

7/21 John, ~~Austin~~

I will bring this up at district FPL meeting next Tuesday in Tampa. FPL does not know that I will be attending.

D. Guess

Car

INTEROFFICE MEMORANDUM

Date: 20-Jul-1993 06:05pm EST
From: Gary Maier FTM
MAIER_G@A1@FTM1
Dept: South District Office
Tel No: 813/332-6975
SUNCOM:

TO: Preston Lewis TAL (LEWIS_P@A1@DER)
CC: Gary Maier FTM (MAIER_G @ A1 @ FTM1)
CC: John Brown TAL (BROWN_J@A1@DER)
CC: Clair Fancy TAL (FANCY_C@A1@DER)
CC: David Knowles FTM (KNOWLES_D @ A1 @ FTM1)

Subject: RE: Use of (Mg(OH)2) at Ft Myers Units 1 & 2

Preston,

Thank you for the opportunity to comment on FPL and magnesium hydroxide additive.

It is true that FPL has been using MgO injection for many years, including way back when I worked for FPL doing fuels R&D. MgO injection is even mentioned in the original construction permit application. For these reasons, I did not pursue the Mg(OH)2 fuel additive as a "modification" requiring changes to the permits. However; FPL never injected MgO (either the old way or the new way) during a particulate matter stack test. Until recently, the DEP never asked FPL to inject MgO while conducting a stack test. We have no valid data.

After FPL told the South District to "pound sand", I really appreciated BAR's support. Your more stringent initial position effectively sent a message to FPL stating that if a request from a District is reasonable, FPL should comply with the request rather than complain and possibly end up worse off.

Recommendation: The South District does not object to FPL's proposed Mg(OH)2 fuel additive evaluation plan, nor do we wish to spend too many "political chips" on this matter because other, more environmentally significant matters, are on the nearby horizon. Since FPL has injected MgO "since the beginning", I recommend that BAR not pursue Mg(OH)2 as a "modification" requiring permit changes. However; since we still have no valid emissions data, I recommend that BAR back off its stringent position and support the South District's original request to conduct a stack test during the fuel additive evaluation period. I recommend that BAR send a letter to FPL that contains the following language (which is similar to Phil Edwards' letter dated April 12, 1993):

← agree
← agree at
next
required
test

The DEP has no objection to FPL's plan to evaluate the use of magnesium hydroxide fuel oil additive at the Fort Myers Power Plant. In order to affirmatively provide the DEP with reasonable assurance that the use of magnesium hydroxide fuel oil additive will not cause pollution in contravention of DEP standards or rules, the DEP hereby requests FPL to conduct particulate (EPA Method 5 or 17) and visible emission (DER Method 9) stack tests, (a) within 60 days after receiving this letter, (b) while utilizing the magnesium hydroxide fuel additive at the maximum proposed treatment ratio, and (c) under both soot blowing and non soot blowing conditions. Please notify the South District Office at least 15 days prior to the date on which each test is to begin. Please submit the test results to the South District within 45 days of testing.

← at next
annual
stack
test

Thank you again for the opportunity to comment. Let me know if you have any questions or need any additional information.

Gary

I N T E R O F F I C E M E M O R A N D U M

Date: 20-Jul-1993 04:55pm EST
From: Preston Lewis TAL
LEWIS_P
Dept: Air Resources Management
Tel No: 904/488-1344
SUNCOM:

TO: Gary Maier FTM (MAIER_G @ A1 @ FTM1)
CC: John Brown TAL (BROWN_J)
CC: Clair Fancy TAL (FANCY_C)
CC: David Knowles FTM (KNOWLES_D @ A1 @ FTM1)

Subject: Use of (Mg(OH)2) at Ft Myers Units 1 & 2

Please review and comment on the July 12, 1993 letter (Adams, FP&L to Fancy, DEP) on the subject unit. I would appreciate your recommendations on how to proceed from here. Options include:

