates of fugitive emissions in Table 1 include particulates up to 100μm in size (Reference 1). A major proportion (~70%) of the particles settle out within a short distance from the source and the long range air quality impacts are, therefore, relatively insignificant. Although the proposed PSD regulations allow credit for reductions due to such control measures for the purpose of PSD review, no credit is taken for emission reductions from compacting, water sprays and the higher quality coal (washed and not easily friable) to be utilized at this facility.

5.2 Coal Unloading and Transferring

Due to the smaller free-fall distance to the car unloader, fugitive coal dust emissions due to this source are expected to be significantly less than those shown in Table 1 for Source 1 (Figure 1). The unloaders transfer (source 2) coal onto a conveyor belt which then stacks the coal on a temporary coal pile (source 3). Mobile equipment (source 4) moves the unloaded coal to a storage pile.

5.3 Coal Storage

Coal in the storage area will be compacted to minimize the potential for fugitive coal-dust emissions. Water will be sprayed, as necessary, to minimize fugitive coal-dust emissions. Emissions from the coal storage area due to vehicular movement, loading out operations and wind erosion are identified as source 5.

5.4 Coal Conveying and Transfer

Coal from the storage area will be fed to a single conveyor (source 6) which transports the coal to four coal silos. Source 7 identifies coal-dust emissions from coal silo charging.

5.5 Coal Pulverizer and Product Recovery

Coal from the coal silos is metered to the four pulverizers where it is ground and dryed by heated air. Dry pulverized coal from each pulverizer is conveyed by the exhausters to four cyclone separators having an efficiency of approximately 80%. Pulverized coal collected in each cyclone (9.6 tons/hour) is transferred to a coal bin. Air with entrained coal fines (2.4 tons/hr of coal) from each of the four cyclones is ducted to a bag filter which separates the coal dust from the air stream at an efficiency of about 99.9%+. Exhaust from the baghouse (40,000 acfm air at 150°F) contains emissions of less than 7.7 lb/hr of coal-fines.

5.6 Fugitive Emissions

Total uncontrolled fugitive emissions from the sources listed in Table 1 are about 45 tons over the demonstration period of less than one year. However, measures such as purchasing of washed coal, storage pile water sprays and compacting of storage piles will significantly reduce these emissions. Note that these fugitive emissions are temporary and will not continue after the demonstration period.

Reference

1. "Technical Guidance for Control of Industrial Process Fugitive Particulate Emissions," USEPA. EPA-450/3-77-010, March 1977

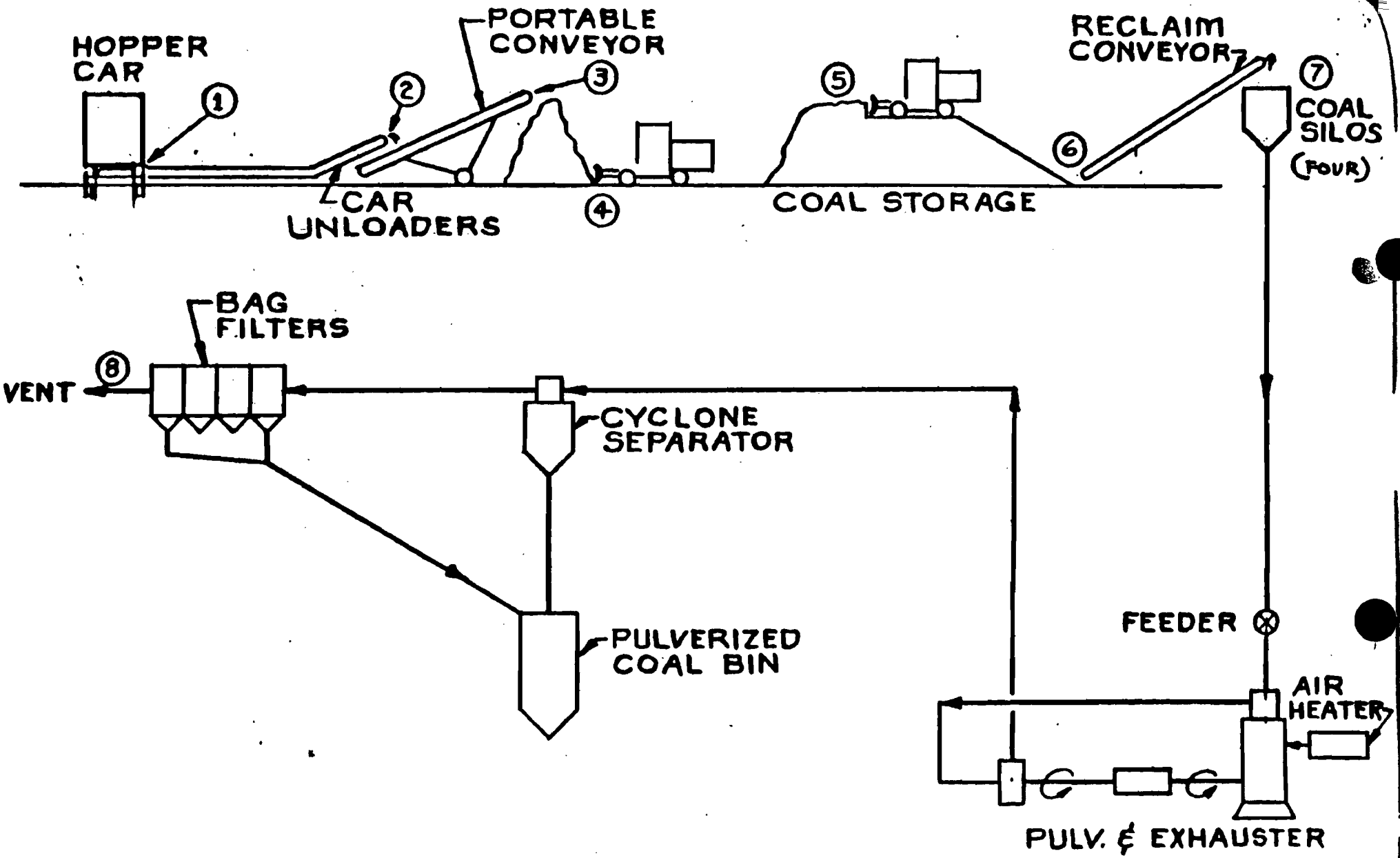


FIGURE 1

FLORIDA POWER & LIGHT Co.
SANFORD STATION
COAL/OIL MIX FACILITY

TABLE 1

FUGITIVE COAL - DUST EMISSION

Operation	Source No.	Uncontrolled Fugitive Emission Factor lb/ton Coal	Uncontrolled Emission tons/year
A. Coal unloading	1	0.1	6.00
B. Coal loading onto pile	3	0.044	2.64
Vehicular traffic	4, 5	0.096	5.76
Coal loading out	4, 5	0.055	3.30
Wind erosion	5	0.65	5.85
Coal conveying and transfer	2, 6	0.32	19.2
Coal charging	7	0.044	2.64
		Total	45.39

Assumptions

1. Source numbers are the potential emission points identified on process flow diagram in Figure 1.
2. Emission estimates are based on 120,000 tons coal to be used during the demonstration project.
3. Wind erosion emission factor is based on 18,000 tons coal pile for 12 month period.
4. Coal-fines (< 75μm) are estimated to be 2 percent, generally associated with the medium volatile coal.
5. Activity factors for loading, traffic, and load-out are assumed to be 0.7, 0.5, and 0.78 respectively (Ref. 1),
6. Thornthwaite's precipitation-evaporation index (PE) is assumed to be (Ref. 1).
7. Very small drop distance for unloading is assumed to result in 75% in fugitive emission.

MCC
11/29/79

FLORIDA POWER & LIGHT COMPANY
PROPOSED COAL/OIL MIXTURE (COM) DEMONSTRATION PROJECT

Testimony of Michael C. Cook
Vice President Fuel Resources & Corporate Development

Introduction

Florida Power & Light Company is proposing a comprehensive test using a mixture of coal and oil as boiler fuel at the Company's Sanford Unit No. 4. The successful completion of this test would allow FPL to decrease its dependence on expensive imported fuel oil by substituting lower cost domestic coal, without forcing FPL's customers to bear the enormous cost burden of constructing new coal fired units.

Draft legislation proposed by the U.S. Department of Energy entitled "Power Plant Petroleum Conservation Act of 1979" calls for large petroleum users, those consuming more than 250,000 barrels annually, to reduce their petroleum consumption by the year 1990 to fifty percent (50%) of their average annual consumption in the base period of 1976 through 1978. This means that FPL would have to reduce its consumption to seventeen million barrels by 1990 or a 57% reduction from FPL's latest 12 month consumption level. Faced with the provisions of the already enacted Natural Gas Policy Act and the Powerplant and Industrial Fuels Use Act of 1978, FPL will also lose all of its natural gas supplies by 1988. FPL currently consumes natural gas equivalent to 14 million barrels of fuel oil, so the combined oil and gas reduction would be equivalent to 37 million bbls. of residual oil.

While the actual provisions of legislation or regulations mandating reduction of oil and gas use may change, the direction is clear: FPL will be required to substantially reduce its use of fuel oil as a boiler fuel.

Even if FPL were not faced with legislation mandating a reduction of oil and gas consumption, world supply conditions require that other more plentiful and less expensive boiler fuels be found. FPL's principal supplier of fuel oil has substantially reduced its commitment to provide high quality fuel oil. Extensive efforts to obtain additional supplies of high quality fuel oil under long term contract have met with only minimal success. Oil supplies are shrinking, oil quality is deteriorating and oil prices are going up. Should the world be faced with another "Iran", it is doubtful that there is enough petroleum supply capacity to make up the shortfall. The result may well be a curtailment of electric power production, with attendant economic, health and social hardships for the people of Florida.

Alternatives such as shale oil, synthetic fuels, solar energy, and the like won't be much help before the late 1990's in the quantities needed by FPL. It is for these reasons that FPL has embarked on an ambitious program to inventigate and test alternative boiler fuels. A successful test firing of a coal oil mixture would provide a near-term economical, method for FPL to reduce its dependence upon the dwindling supply of fuel oil.

Potential Benefits to FPL's Customers

If this proposed COM test firing in the Sanford Unit 4 shows that

COM can be burned without significantly affecting the efficiency or reliability of FPL's existing oil fired units, the potential exists for converting all of FPL's 400 MW and 800 MW units to burn COM. This conversion of 6800 MW of capacity could potentially result in an annual displacement of up to 16 million barrels of fuel oil by 1984, a 35% reduction in forecasted consumption.

The following schedule illustrates these potential savings:

FPL Fuel Use Forecast
(Thousands of Barrels)

Year	Forecasted Oil Use Without COM (1)	Forecasted Oil Use With Max. COM Conversion	Annual Oil Savings
1980	40,600	40,600	0
1981	43,700	43,700	0
1982	44,800	39,600	5,200
1983	44,900	34,500	10,400
1984	46,900	30,500	16,400

(1) Source: FPL 10 Year Power Plant Site Plan 1979-1988

The capital costs of modifying FPL's existing oil fired units to burn COM are currently extimated to be in the range of $25 million for each 400 MW unit and $40 million for each 800 MW unit. These costs are primarily for installation of electrostatic precipitators and for modifications to the existing burners to accommodate the COM. The estimated capital costs expressed in 1979 dollars are summarized as follows:

9	400 WM units @ $25 million	$225 million
4	800 MW units @ $40 million	160 million
	Total Conversion Cost	$385 million

Using a figure of $425 million (to allow 10% for contingencies) the annual revenue requirements would be approximately $78 million (assuming FPL's current 9.16 (after tax) allowed rate of return). At the present cost of coal and oil, the calculated savings of COM vs. No. 6 oil is in the range of $2.73 per barrel. The number of barrels of COM utilized in 1984 would be approximately 32 million thus yielding a savings of $87 million annually or $9 million more than would be required to support the capital carrying charges.

While these figures are very preliminary, they do indicate a promising potential for COM to save money for FPL's customers while assuring a much more reliable fuel supply.

Description of Project

The proposed COM test at Sanford will be the first test ever conducted on the use of coal-oil mixtures in a commercial power plant which was originally designed to burn oil. COM is not new. It was tested on ships' boilers during World War II. More recently, a number of experiments have been conducted in industrial boilers. While these experiments showed a number of problems in handling COM, none of those problems presented insurmountable obstacles.

Now COM is beginning to be tested in utility power plants. Florida Power Corporation successfully burned a small amount of COM for a few days in one of its units. And the Department of Energy is sponsoring a one-year test of COM at a New England Electric System

power palnt which is considerably smaller (80 WM) than FPL's Sanford Unit #4 (400 MW). In addition, both the Florida Power plant and the New England Electric plant were designed to burn coal. Successful tests there provide useful data, but won't really tell us whether COM will work on a long-term basis in FPL's plants.

