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. _____
	)	
	)	
Petitioner.	)	
	)	

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").

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.

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.

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

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

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

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

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.

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

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

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

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-

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,

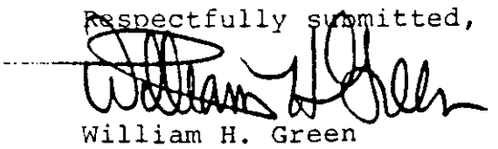
(ii) Modify variance Order No. AP-71-79 authorizing Petitioner to conduct, over a twelve month period beginning with the commencement of COM burning, the proposed COM test burn for 120 full-power burn days at Sanford Unit 4, subject to the interim limitations set forth in paragraph 25 hereto, as may 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.

Respectfully submitted,



William H. Green
Wade L. Hopping
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Post Office Box 6526
Tallahassee, Florida 32301
(904) 222-7500

Counsel for Florida Power &
Light Company

DATED: October 19, 1979

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

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

(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.

(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.

(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.

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
Cyclones 65%

#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

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

EXHIBIT VI.

Hearing Examiner's Final Order to be Incorporated Into State Air Implementation Plan as Pages MVVV thru MGGGG .

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

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.

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).

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 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;

(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

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

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.

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.

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.

(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.

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 §120.52 (9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Diane Quigg, for Linda Bevard
Clerk

1-3-80
Date

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:

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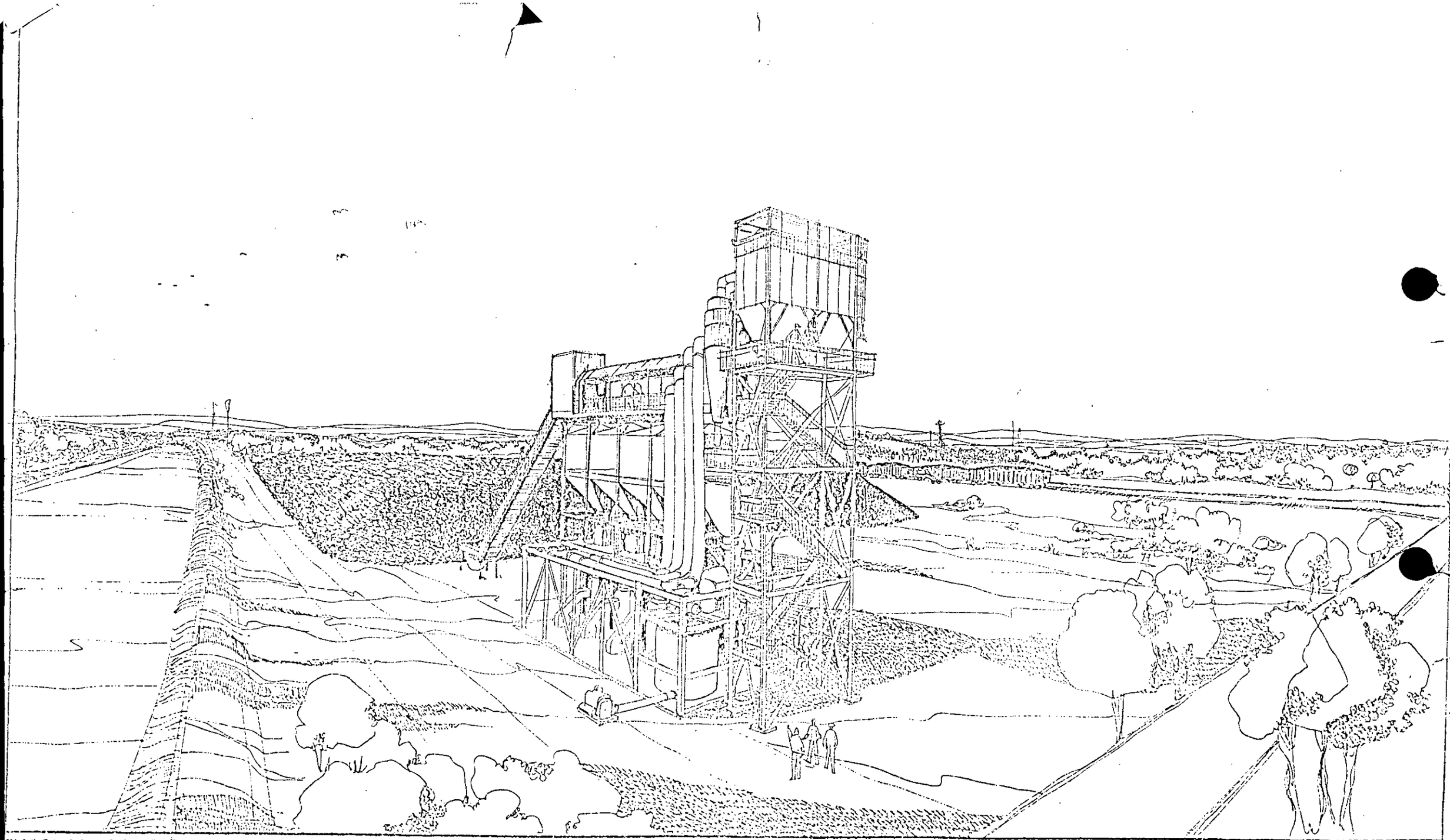
EXHIBIT VII.

ESE for FP & L - An Air Quality Impact Evaluation of Coal/Oil Mixture Firing at the FP & L Sanford Generating Plant.



FLORIDA POWER & LIGHT COMPANY
TECRO PLANT UNIT 4

COAL / OIL MIXTURE TEST FACILITY