1. Forget it - No response indicating that we accept their position
2. Request the air emissions data when using MgO, (Mg(OH)2 and without use of a fuel additive.
3. Respond that "We misunderstood.....or that they misunderstood or we miscommunicated..... and clarify the request"

FP&L's undertone bothers me. It sounds like they are saying "We have been using MgO for a long time and you renewed the operating permits so you have no right to ask about emissions now." "The only difference between what we **were** doing and what we **are** doing now is that the fuel vendor mixes the additive into the shipments instead of FP&L mixing it and adding it to the fuel". Somehow, it sounds like "Listen officer when I passed you last week I was traveling at the same speed; So how come you are giving me a speeding ticket today". **The answer is we just noticed what you are doing so we have a right to ask for the test data** and it has nothing to do with the fact that the additive has been in use a long time or that it is being mixed by the fuel supplier or FP&L or that other DEP Districts have not raised a question.

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Date: 20-Jul-1993 06:05pm EST
From: Gary Maier FTM
MAIER_G@A1@FTM1
Dept: South District Office
Tel No: 813/332-6975
SUNCOM:

TO: Preston Lewis TAL (LEWIS_P@A1@DER)
CC: Gary Maier FTM (MAIER_G @ A1 @ FTM1)
CC: John Brown TAL (BROWN_J@A1@DER)
CC: Clair Fancy TAL (FANCY_C@A1@DER)
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Subject: RE: Use of (Mg(OH)₂) at Ft Myers Units 1 & 2

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Recommendation: The South District does not object to FPL's proposed Mg(OH)₂ fuel additive evaluation plan, nor do we wish to spend to many "political chips" on this matter because other, more environmentally significant matters, are on the nearby horizon. Since FPL has injected MgO "since the beginning", I recommend that BAR not pursue Mg(OH)₂ as a "modification" requiring permit changes. However; since we still have no valid emissions data, I recommend that BAR back off its stringent position and support the South District's original request to conduct a stack test during the fuel additive evaluation period. I recommend that BAR send a letter to FPL that contains the following language (which is similar to Phil Edwards' letter dated April 12, 1993):

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Thank you again for the opportunity to comment. Let me know if you have any questions or need any additional information.

Gary

I N T E R O F F I C E M E M O R A N D U M

Date: 20-Jul-1993 04:55pm EST
From: Preston Lewis TAL
LEWIS_P
Dept: Air Resources Management
Tel No: 904/488-1344
SUNCOM:

TO: Gary Maier FTM (MAIER_G @ A1 @ FTM1)
CC: John Brown TAL (BROWN_J)
CC: Clair Fancy TAL (FANCY_C)
CC: David Knowles FTM (KNOWLES_D @ A1 @ FTM1)

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

July 12, 1993

Mr. Clair Fancy, Chief
Bureau of Air Regulation
State of Florida
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Preston, 7/20
Are you
handling this?
Patry

RECEIVED

JUL 19 1993

Division of Air
Resources Management

**Re: Florida Power & Light Company
Ft. Myers Plant Units 1 and 2
Evaluation of Magnesium Hydroxide Additive**

Dear Mr. Fancy:

In accordance with our meeting of July 1, 1993, this letter is in response to your letter of June 3, 1993 to Charlie Henderson of Florida Power & Light Company (FPL) regarding the utilization of magnesium hydroxide ($Mg(OH)_2$) additive at our Fort Myers Power Plant. As we discussed, it has been FPL's practice for many years to inject a mixture of magnesium oxide (MgO) and water into our boilers through the retractable soot blowers (IKs) and/or hand lances, in order to reduce high temperature boiler tube corrosion and thus reduce maintenance time and costs. This process is illustrated graphically as item (A) in the attached flow chart. FPL historically has prominently identified the use of MgO additives (without specifying the precise manner of application) in its air operation permit renewal applications. Accordingly, utilization of the MgO additives are authorized by virtue of the Department's issuance of the currently effective air operation permits.