The 400 MW plants on FPL's system were designed to be fueled with oil. However, their basic design does include certain features which may permit them to burn a coal-oil mixture. For example, most of the boilers have a V-bottom for ash collection. But the only way we can find out if COM will work is to try it; the art of coal combustion is just too complicated to get all the answers we need through paperwork analyses.

There are several reasons for selecting Sanford as the site for the COM test:

1. It is FPL's closest plant to U.S. coal regions, thus minimizing coal transportation problems.
2. There is adequate rail service to the plant, and sufficient room there for a coal pile and for the COM preparation facility.
3. It is in a region of the state where enough generating capacity exists to remove a 400 MW unit from regular service without sacrificing reliability of electric supplies.

The test envisioned in this project is equivalent to up to 120 days of full power operation on Sanford Unit #4. This is the basis on which FPL has applied for a variance from the Department of Environmental Regulation. The actual test program might last as long as one year.

A full power day is defined as 400 megawatts for 24 hours, or 9600 megawatt-hours. So 120 equivalent full power days is 1,152,000 megawatt-hours generated using COM as the fuel. This is the amount of plant operating history we believe will be needed to reasonably evaluate the effects of burning COM.

The actual power levels and operating periods will vary throughout the test period. There may be significant periods of downtime for evaluation and modifications. Thus, we have requested that the variance be in effect for one year after the testing begins.

The output of the plant will be measured on the units' continuous recording meter. The total amount of COM burned during the test program will not exceed the amount needed to generate 1,152,000 megawatt-hours of gross electrical output.

The purpose of the test is to determine the effect of a mixture approximately half oil and half coal on a boiler designed to burn oil under normal operating conditions. Sanford Unit #4 will burn approximately 15,000 barrels of No. 6 oil per day at full power (400 MW. However, since the unit under normal operating

would operate at approximately 67% of capacity, initial provisions have been made to produce COM at an average rate equivalent to 10,000 barrels per day of No. 6 oil. COM contains less BTU's per barrel than No. 6 oil, since coal contains less BTU's per barrel than oil. Therefore, the initial test program contemplates producing approximately 12,500 barrels of COM per day, with a total production of 1.5 million to 2.25 million barrels.

The type of oil we expect to use in the COM test will be the regular No. 6 oil now in use at Sanford. The oil to be used in Unit #4 will have a maximum sulfur content of 1.7%. We haven't yet selected the specific coal, but have a number of proposals under evaluation now. The coal specifications call for a sulfur content of no more than 2%, and a heat content of at least 12,500 BTU per pound. Thus, we expect the COM mixture to meet the normal plant emission limit of 2.75 lb. of sulfur oxides per million BTU of heat input. Particulates and opacity will, of course, unavoidably exceed normal limits, as described in our variance application.

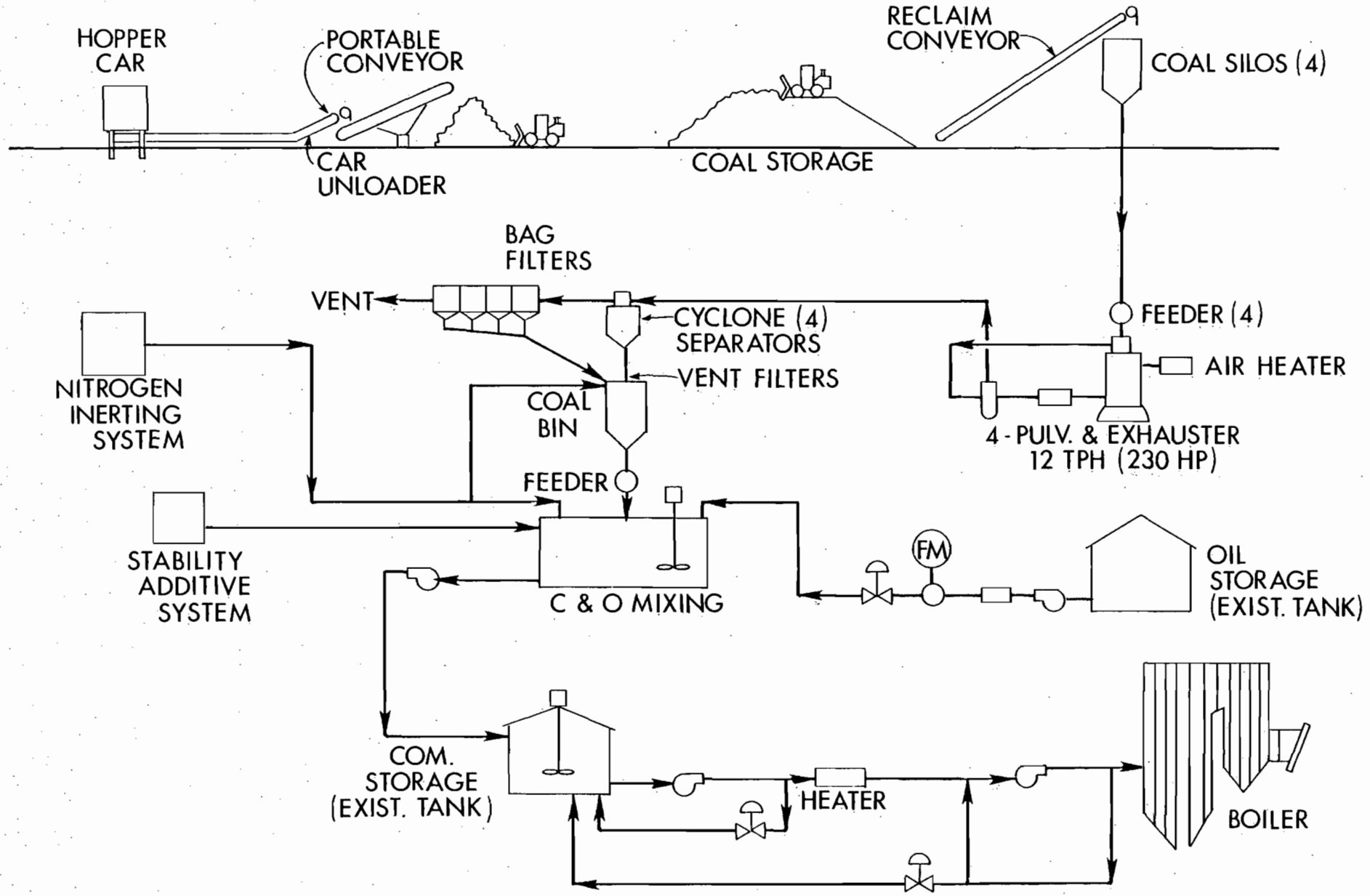
Since there are currently no sources of COM which can provide the quantities required to support this test program, the single largest component of this project's cost is designing, engineering and constructing a COM fuel preparation facility at the Sanford power plant site.

Test Program Scope

This program is principally aimed at proving if COM can be used in existing utility boilers designed for oil firing, without incurring a major economic penalty. The 120 effective full power burn days demonstration will determine if any boiler derating is necessary with COM, the effects of corrosion and erosion, environmental impacts, and the effects of COM on the fuel handling system. The test program could last as long as one year if multiple test periods are interspersed with periods for analysis and modifications.

Exhibits

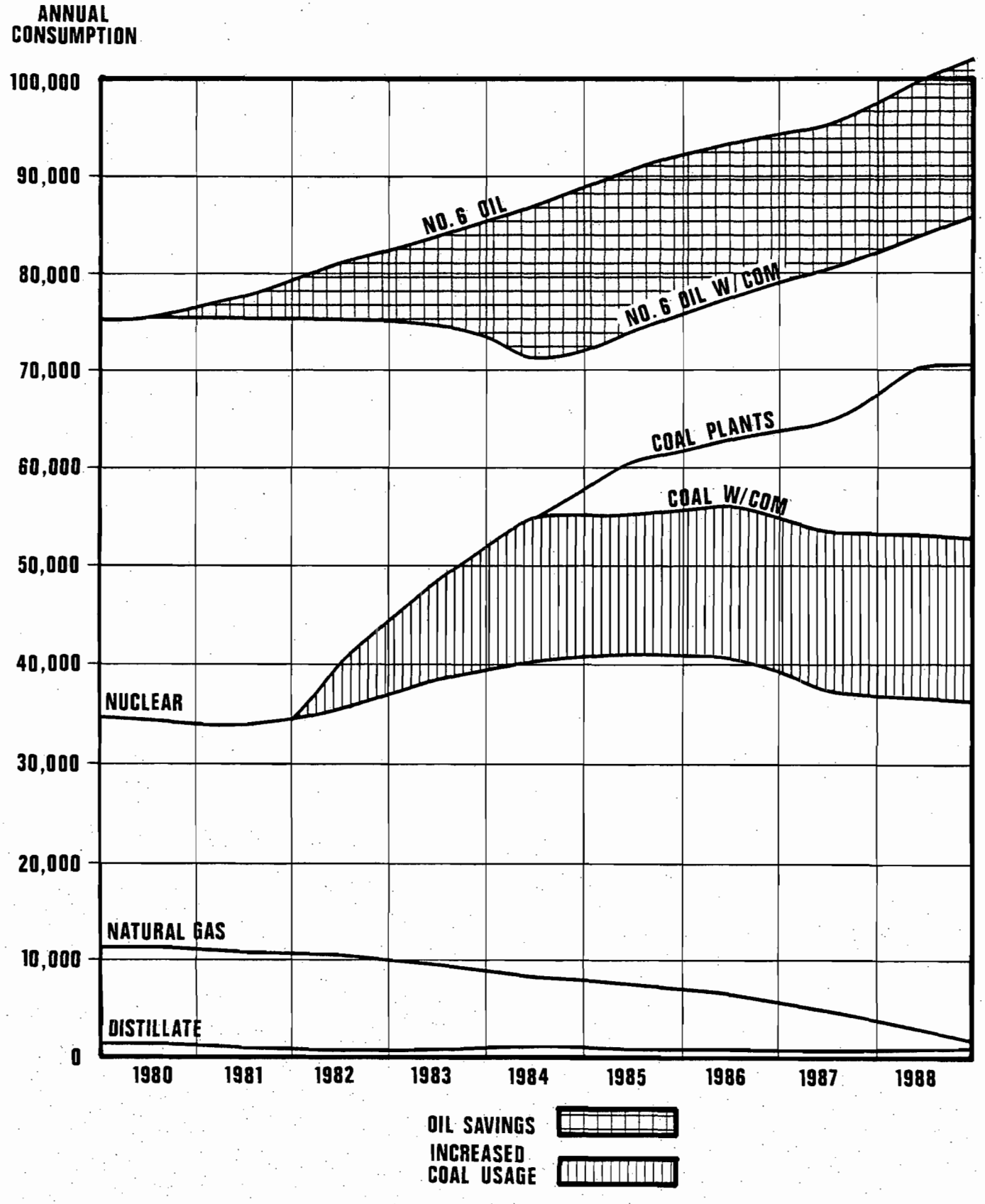
Attached are exhibits showing the schematic diagram for the COM preparation facility, forecasts of fuel use by FPL, and assumptions used in preparing this testimony.



COM = COAL/OIL MIX

FLORIDA POWER & LIGHT CO.
SANFORD STATION
COAL/OIL MIX FACILITY

FLORIDA POWER & LIGHT CO.
FUEL FORECAST
1980-1988
(THOUSANDS EQUIVALENT BARRELS)



FLORIDA POWER & LIGHT CO.
FUEL FORECAST
1980 - 1988
(THOUSANDS EQUIVALENT BARRELS)

YEAR	NUCLEAR	DISTILLATE	NATURAL GAS	COAL PLANTS	NO.6 OIL USAGE W/COM	COAL USAGE W/COM	NO. 6 OIL
1980	24,209	885	10,037	-	40,600	-	40,600
1981	24,209	540	10,010	-	43,700	-	43,700
1982	25,949	426	10,010	-	39,600	5,200	44,800
1983	29,905	457	9,232	-	34,500	10,400	44,900
1984	31,646	656	8,232	-	30,500	16,400	46,900
1985	33,386	558	6,916	4,180	30,000	16,000	46,000
1986	34,652	578	5,528	6,404	30,800	16,400	48,200
1987	32,911	506	3,893	12,268	30,800	16,400	47,200
1988	34,810	540	1,891	16,920	29,800	16,000	45,800

SOURCE: FPL 10 YEAR POWER PLANT SITE PLAN 1979-1988

(1) STEAM PLANTS ONLY

CONVERSIONS

NUCLEAR - 6.32 MM BTU = 1 EQ. BARREL OIL

COAL - 1 TON = 4 EQ. BARRELS OIL

NATURAL GAS - 6 6 MCF = 1 EQ BARREL OIL

JRV
10/23/79

Assumptions Used In Calculations

1. 1 lb. of coal has 12,000 BTU's
2. Coal costs $60.00/ton delivered
3. No. 6 oil has 6.2 million BTU's/BBL.
4. No. 6 oil costs $22.50/BBL.
5. Test burn will be at an average rate per day of: 10,000 BBL of No. 6 oil
   (Equivalent to 67% capacity factor) 12,500 BBL of COM
6. Test will last 120 days @ 12,500 rate/day.
7. Total quantities burned will be:

   coal: 125,000 tons
   COM : 1.5million bbl

COM Project (Preliminary Estimate) Fuel Costs

	$/BBL
Coal - @ $60.00/Ton f.o.b. unloading facility	
165 lbs. of coal/BBL of COM mix =	$4.95
Oil - @ $22.50/BBL	
1/2 BBL =	$11.25
Total Cost Per BBL of COM	$16.20

Calculation of COM Fuel Cost/MM BTU

Coal = 12,000 BTU/lb	165 LBS = 1,980,000 BTU's	
Oil = 6.2 million BTU/BBL	1/2 BBL = 3,100,000 BTU's	
TOTAL BTU per BBL of COM	5,080,000 BTU's	
Total Cost/MM BTU of COM ($16.20 per BBL)		$3.19/MM BTU
Cost per MM BTU of No. 6 Oil ($22.50 per BBL)		$3.63/MM BTU
Estimated Cost Savings:	Per MM/BTU	$0.44/MM BTU
	Per BBL of #6 oil	$2.73/BBL

MICHAEL C. COOK

Michael Cook holds a Bachelor's degree in Chemical Engineering and a Masters degree in Business Administration from the City College of New York and has completed a one-year postgraduate course in Nuclear Science and Engineering at Argonne National Laboratory.