An increasing number of electric utilities are now using the $Mg(OH)_2$ fuel oil additive and FPL is currently evaluating its use at certain plants. The $Mg(OH)_2$ fuel oil additive is injected into the fuel oil stream prior to combustion in the boiler. This process is illustrated in the attachment as item (B). As you will see, FPL is not making any change whatsoever with respect to the constituent being added to its system; in this respect, the only distinction is that now FPL's vendor is mixing the MgO with water, instead of FPL mixing the MgO with water.

The injection of MgO mixed with water into the fuel oil does not constitute a "change" that requires a permit modification. Nor can this adjustment in the method of introducing MgO to the boiler reasonably be expected to increase emissions of particulate matter (compared to the IK injection approach). In fact, FPL uses significantly less additive (in pounds per hour and

pounds per gallon of fuel) under the fuel injection approach than under the IK injection method. Therefore, particulate matter emissions would, if anything, decrease with $Mg(OH)_2$ additive use. As a practical matter, MgO binds with the ash during the combustion process and is retained in the boiler.

In conclusion, utilizing MgO as a fuel additive does not represent a change in the boiler cleaning process that requires consideration of the need for a permit modification. MgO will continue to be utilized consistently with FPL's representations in its previous permit applications; it will be applied to the boilers more efficiently and in lesser amounts.

We hope this letter clarifies the issues surrounding FPL's use of MgO and responds to your concerns on the use of the fuel additive. If you have any questions regarding this matter, please contact me at (407) 625-7635.

Sincerely,



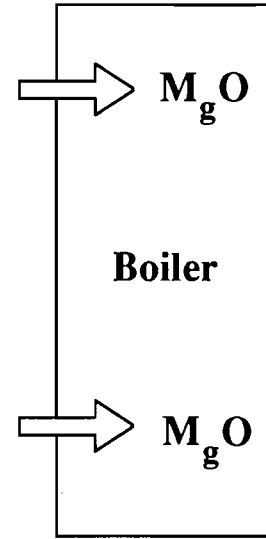
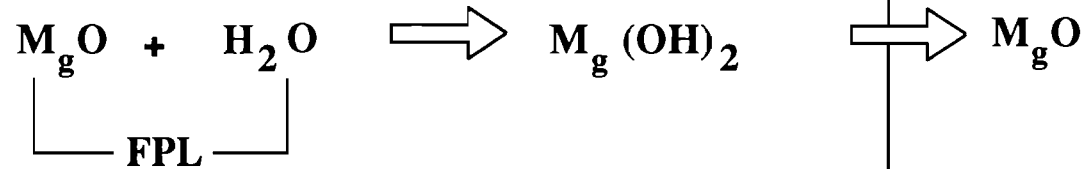
Daniel R. Adams
Environmental Specialist
Florida Power & Light Company

Enclosure: (1)

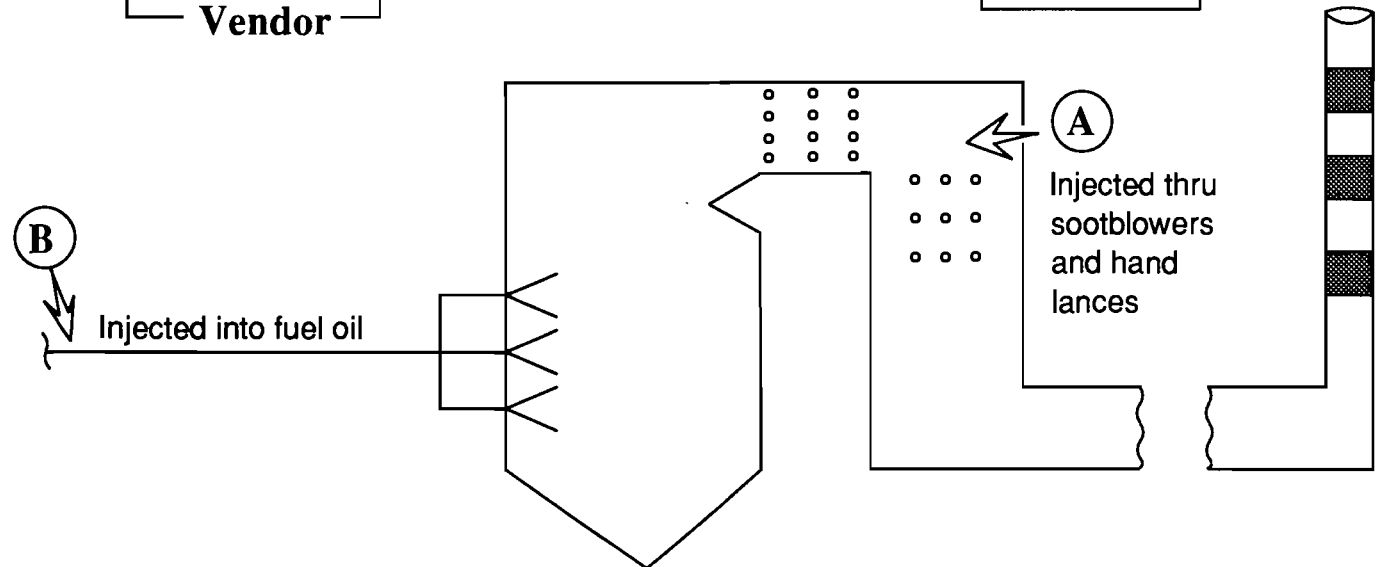
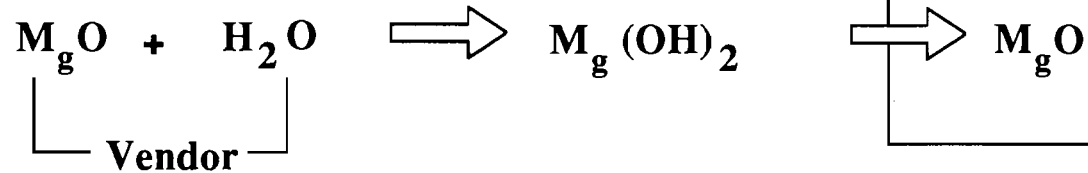
cc: Mr. Philip R. Edwards - Florida D.E.P. South District

DESCRIPTION OF FLORIDA POWER & LIGHT COMPANY'S MAGNESIUM OXIDE (MgO) ADDITIVE TREATMENT METHODS

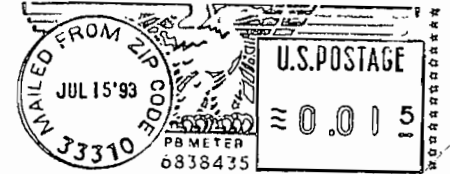
(A) "OLD" METHOD



(B) "NEW" METHOD



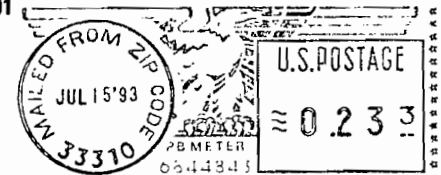
PREPAID
FIRST CLASS



FPL

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

PREPAID
FIRST CLASS



Mr. Clair Fancy, Chief
Bureau of Air Regulation
State of Florida
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400



Preston -
Done 6/28
PA

~~Pat~~ Please locate
letter and have faxed
to Maier, SD
Shank
Preston

INTEROFFICE MEMORANDUM

Date: 24-Jun-1993 05:03pm EST
From: Gary Maier FTM
MAIER_G
Dept: South District Office
Tel No: 813/332-6975
SUNCOM: 748-6975

TO: Preston Lewis TAL (LEWIS_P)
CC: David Knowles FTM (KNOWLES_D)
CC: John Brown TAL (BROWN_J)

Subject: Florida Power and Light

Fort Myers plant

Preston,

I heard from FPL that Tallahassee sent a letter to FPL dated June 3, 1993, to support the South District's request for a stack test while evaluating a new magnesium hydroxide fuel additive at the Fort Myers plant. FPL also indicated that Tallahassee's requests for testing and permit changes were significantly more stringent than the South District's original request. The letter was purportedly drafted for Clair Fancy's signature and actually signed by John Brown, with a copy to Phil Edwards.