From 1960 to 1965 Mr. Cook was employed by the U.S. Atomic Energy Commission as a project engineer and contracting officer on a number of projects relating to nuclear power plants. From 1965 to 1967 Mr. Cook was a contract administrator for refinery and chemical plant projects in the Corporate Engineering Department of Mobil Oil Corporation. During the period from 1967 to March 1972 Mr. Cook was employed by various Wall Street brokerage firms and consulting firms, specializing in the energy industry.

Mr. Cook joined Florida Power & Light Company (FPL) in 1972. He served as Treasurer of FPL from 1972 to 1977. In that capacity he was responsible for the company's financing, financial relations, economic forecasting, and evaluating major commitments and business transactions contemplated by FPL, including those related to fuel procurement.

In July 1977 Mr. Cook was elected Vice President of FPL and assigned responsibility for Fuel Resources and Corporate Development. In that capacity he is now responsible for acquiring and managing all fuels needed to operate the Company's power plants. In addition, he oversees the Company's non-utility activities, such as their fuel exploration program. His main accountability is as the Contracting Officer for all FPL's fuel procurement.

AC 64-25610

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Coal-Oil Mixing Facility [X] New[1] [ ] Existing[1]

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

COMPANY NAME: FLORIDA POWER & LIGHT COUNTY: Volusia

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Coal handling areas, coal pulverizer at Sanford Unit No. 4

SOURCE LOCATION: Street Barwick Road City Sanford

UTM: East 468340 North 3190380

Latitude 28 ° 50 ' 40 "N Longitude 81° 19 ' 30 "W

APPLICANT NAME AND TITLE:

APPLICANT ADDRESS:

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 permit to construct/operate air pollution sources 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: W J Barrow

Mr. W. J. Barrow, Jr., Asst. Manager of Environ. Affairs
Name and Title (Please Type)

Date: 11/15/79 Telephone No. (305) 552-3561

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 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: M Surabian

M. Surabian
Name (Please Type)

Bechtel Power Corporation
Company Name (Please Type)

15740 Shady Grove Road, Gaithersburg, Md. 20760
Mailing Address (Please Type)

(Affix Seal)

Florida Registration No. 28250 Date: Nov. 8, 1979 Telephone No. 948-2700

[1] See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

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.

Please refer to Item 1 of Attachment A, Attachment B, Flow Diagram and Site Plan

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

Start of Construction 11/16/79 Completion of Construction 1/25/79

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.)

~~Cyclones and baghouse are integral part of the process (not a pollution control~~
Cost of cyclones $25,000 system.
Cost of baghouse $125,000

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

None for coal-oil mixing facility

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes ____ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 17 ; if power plant, hrs/yr 2880 ; if seasonal, describe: Yes. This coal-oil mixing facility will be used for the duration of demonstration project. The period of demonstration test is limited to 120 days or 2880 hours of boiler operation on coal-oil mixture.

G. 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? ~~NO (unclassified)~~
   a. If yes, has "offset" been applied?
   b. If yes, has "Lowest Achievable Emission Rate" been applied?
   c. If yes, list non-attainment pollutants.
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. NO (see Item 2 of Attachment A)
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. ~~NO (Same as above)~~
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? YES (See Item 3 of Attachment A)
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? NO

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

EXHIBIT VII.

ESE for FP & L - An Air Quality Impact Evaluation of Coal/Oil Mixture Firing at the FP & L Sanford Generating Plant.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of:)	
)	
Petition for Modification of Variance, Exclusion from Increment Consumption and Amendment of State Implementation Plan; Florida Power & Light Company,)	DOCKET NO. AP-71-79
Petitioner.)	

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing FINAL ORDER GRANTING VARIANCE MODIFICATION has been provided to the following parties by mail this 3rd day of January, 1980:

William H. Green, Esquire
Hopping, Boyd, Green & Sams, P.A.
P. O. Box 6526
Tallahassee, Florida 32301

David Gluckman, Esquire
5305 Isabelle Drive
Tallahassee, Florida 32304

Roger W. A. LeGassie
Acting Principal Deputy Assistant
Secretary for Fossil Energy
Department of Energy
1000 Independence Avenue
Forrestal Building, Room 7E-084
Washington D.C. 20585

Joseph McGlothlin, Esquire
Florida Public Service Commission
100 East Gaines Street
Tallahassee, Florida 32304

Mary F. Clark
MARY F. CLARK
Assistant General Counsel

Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301
Telephone: (904) 488-9730

G. Petitioner shall conduct the pilot ESP tests outlined in these proceedings and shall make the conclusions of those tests and the COM burn tests available to the Department, consistent with Section 403.111, Florida Statues.

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL REGULATION

Jacob D. Varn

JACOB D. VARN, SECRETARY

DATED: January 2, 1980 ~~December __, 1979~~

FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to S120.52 (9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Diane Quigg, for Linda Bevard
Clerk

1-3-80
Date

(2) Visible emissions - 100% opacity (Ringlemann 5).

(3) Sulfur dioxide emissions -

(a) Units 3 and 5 - 2.59 pounds/million BTU
Unit 4 - 2.75 pounds/million BTU; or

(b) Units 3 and 5 - 2.75 pounds/million BTU
Unit 4 - 2.51 pounds/million BTU.

When burning 100% oil, the limitations of the Variance Order AP-71-79 issued on August 28, 1979, for old burners shall apply.

D. To verify compliance with the interim particulate matter limitations during COM testing, Petitioner shall conduct compliance tests as follows:

(1) during the initial COM burn,

(2) each 10 full-power days thereafter,

(3) each time the coal-to-oil ratio of the mixture is increased,

(4) following each major repair, if any, to the burners or the multiclone dust collectors, and

(5) any time the Department has reason to believe that the interim emission standards may be violated.

E. Petitioner shall notify the Department in advance of the initial test burn and of all major test activities and of any incidents that result in excess emissions. Should a plant-related ambient air quality, PSD increment, or interim emission limit violation be detected, Petitioner shall immediately cease testing until the Department has reasonable assurance that such limitations will be met during subsequent testing.

F. Petitioner shall develop and submit a preliminary detailed COM test plan to the Department for its review prior to firing COM at the Sanford plant.

ORDER

23. Having reviewed the record of this proceeding, and based upon the Findings of Fact and Conclusions of Law set forth herein, it is hereby

ORDERED that,

A. Variance Order No. AP-71-79 issued on August 28, 1979, as supplemented by Order on October 23, 1979, shall be, and is hereby, modified to allow additional relief from the following provisions of Chapter 17-2, Florida Administrative Code:

(1) Particulate Matter Emissions - Section 17-2.05(6), Table II, E.(1)(b), Florida Administrative Code,

(2) Visible Emissions - Section 17-2.05(6), Table II, E.(1)(b), Florida Administrative Code,

(3) Excess Emissions - Section 17-2.05(14)(a), Florida Administrative Code.

B. The grant of this additional relief shall begin on the date that COM is first burned at Sanford Unit 4 and shall end when COM has been burned to produce 1,152,000 megawatt hours of electricity (120 full-power burn days) or after twelve months, whichever comes first.

C. When burning COM, the Petitioner shall comply with the following interim stack emission limitations:

(1) Particulate emissions -

(a) 5150 pounds/hour - Unit 4, or

(b) 6850 pounds/hour - Units 3, 4 and 5 combined, provided that Units 3 and 5 do not individually exceed 0.3 pounds/million BTU during steady-state operations or 0.6 pounds/million BTU during periods of excess emissions.

19. The record of the hearing consists of all pleadings and papers filed herein, the transcript of the hearing, and all evidence and exhibits entered into the record by document or official recognition.

20. The purpose of the hearing was to receive testimony and evidence to determine whether Petitioner is entitled by Section 403.201, Florida Statutes, to additional relief from the requirements of Sections 17-2.05(6)E., 17-2.05(14), and 17-2.04(1)(a), Florida Administrative Code.

21. Based upon competent, substantial evidence of record it is concluded that the COM test is a major step in the development of a long term fuel supply strategy designed to minimize or eliminate potentially very substantial hardships to Petitioner and the millions of Floridians it serves. The grant of relief necessary to prevent such hardships is cognizable under Section 403.201(1)(c), Florida Statutes. Furthermore, the record reflects that there is no practicable means to avoid increased emissions of particulate matter and opacity during the needed tests. [See Section 403.201(1)(a), Florida Statutes].

22. The grant of increased particulate matter and opacity limitations during the COM test is necessary for the test to go forward. However, the record shows that the PSD increments will not be exceeded so as to justify the requested exclusion from increment consumption pursuant to Section 17-2.04(7)(a)3., Florida Administrative Code. In addition, the proposed hardware changes and additions do not constitute a major modification requiring a permit under the PSD rule (TR 111), therefore, relief from that rule (Section 17-2.04(1), Florida Administrative Code) is also not required.

precipitator would treat a small stream of flue gas and could be adjusted for optimum performance (Id.). In addition, the important dust characteristics of the flue gas will be analyzed (TR 52).

16. The Department recommended that the variance previously granted the Petitioner be modified to allow the COM test with certain conditions (TR 108). Specifically, the Department recommended that interim emissions caps for particulate matter and SO_2 be established to assure that ambient air quality standards and PSD increments are not violated; that a detailed test plan be submitted to the Department for approval prior to burning the COM; that the Department be notified prior to the initial test burn and other major stages of the test; that sampling for particulate emissions be conducted at the time of the initial COM burn, every ten full power days thereafter, each time the coal/oil mix is changed, each time major repairs to the multiclone or burners are required, and, any time Petitioner has reason to believe that the interim emissions cap is being violated; and, that the test be terminated if an ambient air quality standard or interim emissions cap is violated as a result of the COM test, until the Department has reasonable assurances that no further violations will occur (TR 100-110, 114-118).

CONCLUSIONS OF LAW

17. The hearing in this matter was held pursuant to Section 403.201, Florida Statutes, and Section 17-1.57, Florida Administrative Code, to consider the Petition for Modification of Variance, Exclusion From Increment Consumption and Amendment of State Implementation Plan.

18. Reasonable notice of the hearing was given to all persons and parties entitled thereto and the general public; the notice requirements for State Implementation Plan revisions set forth in Section 110 of the Clean Air Act, and regulations promulgated thereunder, were met.

for the test is likely to be of a higher quality (TR 94). In addition, it was assumed that the test would occur for a full 365 days rather than for 120 full-power burn days (TR 66). Sanford Unit 4 is presently equipped with a mechanical dust collector. It is conservatively estimated that the dust collector will remove approximately 60% of the emissions resulting from burning COM (TR 51). Based upon the computer modeling, the federal PSD increments for sulfur dioxide (SO_2) and total suspended particulates will not be exceeded. The State of Florida PSD increments for SO_2 and particulates will not be exceeded provided that certain SO_2 and particulate matter emission caps are not exceeded (Supplemental Testimony of DER; Supplemental Testimony of Petitioner). Finally, the computer calculations clearly show that state and federal primary and secondary ambient standards for SO_2 and particulate matter will not be exceeded during the term of the proposed test by the proposed changes at the Sanford facility (Id., TR 68).

Pilot Electrostatic Precipitator Test:

14. The Department staff has evaluated the hardware and operational changes at the unit needed to accommodate the proposed COM test and has concluded that such changes do not constitute a "major modification" requiring the retrofitting of additional pollution control equipment (TR 111). It is agreed, however, that permanent conversion of an oil-fired unit to the use of COM would require the installation of additional control equipment to reduce particulate matter emissions (TR 76, 89). It is believed, at this time, that electrostatic precipitators ("ESP") would be the preferred technology (TR 78-9). However, little data exist on the important ESP design parameters using COM as a boiler fuel (TR 52).

15. Petitioner has proposed to conduct a pilot ESP test concurrent with the COM test burn in order to obtain the data necessary to design a full-sized precipitator for permanent use if the COM test is itself a success (TR 53). The pilot

(b) There is adequate rail service to the plant;

(c) There is sufficient available space at the Sanford site to accommodate a coal pile and a COM preparation facility; and

(d) There is enough generating capacity in that region of the state to allow Petitioner to remove its 400-megawatt Sanford Unit from service for testing purposes without sacrificing electrical reliability. (TR 32, 90).

11. Sanford Unit 4 is rated at 400-megawatts. The 120 full-power burn dats are equivalent to one million, one hundred and fifty-two thousand megawatt hours using COM as a fuel. That represents the extent of plant operating history believed to be needed to reasonably evaluate the effects of burning COM (TR 33). Because the actual power levels of the plant during the test will fluctuate up and down, and because there may be lapses between various segments of the test, Petitioner has requested permission to conduct the test over a period not to exceed one year (TR 33-34).

Projected Impacts of the Test:

12. During the course of the test, particulate matter and opacity emissions will exceed the normally applicable limitations (TR 36, 51). The COM preparation and handling facility is estimated to produce approximately 45 tons per year additional particulate emissions (TR 44). In addition, the increased ash content of coal as compared with oil, will cause substantial increases of total particulate emissions from the stack (TR 65, 108).

13. The air quality impacts of the increased emissions were estimated by consultants of Petitioner and reviewed by the Department; EPA-approved atmospheric dispersion models were used (TR 66). These dispersion models use local meteorology, projected emissions, plume velocity and temperature to estimate resulting increases in air quality concentrations. The calculation was a worst case analysis that assumed relatively high coal ash content (13%) and a COM sulfur content (2 1/2%); the fuel actually obtained

the remaining technological and economic uncertainties associated with COM technology and to accelerate its commercialization in an environmentally acceptable manner. Mr. LeGassie stated that the actions proposed by Petitioner would have great significance both to the State of Florida and to the nation as a whole, as a pioneering effort and an important contribution to the commercialization process. If COM technology is successfully applied in Florida, it will increase the confidence and information base available to the other states with a similar need (TR 17-18).

7. Judge Robert T. Mann, Chairman of the Florida Public Service Commission, encouraged the Department to allow the experiment as being in the national and state interests (TR 102). Judge Mann expressed particular concern about the excessive dependence of Florida utility companies upon oil and the need to lessen such dependence (Id.).

8. Mr. David Gluckman, Esquire, representing the Florida Lung Association, testified in support of the requested relief (TR 118). In the view of the Lung Association, the burning of COM presents an opportunity to save fuel, save energy, and, in the long run, reduce air pollution (TR 119).

9. Mr. Archie Lee, speaking in behalf of EPA, Region IV, strongly endorsed the COM test initiative as supportive of the President's energy policy to curb our dependence upon foreign energy supplies. In EPA's view, the proposed test should provide valuable information on burning COM at units designed to burn oil (TR 120).

Test Location:

10. Petitioner proposes to conduct tests at its Sanford Unit 4. That unit was chosen on the basis of several factors including the following:

(a) Sanford is the plant of Petitioner that is closest to coal producing regions of the country;

3. The development of alternative fuel resources such as oil from shale, synthetic fuels and solar energy is presently being supported by DOE and private industry. However, it is not believed that any of these alternatives will be available before the end of the next decade or later (TR 14, 28-29). The alternative which appears to be available and viable in the short term is the use of coal/oil mixtures ("COM") (TR 12, 103). Nationwide, DOE projects that COM technology could save from 350,000 to 500,000 barrels of oil per day (TR 14). In the case in point, if Petitioner can successfully convert nine 400-megawatt and four 800-megawatt oil burning units to the burning of COM, it could displace up to 16 million barrels of residual fuel oil per year- that is, 35% of the forecasted oil consumption of Petitioner in the mid-1980s. (TR 29).

4. The proposed COM test program is aimed at determining how effectively and efficiently a COM mixture can be burned in utility boilers designed for oil-firing (TR 22). Basically, the program would measure and evaluate overall boiler efficiency and capacity and individual component performances when burning COM. Flue gas emissions of particulates, nitrogen dioxide, sulfur dioxide and carbon monoxide would be measured. Erosion/corrosion characteristics of various surfaces in the boiler would be measured and boiler fouling characteristics would be ascertained (TR 57). In addition to measuring the effects that COM burning would have on these facilities, the test would determine what technology and capital cost would be necessary to permanently convert Petitioner's nine 400-megawatt units, and possibly its four 800-megawatt units (TR 23).

5. Petitioner proposed that it be allowed to burn COM for 120 full-power days. It is estimated that this would translate into the combustion of two and one quarter million barrels of coal/oil mixture, an order of magnitude more than has been combusted in any past test (TR 35).

6. Mr. Roger LeGassie, spokesman for DOE, stated that the small demonstration projects currently underway by DOE, along with the test proposed by Florida Power & Light, should help resolve

The variance for which modification is sought in these proceedings was issued on the basis of a fairly extensive record, much of which is relevant to this proceeding. Pursuant to the unopposed request of counsel for Petitioner at the hearing, the transcripts, exhibits, pleadings and orders of the original proceeding are herewith incorporated into the record of the present proceeding.

Having considered all testimony and properly admitted evidence, and having heard arguments of counsel and representatives, the following Findings of Fact, Conclusions of Law, and Final Order are entered:

FINDINGS OF FACT

Need for the COM Test:

1. Draft legislation proposed by the U. S. Department of Energy ("DOE") would require Petitioner to reduce its consumption of petroleum to 50 percent of the base period of 1976 through 1978. The reduction, which would have to be achieved by the year 1990, would limit the 40 million barrels per year currently being burned to 17 million barrels per year. In addition, the Power Plant and Industrial Fuel Use Act will require Petitioner to give up the natural gas equivalent of 14 million barrels per year by the late 1980s. The combined shortfall of residual oil in 1990 resulting from reduced oil and gas availability totals 37 million barrels per year (TR 26). The record of the original variance proceedings shows that even lesser shortfalls, if unmitigated, would have drastic adverse consequences upon the entire State of Florida - its economy and its citizens.

2. In the shorter term, residual oil prices are projected to continually increase as the supply decreases. Sudden chaotic disruptions in supply are also possible and could result in the curtailment of electrical power with attendant economic, health and social hardships for the people of Florida (TR 28).

Other Participants:

1. Seminole County
2. United States Environmental Protection Agency
3. Volusia County Environmental Control Office
4. Sierra Club, Volusia County

Petitioner sought modification of the Orders issued in connection with Docket No. AP-71-79, as they relate to Sanford Unit 4, in order to allow Petitioner to conduct a test burn of a coal/oil mixture ("COM") for 120 full-power burn days. In particular, relief was sought from limitations on steady-state particulate matter and opacity emissions, excess emissions during boiler cleaning and load changes, and, to the extent necessary, Prevention of Significant Deterioration ("PSD") increments by variance or exclusion (Composite Exhibit #1, Petition, paragraphs 3 and 4).

Petitioner alleged entitlement to the relief sought, pursuant to Section 403.201(1), Florida Statutes, based upon the existence of one or more of the following:

(a) There is no practicable means known or available for adequate control of air emissions resulting from the burning of COM at Sanford Unit 4.

(b) Compliance with the regulations from which a variance is sought would necessitate the taking of measures which, because of their extent or cost, must be spread over a considerable period of time.

(c) The grant of a variance from the subject regulations will be an important step in developing a strategy to prevent the hardships that would be imposed on Petitioner and the citizens of the State of Florida if an adequate solution is not found to the problem of oil quality deterioration and future reductions in oil and natural gas supplies.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of: Petition for Modification Variance, Exclusion from Increment Consumption and Amendment of State Implementation Plan; Florida Power & Light Company, Petitioner.	)	DOCKET NO. AP 71-79

FINAL ORDER GRANTING VARIANCE MODIFICATION

This hearing was held before the undersigned, pursuant to Chapters 120 and 403, Florida Statutes, Chapters 17-1, 17-2, and 28-5, Florida Administrative Code, Section 110(a) of the Clean Air Act of 1977, 42 U.S.C. 7401, et seq, and 40 C.F.R. Parts 51 and 52, to consider the petition filed on October 19, 1979 by Florida Power & Light Company ("Petitioner"). Timely notice of the hearing was published in newspapers of general circulation in the State of Florida and in the Florida Administrative Weekly (Composite Exhibit #2). A prehearing conference was held on November 15, 1979, to delineate the issues involved and to establish the hearing procedures.

The hearing was held in Sanford, Florida, on November 30, 1979. The following parties and organizations entered appearances and participated in the proceedings through their counsel or representatives:

Parties:

1. Florida Power & Light Company
2. Florida Department of Environmental Regulation
3. Florida Public Service Commission
4. United States Department of Energy
5. Florida Lung Association

EXHIBIT VI.

Hearing Examiner's Final Order to be Incorporated Into State Air Implementation Plan as Pages MVVV thru MGGGG .

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing Order has been furnished by United States Mail to DAVID GLUCKMAN, ESQUIRE, 5305 Isabelle Drive, Tallahassee, Florida 32301, and WILLIAM GREEN, ESQUIRE, Post Office Box 5617, Tallahassee, Florida 32301, this 29th day of August, 1979.

Mary F. Clark

MARY F. CLARK
Assistant General Counsel

State of Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301
Telephone: (904) 488-9730

BEFORE THE STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of: Petition for Variance and Amendment of State Implementation Plan; Florida Power and Light Company, Petitioner.	)	Case No.: AP-71-79

#3 - only natural gas

Bob Allen
305) 552-3569
Cyclone 60%

#5

ORDER

Pursuant to Chapter 403, Florida Statutes, and in accordance with the Final Order issued in the above-referenced proceeding, the Petitioner, Florida Power and Light Company, shall comply with the following emission limitations at its generating units for which a variance has been granted when such units are burning fuel oil with an asphaltene content less than or equal to 9 percent by weight:

1. For those units which have installed and are operating low excess air burners - 0.2 pounds per million BTU heat input.

2. For those units which have not installed low excess air burners - 0.3 pounds per million BTU heat input.

Such emission limitations shall be in effect for the term of the variance unless subsequently changed by order of the Secretary consistent with the terms of the variance.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION:

Jacob D. Varn 8.28.79
JACOB D. VARN
Secretary

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

(9) Petitioner shall institute a program to install new low excess air burners at Port Everglades Units 1, 2, 3, and 4, Turkey Point Units 1 and 2, Riviera Units 3 and 4, and Sanford Unit 5, in accordance with the schedule for installation contained in Composite Exhibit No. 7, during the term of the variance. This schedule may be modified by the Secretary in the event of a force majeure occurrence, unschedule unit outages, or other good cause.

C. Jurisdiction over this Petition, and the parties to this proceeding, is hereby expressly retained for the purpose of conducting further hearings on and determining the following questions:

(1) The extent to which, as a condition of granting this variance, Petitioner should be required to:

(a) Monitor the availability, purchase, and use of "better grades" of oil at the above-listed power plants, and

(b) Conduct detailed engineering feasibility studies concerning the retrofitting with scrubbers or precipitators of Petitioner's existing power plants and, in addition to such studies, undertake a demonstration retrofitting project at the power plant of Petitioner's which is presently best suited for this purpose.

(2) The appropriate period of time for which this variance, and the relief granted thereby, shall be granted, including the necessity of further limiting its scope and effect.

D. Accordingly, the Department shall schedule and publish notice of further hearings as expeditiously as possible, in accordance with Chapter 120, Florida Statutes. Costs of publication of notice, and transcribing further hearings shall be borne by Petitioner. At the conclusion of further hearings, conducted pursuant to paragraph C above, this Order may be supplemented and amended nunc pro tunc.

E. All prepared Findings of Fact, Conclusions of Law, and Final Orders submitted by the parties which have not been included in or adopted by this Order are expressly rejected as unnecessary or unwarranted by the evidence presented or the applicable law.

(e) Particulate matter emissions shall not exceed an average of 0.6 lbs per million BTU heat input during the three-hour periods of excess emissions allowed in paragraph (c).

(5) Petitioner shall submit to the Department a monthly report detailing current inventory of high and low sulfur fuel oil, fuel oil receipt, fuel burned during the preceding month, and anticipated fuel oil receipts. The Petitioner shall conduct a fuel quality analysis for all shipments of fuel received, including but not limited to an analysis of sulfur content, asphaltene content, and vanadium content, and submit such analyses to the Department on a monthly basis, except that analyses indicating an asphaltene content greater than 9 percent shall be submitted as soon as available. The Secretary may agree in writing to reduce the frequency of sampling and reporting required under this paragraph.

(6) The alternate Class I increments for sulfur dioxide set forth in Section 17-2.04(8)(c)2., Florida Administrative Code, shall apply to the Everglades National Park in order to accommodate emissions from Petitioner's Turkey Point plant.