The South District cannot locate its copy of this letter. David Knowles and I cannot recall seeing it. Could you please send another to me? We do appreciate your support.

Unfortunately, FPL caught me by surprise since I was not aware of Tallahassee's "official" more stringent position. As a result, my defense of Tallahassee's position may not have been completely up to par. I will do my best to defend and support Tallahassee's position in future discussions with FPL.

Thanks for your support,
Gary

MESSAGE CONFIRMATION

JUN-26-'93 MON 14:00

TERM ID: DIV OF AIR RES MGMT P-9999

TEL NO: 904-922-6379

NO.	DATE	ST. TIME	TOTAL TIME	ID	DEPT CODE	OK	NG
334	06-28	13:59	00'01'32			02	00



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

FAX TRANSMITTAL SHEET

TO: Gary Meier

DATE: 6/28/93 PHONE: _____

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 2

FROM: Preston Lewis

DIVISION OF AIR RESOURCES MANAGEMENT

COMMENTS: _____

PHONE: 278-1344

FAX NUMBER: 904/922-6979

If there are any problems with this fax transmittal, please call the above phone number.



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

Mailed
out on
6-8-93

June 03, 1993

Mr. C. D. Henderson, Manager
Air & Water Permitting and Programs
Florida Power & Light Company
P.O. Box 088801
North Palm Beach, FL 33408-8801

Re: Lee County - Air Program (AP)
Fort Myers Power Plant Units 1 and 2

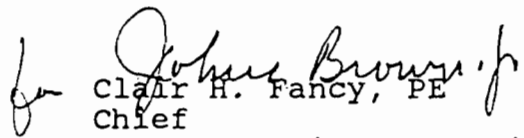
This is in response to your May 7, 1993 letter to Philip Edwards, South District regarding plans to evaluate the use of magnesium hydroxide ($Mg(OH)_2$) fuel additive at the Fort Myers Power Plant.

17-212.200 (46) defines a modification as "Any physical change in, change in method of operation of, or addition to a stationary source or facility which increases the actual emissions of any air pollutant regulated under". 40CFR 60.8 and 60.10 provide other statutory authority for requiring and conducting a compliance test. Without a compliance test before testing the $Mg(OH)_2$ and one done during the use of the $Mg(OH)_2$, how can you provide the Department reasonable assurance that the **actual emissions will not increase?**

We support the South District in their requirement for compliance test information before and during the test of the $Mg(OH)_2$. Furthermore, before conducting the test the construction permit shall be modified and Public Noticed to state the conditions of the test. After the test, depending on whether emissions were increased (test results), the construction and operating permit will be amended/modified to allow the continued use of the fuel additive. All protocols and data should be sealed by a Professional Engineer.

Should you have any questions, call John Brown (904) 488-1344.

Sincerely,



John H. Fancy, PE
Chief
Bureau of Air Regulation

CHF/PL/mls

cc: Philip Edwards, South District



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

June 03, 1993

Mr. C. D. Henderson, Manager
Air & Water Permitting and Programs
Florida Power & Light Company
P.O. Box 088801
North Palm Beach, FL 33408-8801

Re: Lee County - Air Program (AP)
Fort Myers Power Plant Units 1 and 2

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Should you have any questions, call John Brown (904) 488-1344.

Sincerely,


John Brown, PE
Chief

Bureau of Air Regulation

CHF/PL/mls

cc: Philip Edwards, South District


Florida Department of Environmental Regulation

South District • 2295 Victoria Avenue, Suite 364 • Fort Myers, Florida 33901

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

FAX TRANSMITTAL LETTER**TO:**NAME: Preston Lewis DATE: 5-19-93AGENCY: DER Air BarTELEPHONE #: _____ FAX #: 922-6979NUMBER OF PAGES (INCLUDING COVER SHEET): 3**FROM:**NAME: Gary Maier

DEPT. OF ENVIRONMENTAL REGULATION - SO. DISTRICT, FT. MYERS

TELEPHONE # (813) 332-6975
SUNCOM # 748-6975FAX # (813) 332-6969
SUNCOM FAX # 748-6969

TRANSMITTAL ON A NEC/NEFAX 340

IF ANY PAGES ARE NOT CLEARLY RECEIVED, PLEASE CALL IMMEDIATELYSENDER'S NAME: G.M.