(7) The Petitioner shall institute an expanded ambient air quality monitoring program in accordance with the monitoring program program set forth in Composite Exhibit No. 7 and as modified after consultation between the Petitioner and the Department. At a minimum, one additional high-volume particulate sampler shall be installed northwest of the Port Everglades plant and one additional continuous sulfur dioxide monitor shall be placed west of the Turkey Point plant near the boundary of the Everglades National Park. Data from these monitors and existing monitors shall be entered in the SAROAD system.

(8) Particulate testing shall be conducted at each unit for which a variance has been granted at least quarterly during the term of the variance. When possible, such tests shall be conducted while low quality oil is being burned at the facility. Petitioner shall provide the Secretary, in the reports required under paragraph (5), a schedule of the particulate tests to be conducted during the coming month, if any.

(b) For all units without low excess air burners - 0.3 lbs per million BTU heat input.

(2) Steady-state opacity emission limitation:

40 percent (No. 2 on Ringelmann Chart)

(3) Sulfur dioxide emissions:

Manatee Units 1 and 2 - 2.75 lbs per million BTU heat input.

(4) Excess Emission during boiler cleaning (soot blowing) and load changes: (Section 17-2.05(14), Excess Emissions)

(a) Excess emissions from malfunction shall be permitted providing:

(i) Best operational practices to minimize emissions are adhered to, and

(ii) 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 a longer duration.

(b) Excess emissions from existing fossil fuel steam generators resulting from startup or shutdown shall be permitted providing:

(i) Best operational practices to minimize emission are adhered to, and

(ii) The duration of excess emissions shall be minimized.

(c) Excess emissions from existing fossil fuel steam generators resulting from boiler cleaning (soot blowing) and load change shall be permitted provided the duration of such excess emissions shall not exceed three hours in any 24-hour period and visible emissions shall not exceed Number 3 of the Ringelmann Chart (60 percent opacity), and providing:

(i) Best operational practices to minimize emissions are adhered to, and

(ii) The duration of excess emissions shall be minimized.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.

(d) Visible emissions above 60 percent opacity shall be allowed for not more than four 6-minute periods during the three-hour periods of excess emissions allowed in paragraph (c) for boiler cleaning and load changes at units which have installed and are operating, or have committed to install or operate, continuous opacity monitors.

ORDER

46. Having reviewed the record of this proceeding, and based upon the Findings of Fact and Conclusions of Law set forth herein, it is hereby

ORDERED that,

A. A variance shall be, and is hereby, granted from the following provisions of Chapter 17-2, Florida Administrative Code:

(1) Visible Emissions - Section 17-2.05(6), Table II, E.(1)(b) and (c), Florida Administrative Code.

(2) Particulate Matter - Section 17-2.05(6), Table II, E.(1)(b) and (c), Florida Administrative Code.

(3) Sulfur Dioxide - Section 17-2.05(6), Table II, E.(1)(b)1.h., Florida Administrative Code.

(4) Excess Emissions - Section 17-2.05(14)(a), Florida Administrative Code.

(5) Class I Increments - Section 17-2.04, Florida Administrative Code.

B. During the period of this variance, the Petitioner shall comply with the following interim requirements:

(1) Steady-state particulate matter emissions:

Unit	Emission Limitation (lbs/mm BTU Heat Input)
Cape Canaveral Units 1 and 2	0.3
Fort Myers Units 1 and 2	0.3
Manatee Units 1 and 2	0.3
Port Everglades Units 1, 2, 3, and 4	0.4
Riviera Units 3 and 4	0.4
Sanford Units 3, 4, and 5	0.3
Turkey Point Units 1 and 2	0.4

By separate Department order, issued simultaneously with this Order, Petitioner shall be required to comply with the following more stringent emission limitations for particulate matter when the above units are burning fuel oil with an asphaltene content less than or equal to 9 percent by weight as follows:

(a) For all units with low excess air burners installed and operating - 0.2 lbs per million BTU heat input

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that an original (complete with Exhibits A and B) and seven copies (complete with Exhibit A only) of the foregoing Petition for Modification of Variance, Exclusion from Increment Consumption and Amendment of State Implementation Plan have been provided to the Honorable Jacob D. Varn, Secretary, Florida Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida, 32301, by hand-delivery, and a copy (complete with Exhibits A and B) to the following by U. S. Mail this 19th day of October, 1979:

JOSEPH McLAUGHLIN, ESQUIRE
Public Service Commission
100 East Gaines Street
Tallahassee, Florida 32301

DAVID GLUCKMAN, ESQUIRE
5305 Isabelle Drive
Tallahassee, Florida 32304

MARY F. CLARK, ESQUIRE
Assistant General Counsel
State of Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Attorney

Respectfully submitted,

William H. Green
Wade L. Hopping
Hopping Boyd Green & Sams
Post Office Box 6526
Tallahassee, Florida 32301
(904) 222-7500

Counsel for Florida Power &
Light Company

DATED: October 19, 1979

mental Protection Agency, notice for public hearing this Petition for Modification of Variance, Exclusion from Increment Consumption and Amendment of State Implementation Plan, at the earliest date consistent with the requirements of Chapters 120 and 403, Florida Statutes, and 40 Code of Federal Regulations Parts 51 and 52,

(ii) Modify variance Order No. AP-71-79 authorizing Petitioner to conduct, over a twelve month period beginning with the commencement of COM burning, the proposed COM test burn for 120 full-power burn days at Sanford Unit 4, subject to the interim limitations set forth in paragraph 25 hereto, as may be modified at the hearing in this cause,

(iii) If deemed necessary at the hearing in this cause, prepare and forward to the Governor an order finding that Petitioner's proposed COM test burn at Sanford Unit 4 qualifies for an Exclusion from Increment Consumption, and recommending concurrence by the Governor,

(iv) Issue a final order granting the relief requested herein and transmit such order to EPA for approval pursuant to Section 110 of the Clean Air Act and regulations thereunder, at the earliest possible date, and

(b) That the Secretary provide such other relief as may be appropriate.

needed pilot precipitator experiments on COM and on oil.

30. The primary advantage of granting the variance, to residents of the affected area (and to other of Petitioner's customers), would be the increased likelihood of continued reliable electrical service. The environmental disadvantages of granting the variance are not significant in light of the limited duration of the COM test burn, and the fact that federal and state ambient air quality standards, established to protect the public health and welfare, will be met whether or not the variance is granted.

31. In addition to the variance requested under Section 403.201, Florida Statutes, to the extent shown necessary at the hearing in this cause, Petitioner seeks an Exclusion from Increment Consumption, in accordance with Section 17-2.04(7)(a), Florida Administrative Code. The regulation reads, in relevant part, as follows:

> (a) Any person may apply to the Department[i.e., DER] for an order providing that for the purpose of determining compliance with the maximum allowable increase in ambient concentrations of an air pollutant, the following concentrations of such pollutant shall not be taken into account:
>
> 3. Concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities. (Emphasis supplied.)

Petitioner qualifies for exclusion under this regulation in light of the temporary nature of the proposed COM test burn.

REQUEST FOR RELIEF

32. WHEREFORE, Petitioner respectfully requests the following relief:

(a) That the Secretary, pursuant to the authorities vested in him by Chapters 120 and 403, Florida Statutes and the Clean Air Act and regulations thereunder:

(i) Jointly with the United States Environ-

in paragraph 27 above, necessitate the taking of measures which must, because of their extent, be spread over a considerable period of time. The installation of a first-of-its-kind, full-scale electrostatic precipitator would require three or more years. If the test is successful, a program for more rapidly converting existing oil-fired units could be developed at the end of the test period. Whether successful or not, the scheduled test period is of relatively short duration, and Petitioner will be able to resume burning pure oil at Sanford Unit 4 after testing is completed.

29. The COM test burn constitutes an important step in developing a strategy by which Petitioner (and potentially other Florida electric utilities) would be able to continue to meet the needs of Florida citizens for reliable electric service despite the likely reductions in the amounts of oil and natural gas that utilities will be able to burn over the next decade and beyond. Unless Petitioner can offset these oil and gas reductions by burning alternative fuels, curtailments of electrical service to millions of Florida residents may be necessary. Such curtailments inevitably would involve substantial hardships to Petitioner and its customers, would severely jeopardize the maintenance of necessary services, the protection of public health, safety and welfare, and the maintenance of a basic sound economy in the state. The hardships would include massive unemployment and losses of electrical service to residential dwellings. If Petitioner's variance request is not granted, Petitioner will be unable to proceed in a timely manner with the proposed COM experiments. Thus, denial of Petitioner's request for variance would substantially delay and perhaps preclude eventual COM conversions, and could thereby seriously affect Petitioner's ability to prevent the potential hardships associated with reductions in its supplies of oil and natural gas. It would also preclude Petitioner from conducting the

of measures which, because of their extent or cost, must be spread over a considerable period of time.

(c) The grant of a variance from the subject regulations will be an important step in developing a strategy to prevent the hardships that would be imposed on Petitioner and the citizens of the State of Florida if an adequate solution is not found to the problem of oil quality deterioration and future reductions in oil and natural gas supplies.

27. The feasibility of burning COM in an oil-fired unit should be investigated as quickly as possible. The installation of equipment to control particulate emissions before the scheduled test burn is not practicable. Even if a precipitator could be retrofitted instantly, it would be highly impracticable to install a full-scale precipitator at Sanford Unit 4, prior to concluding that permanent use of COM at the unit is feasible. The feasibility of burning a COM at oil-fired generating units is precisely the question proposed to be answered by the COM test burn. Lastly, the most efficient type and design of an electrostatic precipitator for controlling emissions from combustion of COM are presently undetermined and could differ significantly from those developed for use on coal-fired and oil-fired units. Immediate installation of a precipitator on a proposed COM burning unit, in the absence of a COM feasibility demonstration, would be a multi-million dollar gamble. Nevertheless, the proposed COM test, in conjunction with pilot precipitator use, should provide adequate data upon which to base both a conclusion on COM feasibility and a reliable COM precipitator design.

28. Compliance during the COM test burn with the air regulations from which a variance is sought would, as discussed

LAW ENTITLING PETITIONER TO RELIEF

23. Section 403.201, Florida Statutes, authorizes the DER to grant variances from rules and regulations, including those contained in Chapter 17-2, Florida Administrative Code. Chapter 403, Florida Statutes, also empowers DER to:

> Encourage and conduct studies, investigations, and research relating to pollution and its causes, prevention, abatement and control. Section 403.061(18), Florida Statutes.

24. Petitioner seeks a variance for a twelve month period beginning with the date that COM burning commences. Twelve months are necessary to insure that 120 full-power burn days can be completed, taking into account the intermittent nature of testing, system constraints and operational problems.

25. The interim emission limitations that Sanford Unit 4 is projected to be able to meet while burning COM are:

(a) Steady-State Particulate Emissions - <1.6 pounds per million BTU heat input

(b) Steady-State Visible Emissions - $\leq 100\%$ Opacity No. 5 on Ringelmann Chart)

(c) Excess Emissions - <1.6 pounds per million BTU heat input, 24-hour average; $\leq 100\%$ Opacity

However, because of the lack of actual data on COM emissions, Petitioner must reserve the right to modify its request for relief later in this proceeding or to subsequently seek additional relief based upon later-developed data.

26. Petitioner will show that its variance request should be granted for one or more of the following reasons:

(a) There is no practicable means known or available for adequate control of the air emissions resulting from the burning of the COM at Sanford Unit 4.

(b) Compliance with the regulations from which a variance is sought would necessitate the taking

those of precipitators used on units burning pure oil or pure coal.

20. Petitioner proposes to install and operate a pilot precipitator module during the COM test period to provide specific information on COM precipitator performance and design. Petitioner would also burn regular high sulfur, low quality oil while the pilot precipitator is installed in order to obtain a unit-specific comparison of equipment performance using the two fuels. These data would assist Petitioner in evaluating design requirements and isolating operational problems that would accompany retrofitting Petitioners oil-fired units with precipitators. It should be noted that Sanford Unit 4, and other COM candidate plants of Petitioner, are presently equipped with mechanical dust collectors which would remove a significant portion of the particulate emissions.

21. The COM test proposal was discussed in connection with the earlier variance proceedings. All parties involved in the discussions recognized the importance of evaluating the potential of COM conversion and of obtaining data on the performance of the pilot precipitator. Although COM conversion is primarily a strategy for dealing with the likely reduction in fuel oil quantity, it may also prove to be an attractive long term solution to the already existing problem of decreasing fuel oil quality in view of the fact that it would allow a wider and probably less costly range of fuels to be burned.

22. Computer modeling studies show that the proposed test burn will not cause violations of State or national ambient air quality standards. (See Exhibit "B".) The modeling studies also indicate that Class II prevention of significant deterioration increments for sulfur dioxide and particulates would not be violated. However, worst-case modeling studies project that the COM test burn would cause the 24 hour Class II increment for particulates to be approached.

over the course of the experiment.

17. The major purpose of the proposed COM test is to determine the practicability of converting generating units originally designed to burn oil and/or natural gas to the burning of COM. Among other things, the test would examine the effects that COM usage has upon burner and boiler hardware and upon available unit generating capacity and reliability. The data provided by the proposed COM experiments should be of great value, to Petitioner, other electric utilities, and federal and State regulatory agencies in developing a strategy that would facilitate the continued use of existing generating units confronted with reductions in oil and natural gas supplies.

18. Petitioner estimates that its COM test would be fully evaluated by the Spring of 1981. Petitioner's 400 and 800 megawatt units, comprising about 70 percent of Petitioner's oil-fired generating capacity, would appear to be potential candidates for permanent COM conversion. If they were converted, approximately 16 million barrels of fuel oil per year could be displaced by coal in the mid-1980's.

19. Although the COM test burn should not produce sulfur dioxide emissions above levels presently allowed, visible and particulate matter emissions would exceed regulatory limits. Thus, one major component of the proposed COM test plan is the measurement and analysis of stack emissions during testing. There is a consensus that COM burning would, in the long term, necessitate the installation of electrostatic precipitators to remove substantially increased particulate emissions. However, Petitioner is not prepared to commit to the retrofitting of a multi-million dollar electrostatic precipitator at Sanford Unit 4 prior to conducting the COM test. Such a retrofit project would entail several years of design and construction and thus would substantially delay the COM project. Furthermore, the optimum design of electrostatic precipitators for units burning COM is not known and could differ significantly from

the limits of voluntary conservation eliminate the possibility that these alternatives can successfully mitigate the fuel shortage in the medium term. Construction of new coal-fired power plants will likely be accelerated, but this alternative also requires considerable time and expense. The fact is that Florida utilities, and particularly Petitioner, must begin to take steps to utilize coal, if possible, in their existing oil-fired generating units or potentially be forced to take a large percentage of their capacity out of service. The latter option would be extremely costly and undoubtedly would result in curtailments of electrical generation in Florida.

COAL/OIL MIXTURE TEST-BURN PROPOSAL:

15. Petitioner has been engaged in discussions with the Federal Department of Energy ("DOE"), DER, and EPA concerning the possibility of conducting experiments crucial to determining the feasibility of bringing coal into the fuel mix of its existing oil-fired units. In light of these discussions, it was concluded that Petitioner should undertake an extensive test burn of a coal/oil mixture (COM) at one of its oil-fired units. Such a test would be the first of its kind and duration at a large power plant originally designed to burn oil.

16. After further evaluations, Petitioner has determined that the best candidate unit for a COM test burn is its 400 megawatt Sanford Unit 4. Petitioner desires to commence the test burn in early 1980, with an ultimate fuel mix of 50 percent coal and 50 percent oil. The test period would include 120 full-power burn days (a full-power burn day could be comprised of 24 hours at 100% power or 48 hours at 50% power, and so forth). The 120 days would be spread over a considerably longer period of time because of expected operational and power level adjustments that would be required

low-quality fuel oil. Moreover, it appears that the price of all grades of oil will continue to rise.

12. The metamorphic status of the national energy policy has produced considerable uncertainties concerning the quantity of fuel oil that electric utilities will be permitted to burn in the future. President Carter has proposed two measures which, if implemented, would significantly affect the ability of Petitioner and other oil-dependent Florida utilities to meet demands for electricity in the coming years. One would restrict United States oil imports to 1977 levels. The other proposal would require a 50% reduction in oil consumption by electric utilities by the year 1990. Implementation of these proposals could create an enormous shortfall in electrical generation in Florida, unless alternative fuels can be utilized in existing generating units which are designed to burn only oil, and in some cases, oil and natural gas.

13. It should be noted that the Federal Powerplant and Industrial Fuel Use Act of 1978 (42 USC §§8301 et seq.), prohibits electric utilities from burning natural gas after 1990. Petitioner's natural gas supplies will begin to dwindle in 1983, and the complete loss of all gas supplied under existing firm contracts is expected by mid-1988. Thus, there is a substantial chance that all natural gas supplies (equivalent to 14 million barrels of oil per year) and 50% of its present oil supplies - that is, the combined equivalent of approximately 35 million barrels of oil per year - will be unavailable to Petitioner in 1990.

14. Coal is the only apparent alternative fuel source that will be available in sufficient quantities to offset the reduction in oil and gas supplies over the next decade and beyond. The political, regulatory, and licensing lead-time problems associated with nuclear power plant construction, the technological status of synthetic fuel use, and

9. In view of the time limit of emergency relief, and the continuing nature of the low sulfur fuel oil shortage, Petitioner, on June 18, 1979, submitted a Petition for Variance and Amendment of the State Implementation Plan. Following a public hearing, a variance was granted by the Secretary on August 28, 1979 by Order No. AP-71-79. Several unresolved issues were addressed in a subsequent public hearing. Proposed Supplemental Findings of Fact, Conclusions of Law and Order jointly were filed by DER and Petitioner on October 8, 1979 and are awaiting final disposition.

10. In conjunction with the variance, Petitioner proposed to conduct a number of studies for the purpose of evaluating the merits and feasibility of various potential long-term solutions to the high quality oil shortage. This study program was revised and expanded to accommodate the recommendations of DER staff and other interested parties.

LONGER TERM FUEL SCENARIO:

11. Petitioner estimates that in order to meet projected customer demand through 1990, oil consumption would have to increase substantially over the next decade, reaching levels approaching 50 million barrels per year. [This projection takes into account the effect of new generating capacity, availability of natural gas, nuclear generating capacity, and conservation measures; it represents Petitioner's estimate of the minimum quantity of oil that would be needed in the absence of the successful utilization of alternative fuels at existing units.] However, based upon available information, it is projected that the current low-sulfur oil shortage will continue to exist for the forseeable future and may well intensify. It is difficult to estimate the quantity of fuel oil of any quality that will be available over the next decade. The possibility exists that changes in the world oil market, decisions by oil producers and refiners, and international political developments, will reduce the availability of even

7. On February 28, 1979 all of the State's electrical utilities, including Petitioner herein, filed a Petition for Emergency relief with Governor Bob Graham. The petition requested that certain federally-approved state air regulations and certain local air regulations be temporarily suspended, pursuant to Chapters 120, 377 and 252, Florida Statutes, and Section 110(f) of the Clean Air Act Amendments of 1977 ("Clean Air Act"), to allow Florida's utilities to cope with the low-sulfur fuel oil shortage. Following a public hearing, on March 30, 1979, Governor Bob Graham issued Executive Order 79-22 declaring that an energy emergency existed within the State of Florida; Governor Graham petitioned President Jimmy Carter for a determination that the low sulfur fuel oil shortage had created a regional or national energy emergency. On April 6, 1979, a Presidential Determination was issued finding that a regional energy emergency existed in the State of Florida, and authorizing Governor Graham to suspend federally-approved state particulate and opacity regulations applicable to existing power plants in Florida. The Gubernatorial and Presidential declarations have been extended several times and are presently being considered for additional renewal.

8. During the energy emergency, temporary suspensions of air regulations applicable to most of Petitioner's oil-fired generating units, and certain units owned by Jacksonville Electric Authority have been granted and extended to allow the burning of available higher sulfur oil, (See Executive Orders 79-24, 79-27, 79-38, 79-49, 79-56, 79-64, 79-65, 79-67, and 79-78). Section 110(f)(3) of the Clean Air Act limits emergency relief to four months per generating unit. The maximum period of relief has already been allowed for six of Petitioner's generating units. Nine of Petitioner's units continue to be operated pursuant to the §110(f) relief.

3. Petitioner seeks modification of the following terms and conditions of variance issued by the Secretary in his orders associated with Docket No. AP-71-79, as they relate to Petitioner's Sanford Unit No. 4:

(a) Steady-State Particulate Matter Emissions - 0.2/0.3 pounds per million BTU heat input.

(b) Steady-State Opacity Emission Limitation - 40% (No. 2 on Ringelmann Chart).

(c) Excess Emissions During Boiler Cleaning (Soot Blowing), and Load Changes - (See Exhibit "A").

4. Petitioner additionally seeks, to the extent necessary, a variance from Section 17-2.04(1), Florida Administrative Code, Prevention of Significant Deterioration (PSD) increments, or in the alternative, an Exclusion from Increment Consumption as provided for in Section 17-2.04(7)(a)3., Florida Administrative Code, for its Sanford Unit No. 4.

FACTS

PRESENT FUEL USE SCENARIO:

5. In 1978 about 48% of Florida's electrical generation depended upon the burning of residual fuel oil. Petitioner, the State's largest utility, presently must rely upon the burning of approximately 40 million barrels of oil per year to meet 55% of its customers' electrical demands.

6. Adequate quantities of "clean", low-sulfur oil had generally been available in the past. However, the supply situation began to deteriorate in late 1978. In February of 1979, Petitioner was notified by its primary oil supplier, Exxon Company, U.S.A., ("Exxon"), that it could only supply about 50 percent of the 1% sulfur oil ordered for the month of March. Effective March 1, 1979, Exxon began allocating low sulfur No. 6 fuel oil (1% or less sulfur content) to all of its low sulfur oil contract customers. Allocations in the range of 50-65% of contract quantities have been continuously imposed until the present and are projected to persist indefinitely.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of: Petition for Modification of Variance, Exclusion from Increment Consumption and Amendment of State Implementation Plan; Florida Power & Light Company, Petitioner.	)	DOCKET NO. _____

PETITION FOR MODIFICATION OF VARIANCE, EXCLUSION FROM INCREMENT CONSUMPTION AND AMENDMENT OF STATE IMPLMENTATION PLAN

Florida Power & Light Company ("Petitioner"), by and through undersigned counsel, hereby petitions the Secretary of the Florida Department of Environmental Regulation ("Secretary") to grant additional relief, pursuant to Chapter 120, Florida Statutes, Section 403.201, Florida Statutes, and Section 17-1.57, Florida Administrative Code, and if deemed necessary, to grant Petitioner an Exclusion from Increment Consumption pursuant to Section 17-2.04(7)(c), Florida Administrative Code. As grounds therefore Petitioner states:

1. Petitioner is a Florida corporation engaged in the business of providing electric power to the using public of the State of Florida. The name and address of Petitioner are:

Florida Power & Light Company
Post Office Box 529100
Miami, Florida 33152

2. The Florida Air and Water Pollution Control Act, Chapter 403, Florida Statutes, authorizes the Florida Department of Environmental Regulation ("DER") to limit air emissions. Regulations setting forth ambient air quality standards applicable to all sources, as well as specific limitations upon power plant emissions, have been adopted by the Florida Environmental Regulation Commission (and its predecessor agencies) and are set forth in Chapter 17-2, Florida Administrative Code. These regulations comprise part of a complex program, jointly developed and enforced by the State of Florida and the United States Environmental Protection Agency ("EPA"), known as the "State Implementation Plan" ("SIP").

P.O. BOX 529100, MIAMI, FL 33152

FPL
FLORIDA POWER & LIGHT COMPANY

November 13, 1979

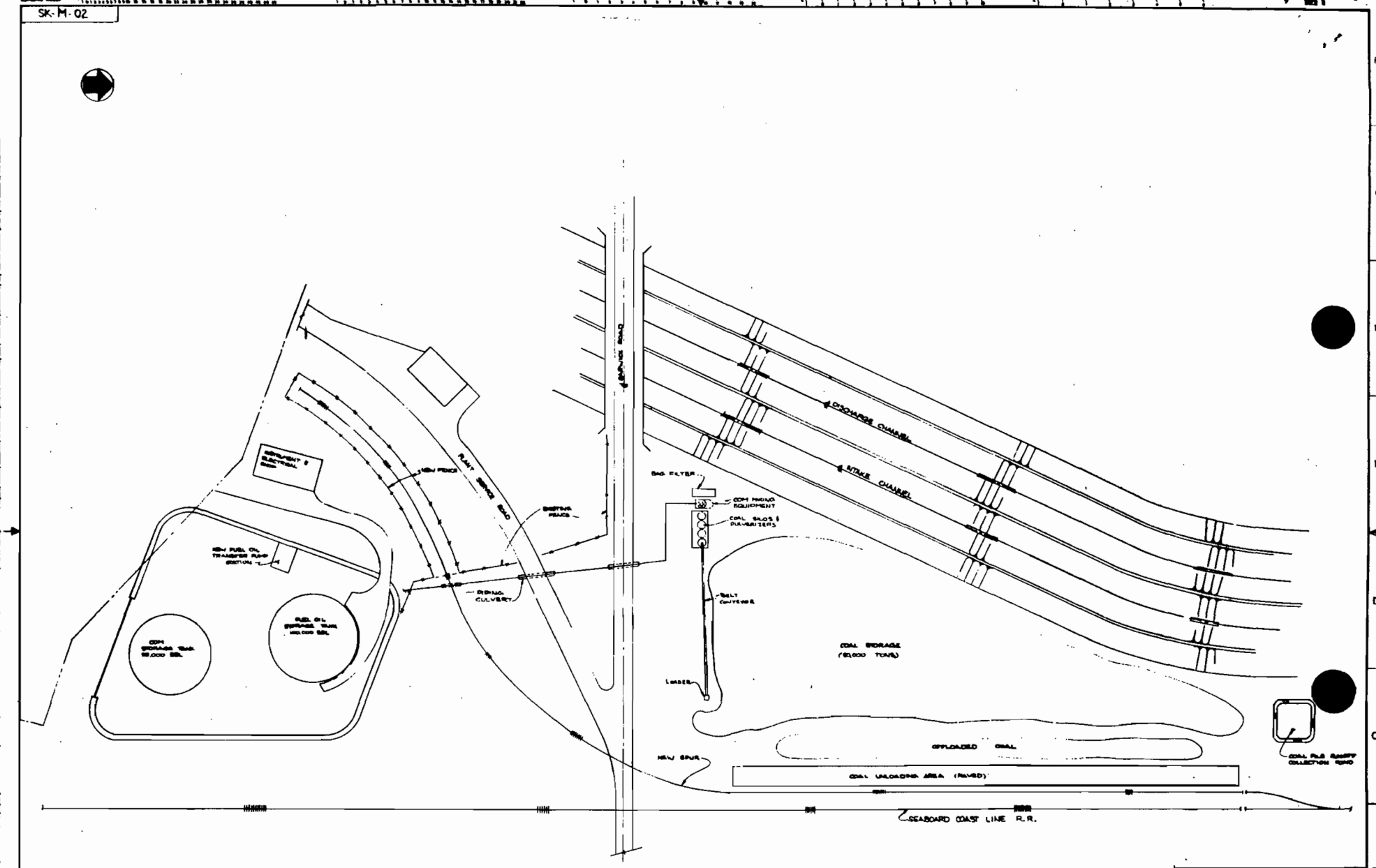
To Whom It May Concern:

This is to advise that Mr. W. J. Barrow, Jr., Assistant Manager of Environmental Affairs - Licensing and Environmental Planning Department, Florida Power & Light Company, is authorized to act as agent and representative for Florida Power & Light Company in applying for all air and water pollution source construction and operating permits for all Florida Power & Light Company power plants.

Robert W. Wall, Jr.
Senior Vice President

Section V Items 7 and 8 - SITE PLAN

SK-M-02



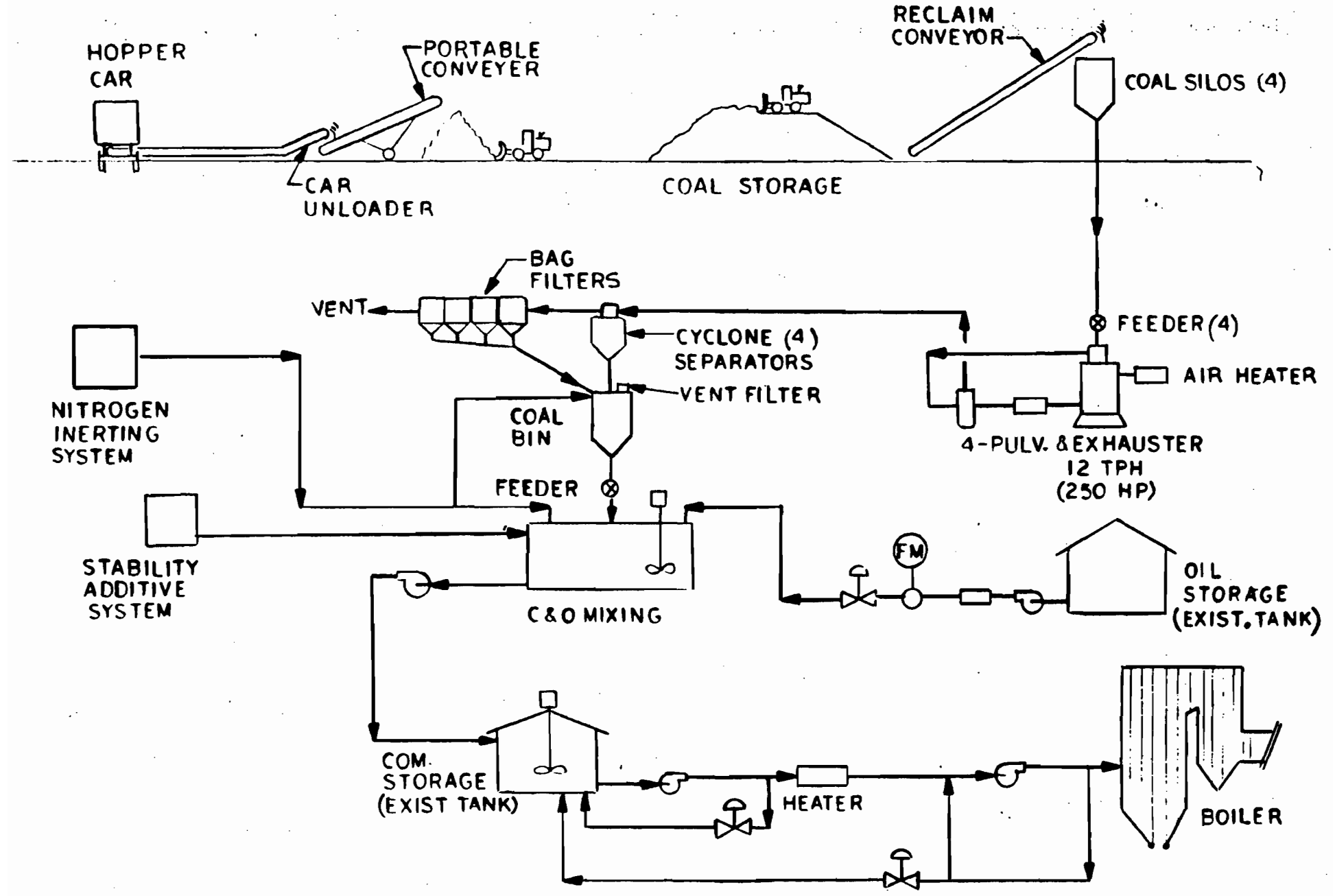
BECHTEL

FLORIDA POWER & LIGHT COMPANY
SANFORD PLANT UNIT 4

COAL/OIL MIXTURE TEST FACILITY
SITE PLAN

JOB NO.	DRAWING NO.	REV.
13900	SK-M-02	B

10-31-79



COM = COAL/OIL MIX

FLORIDA POWER & LIGHT Co.
SANFORD STATION
COAL/OIL MIX FACILITY

ATTACHMENT B

FLORIDA POWER & LIGHT COMPANY

SANFORD PLANT UNIT NO. 4

COM TEST FACILITY

DESCRIPTION OF PROJECT

A Coal/Oil Mixture (COM) test facility will be constructed on FPL property along the west side of the Seaboard Coastline Railroad just north of Barwick Road and the Sanford Plant. The capacity of the test facility will be 12,200 bbl./day of COM with a maximum of 50% by weight coal/oil ratio.

A total of approximately 3,900 ft. of rail unloading spur will be installed, parallel to the existing tracks. Coal trains of up to 72 cars are expected. Undercar unloaders will be utilized to unload the coal cars. Mobile equipment will be utilized to move the unloaded coal to the storage pile (30,000 tons). A 36 car per day unloading rate has been targeted to minimize demurrage. Coal from the storage pile will be fed to the coal silos by either clamshell diggers or conveyors.

Coal will be pulverized to 80% passing through 200 mesh; it will be dried and mixed with fuel oil taken from storage tank "C" in an agitated mixing tank. COM from the mixing tank will be transferred to the COM storage tank (modified storage tank D). Storage tank "D" will be modified to install means of agitation and a tank heater capable of keeping the tank at approximately 125°F. A nitrogen inerting system will be utilized to inert equipment where there is a high potential for fire or explosion. A stability additive system will be provided to allow testing of commercially available additives.

The modifications required to the existing Sanford Plant facilities to support this test project include modifying the existing burners to accept COM, installing ash handling systems, installing specialized instrumentation for testing purposes, modifying the fuel oil lines and pumps, and miscellaneous associated work to support the test.

Because this is a temporary test facility to be engineered on an extremely short schedule, capital cost and lead times will be kept to a minimum by using minimum cost design and construction methods and by utilizing used, off the shelf and/or rental equipment where possible. It is recognized that this may result in a labor intensive system that might be costly to operate on a long term basis.

ATTACHMENT A

1. 120 days demonstration project to investigate the feasibility of firing coal-oil mixture at the existing oil-fired electric power plant will be carried out. Coal-oil mixture preparation facility involves unloading, pulverizing and mixing of coal with oil. Coal storage areas will be compacted and sprayed with water to reduce fugitive coal dust. Transport air carrying crushed coal from pulverizer is vented through cyclone and baghouse to minimize particulates emission to atmosphere.

2. The particulate emissions from baghouse which removes pulverized coal from coal-transport air are less than 100 tons/year. The baghouse is an integral part of the process and therefore potential emissions equal emissions from the baghouse. Emissions from coal-oil mixture are temporary in nature (2800 hours) and do not consume PSD increment. Although BACT is not required, the use of baghouse does represent BACT.

3. NSPS for coal preparation plants apply to this source. The NSPS limit discharge into the atmosphere from any thermal dryer gases which: 1) contains particulate matter in excess of 0.031 gr/dscf, 2) exhibit 20 percent opacity or greater. 20 percent opacity restrictions also apply to coal storage system (except for open storage pile), coal processing, conveying equipment, and coal transfer and loading system processing coal.

SECTION V - SUPPLEMENTAL REQUIREMENTS

1. Total process input rate and product weight

Maximum coal input rate to the boiler in coal-oil mixture	84,000 lb/hr
Design capacity of pulverizers	96,000 lb/hr
Number of pulverizers	4
Pulverizer capacity	24,000 lb/hr each

2. Pneumatic conveyor capacity — 96,000 lb/hr
   Pulverized coal separated by cyclone — 80%
   Baghouse inlet loading = 0.2 x 96,000 — 19,200 lb/hr
   Moisture content at 100% saturation and 150°F — 16.7 percent
   Transport air flow rate — 40,000 acfm (at 150°F and 14.7psia)
   28,850 dscfm
   Grain loading — 77.6 gr/dscf
   Allowable State of Florida emission rate, lb/hr = $17.31\ P^{0.16}$ — 32.16 lb/hr
   (P is process weight rate in TPH = 48) [F.A.C. 17-2.05 (2)]
   Allowable Federal emission rate — 0.031 gr/dscf
   (NSPS for "Coal Preparation Plant" thermal dryer)
   Compliance with the emission standards will be shown based on guaranteed baghouse performance

3. Potential discharge

   Baghouse for separation of pulverized coal from transport air can be reasonably expected to achieve minimum efficiency required to meet the Federal standards — 0.031 gr/dscf or 7.7 lb/hr

4. Baghouse with minimum efficiency of 99.96 percent on coal dust will be used. Air to cloth ratio will be between 6 to 8 for the design air flow route (50,000 acfm). Cloth area required is between 6250 and 8333 square feet.

5. A. Required control device efficiency to meet the State of Florida [F.A.C. 17-2.05 (2)] emission standards

$$\frac{\text{Potential emissions - Allowable emissions}}{\text{Potential emissions}} \times 100 =$$

$$\frac{19{,}200 - 32.16}{19{,}200} \times 100$$ — 99.83 percent

B. Required control device efficiency to meet Federal NSPS

$$= \frac{77.6 - 0.031}{77.6} \times 100$$ — 99.96 percent

Emission rate = 19,200 (1-0.9996) — 7.7 lb/hr

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*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

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.

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 on 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.

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

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.

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*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: 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*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

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*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

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*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

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

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Departm of Environmental Regulation.

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Not Applicabl

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:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

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

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

SECTION V: SUPPLEMENTAL REQUIREMENTS (See attachments)

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
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.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
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, etc.).
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).
6. An 8½" 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.
7. An 8½" 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).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

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

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Coal (Pulverizing and Pneumatic Conveying)	Particulate	100%	96,000 (Coal)	Pulverizer and Pneumatic Conveyor

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

1. Total Process Input Rate (lbs/hr): 96,000 lb/hr coal to pulverizer

2. Product Weight (lbs/hr): 96,000 lb/hr pulverized coal

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	7.7	8.8	17-2.05(2) FAC	32.16 (State)	7.7	8.8	From Baghouse
			$E=17.31\ P^{0.16}$ lb/hr				to atmosphere
			0.031 gr/dscf	7.7 (Federal)			
			Federal NSPS				

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])
4 Cyclones (one for each pulverizer)	*Pulverized coal particulate	80%	1.5 to 700	Vendor data
Baghouse (one)	*Same as above	99.96%	< 1.5 to 40	Regulatory Requirement and Vendor data

* Integral part of the process.

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

[5] If Applicable

E. Fuels (Not applicable to coal-oil mixture preparation facility)

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

Not applicable

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

Vent Height: Elevation of discharge point 85 ft. Vent Diameter: Not available ft.

Gas Flow Rate: About 40,000 ~~28,850 dscfm~~ ACFM Gas Exit Temperature: 150 °F.

Water Vapor Content: 16.7 % Velocity: Not available 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.)
Lbs/hr Incinerated							

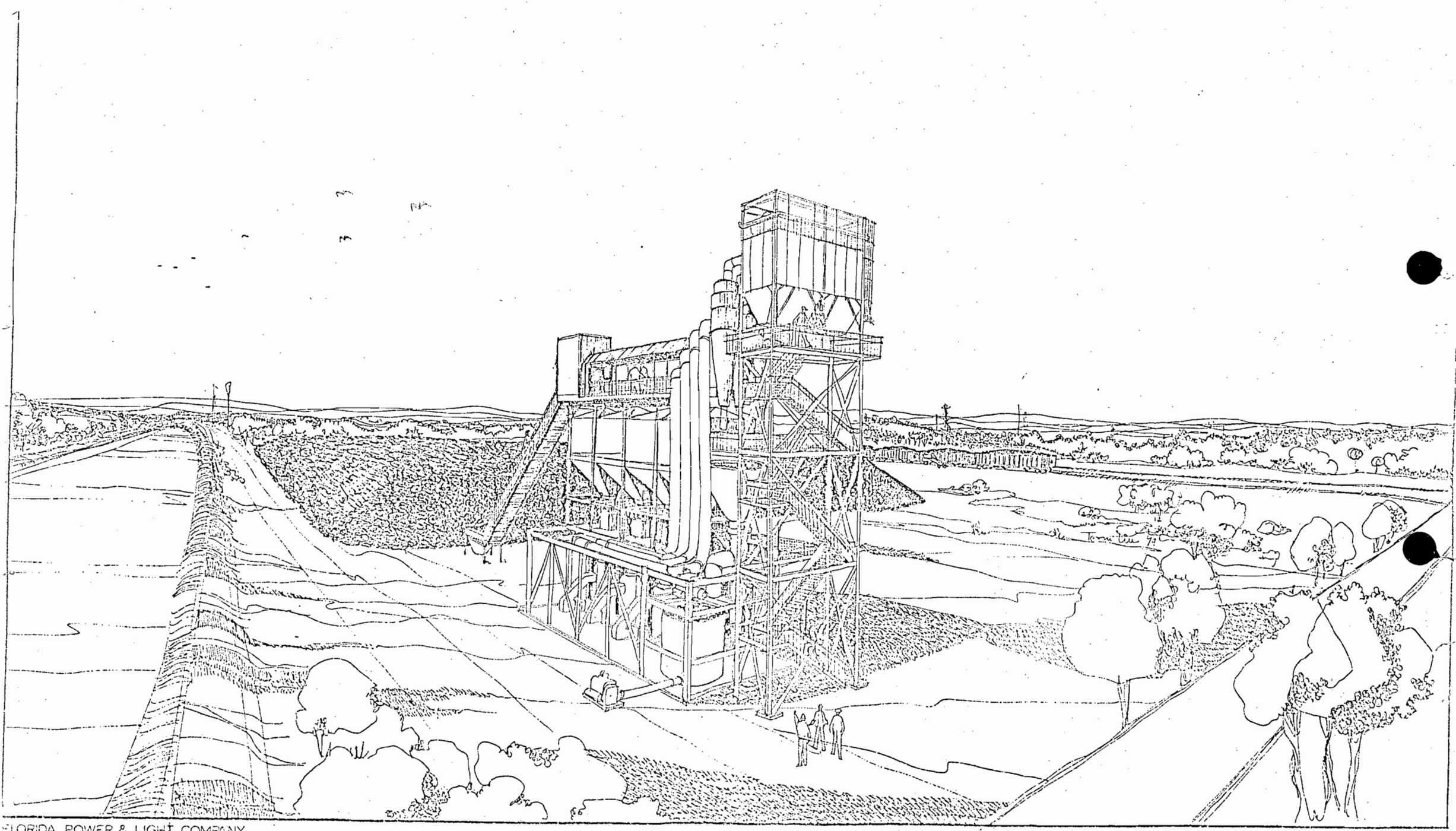
Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____



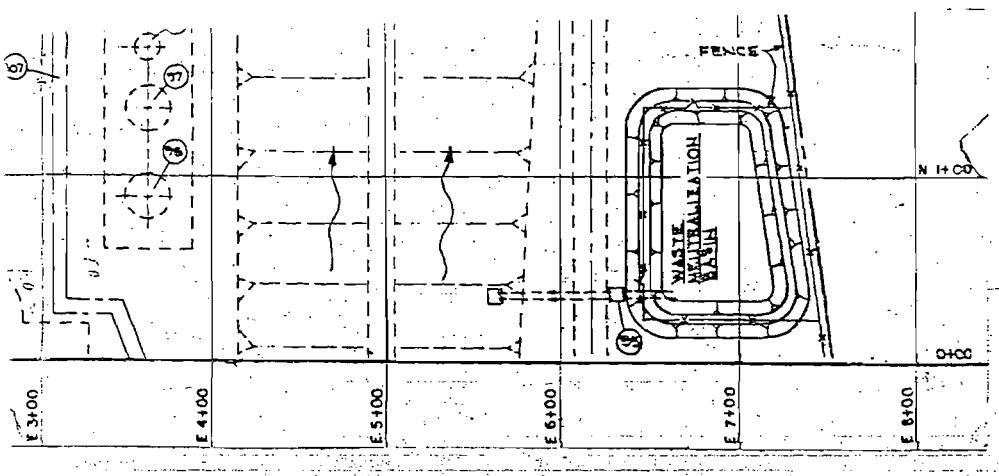
FLORIDA POWER & LIGHT COMPANY
SANFORD PLANT UNIT 4

COAL / OIL MIXTURE TEST FACILITY

8/13/97

Note to File:

Large Blue Print & 4 Orientation Project is in Martin Costello's office



C

B

A

Drawing Control				
Purpose	Approved By	Date	Released By	Date
For Information				
For Comment				
For Bid				
For Construction	X			

STATUS 6/18/90

Engineering Review		
Disc	Engr	Date
Mech		
Elec		
Civil		
Arch		
Nuc		
Dwn	Chkd	SI

Reviewed By

Manager-Design & Drafting

FLORIDA POWER & LIGHT
SANFORD UNIT 4

PLOT PLAN

BURNS AND ROE COMPANY
Engineers and Constructors—Oradell, NJ
A Component of Burns and Roe Enterprises, Inc.

Approved for Construction

Chief Engineer

Date	Work Order	Drawing No	Rev
Scale 1"	6530	SM101	A

12 day 24 July (10.1%) of the 120 full burn day

Dave Harles -

some of my old notes on SANFORD com

note & keep if useful or file (13)

S [signature]

2-12-81

Monday
4-8-80

ESP modules
collecting 99.9%

Lear - Siegler
Opacity Monitor

metals analysis
on ash
fly / bottom
have
particle dist
data on
cyclone inlet
distribution
flow (neg ΔP)
at random points
on inlet
outlet OK

3% O_2 - 15% EA
slagging at 20-30% conv (2400°F+)
wall blower installed
2300°F at 40%
13-20% Carbon in fly ash
continue on 50%
burn design modification
bad erosion on stud
burners at 40% prior
to mod.
mod not in tip
prior to tips.
more bottom ash than
anticipated

will call
Charles w/ them

Cyclone 62-72% eff
will be taking inlet
Outlet
stack temp 250 - 330
(200 - 400 MW)

collected
ash dry
gray with
tan tint

will be taken 2 run along
simultaneous (Method 5 - accuracy ...

Steve Smallwood

MAR 5 1980

REF: 4AH-AF

Mr. W. J. Barrow, Jr.
Assistant Manager
Environmental Affairs
Florida Power and Light Company
P. O. Box 529100
Miami, FL 33152

Re: PSD-FL-042

Dear Mr. Barrow:

As discussed recently with Mr. Frank Collins of my staff, we would appreciate your cooperation in displaying the attached PSD Final Determination and public comments in the Office of the Comptroller, Volusia County, Florida for thirty days. The Final Determination is for the proposed Florida Power and Light coal-oil test burn. The requirement for display of the Final Determination and comments is given at 40 CFR 52.21(r)(2)(viii).

If you have any comments or questions regarding this letter, please call Mr. Collins (404/881-4552).

Sincerely yours,

Tommie A. Gibbs
Chief
Air Facilities Branch

cc: FL DER

Sentinel Star
Florida Magazine

Published by Sentinel Star Company
P. O. BOX 2833
ORLANDO, FLORIDA 32802
(305) 420 -

February 5, 1980

TO WHOM IT MAY CONCERN:

Before the undersigned authority personally appeared R.F. MacLeish who on oath says that he is the Financial Advertising Manager of the Sentinel Star, a daily newspaper published at Orlando, in Orange County, Florida; that a 2 column by 6 inch advertisement in the matter of Florida Power & Light Notice of Public Notice was published in said newspaper in the issue of December 26, 1979.

R. F. MacLeish

Sworn to and subscribed before me this 5th day of February 1980.

MARIE M. MINNER NOTARY FLORIDA PUBLIC STATE AT LARGE

Marie M. Minner
Notary Public
Notary Public, State of Florida at Large
My Commission Expires May 14, 1981
Bonded By American Fire & Casualty Company

Public Notice
Construction Permit

The Florida Department of Environmental Regulation (DER) has received an application from and intends to issue a Construction Permit to the Florida Power and Light Company for the construction of a coal pulverizer at the Sanford Power Plant located on Barwick Road, near Sanford, Volusia County, Florida. No determination of Best Available Control Technology was required. Copies of the application, Technical Evaluation and Proposed Construction Permit are available for inspection at the following locations:

St. Johns River District Office, FDER
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

Seminole Co. Courthouse
N. Park Avenue
Sanford, Florida 32711

Bureau of Air Quality Management, FDER
2600 Blair Stone Road
Tallahassee, Florida 32301

Persons wishing to comment on this action shall submit comments to Mr. Bill Thomas, of the Tallahassee Office within 30 days of this notice.

Evening Herald

Herald Advertiser

POST OFFICE BOX 1657

SANFORD, FLORIDA 32771

December 28, 1979

To Whom it May Concern:-

This is to certify that the attached Public Notice appeared in the December 26, 1979, issue of The Evening Herald, a newspaper published by The Sanford Herald, Inc., at Sanford, Seminole County, Florida.

Signed Wayne D. Doyle

Wayne D. Doyle, Publisher

Sworn to and subscribed before me this 28th day of December, 1979.

Notary Public

Notary Public, State of Florida at Large
My commission expires June 12, 1983
Bonded With Lawyers Surety Corp.

Public Notice

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Seminole Co. Courthouse
N. Park Avenue
Sanford, Florida 32771

Persons wishing to comment on this action shall submit comments to Mr. Bill Thomas, of the Tallahassee Office within 30 days of this notice.

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#00000002561Ø COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FLORIDA POWER & LIGHT DATE FIRST REC: 11/13/79 APPLICATION TYPE:AC
APPL NAME:BARROW, W.J. JR. APPL PHONE:(305)552-3561 PROJECT COUNTY:64
ADDR: CITY:TAMPA ST:FLZIP:
AGNT NAME:SURABIAN, M. AGNT PHONE:( )948-2700
ADDR:15740 SHADY GROVE ROAD CITY:GAITHERSBURG ST:MDZIP:20760

ADDITIONAL INFO REQ: / / / / / / REC: / / / / / /
APPL COMPLETE DATE: / / COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N
THIS RECORD HAS BEEN SUCESSFULLY ADDED
FEE PD DATE#1:11/13/79 $0020 RECEIPT#00033520 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:11/13/79
REMARKS:COAL PULVERIZER AND HANDLING FACILITY, SANFORD UNIT #4. LOCATED ON BARWICK ROAD, SANFORD. UTM = 468.340 E./ 3190.380 N. LAT/LON = 28-50-40 N. / 81-19-30 W. VOLUSIA CO.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No 33520

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from FLA. POWER & LT. CO. (COAL OIL MIXING FACILITY, SANFORD) Date 11/13/79

Address MIAMI FLA. 33152 (P.O. BOX 529100) Dollars $ — 20 00

Applicant Name & Address W. J. BARROW (NOT GIVEN) 305-552-3561

Source of Revenue

Revenue Code 0101 Application Number AC25610

By

Check Sheet

Company Name: FP&L Sanford
Permit Number: AC 64-256010
PSD Number: PSD FL-[redacted]-047
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:
  - [x] EPA
  - [ ] Park Services
  - [ ] County
  - [ ] Other
- [x] Proof of Publication
- [ ] Petitions - (Related to extensions, hearings, etc.)
- [x] 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