COMMENTS: _____

Preston, _____

Here is the May 7, 1993 letter from FPL. FPL claims to have conducted an EPA Method 17 test at Port Everglades Unit 4 on December 13, 1992. The S.E. District office has no record of any such test. That date is a Sunday; an unusual date for a test. I hope that Tallahassee will back up our request for a compliance test at Fort Myers. Thanks,

Gary



**FPL**

May 7, 1993

Florida Power & Light Company, P.O. Box 088901, North Palm Beach, FL 33408-8801

RECEIVED**MAY 14 1993****D.E.R. SOUTH DISTRICT**

Mr. Philip R. Edwards, Director of District Management
State of Florida
Department of Environmental Regulation
South Florida District
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901

**RE: Florida Power & Light Company
Fort Myers Power Plant - Unit 2
Fuel Additive Use**

Dear Mr. Edwards:

This is in response to your letter to Mr. C. D. Henderson dated April 12, 1993 regarding FPL's plans to evaluate the use of magnesium hydroxide ($Mg(OH)_2$) fuel oil additive at our Fort Myers Power Plant. FPL has commenced the evaluation of the $Mg(OH)_2$ fuel oil additive at Unit 2 of the Fort Myers Plant as of April 7, 1993 and plans to commence additive evaluation at Unit 1 sometime thereafter. Your letter of April 12 raises two issues which FPL believes merit a response since we disagree with the South District's position. The two issues are addressed below in an issue/FPL response format.

Issue (1) - Your letter indicated "the appropriate procedures for Department approval of testing programs which might affect emissions are outlined in Rule 17-103.120, F.A.C. The South District assumes FPL will follow up appropriately with Tallahassee staff regarding any paperwork deemed necessary."

FPL Response - Rule 17-103.120, F.A.C. is applicable only in the case of testing and research programs which would require relief from Department rules, standards, emission limits or other requirements. The use of $Mg(OH)_2$ is not such a testing or research program and does not require relief from any Department rules, standards, emission limits or other requirements.

FPL has historically identified the use of magnesium oxide (MgO) additives in the air operating permit renewal applications for both Units 1 and 2 and such use was clearly approved by virtue of the Department's issuance of the currently effective air operation permits for these units. In view of the Department's previous approval of the use of MgO additives as a routine preventive maintenance practice for the Fort Myers steam generating units, FPL does not believe the fuel additive evaluation project constitutes an innovative technology research project since we are only conducting a performance evaluation of an alternative method of using the MgO additive.

My letter of April 5 was intended as a courtesy notification to the Department which is not required by permit condition or rule. Furthermore, similar notification letters were sent to the DER Southeast District to inform them of FPL's plans to evaluate $Mg(OH)_2$ fuel additive at our Port Everglades and Riviera Power Plants. The Southeast District did not voice any concerns over the evaluation being characterized as a research program or the need to conduct particulate matter and visible emissions compliance testing during the evaluation of the fuel additive.

-2-

Issue (2) - In order to provide the Department with reasonable assurance that FPL's proposed change in the method of operation will not cause pollution in contravention of Department standards or rules, the Department has requested FPL to conduct particulate matter and visible emissions compliance testing under both soot blowing and steady-state operating conditions during the evaluation of the fuel additive.

FPL Response - FPL views the injection of the $Mg(OH)_2$ fuel additive into the fuel oil stream to be a more efficient approach to introducing magnesium oxide into the boiler during the boiler cleaning process than the current approach using IK steam injection. FPL believes the injection of $Mg(OH)_2$ into the fuel oil does not constitute a change in the method of operation to the point of increasing particulate matter emissions above what they currently are under the IK steam injection approach to introducing MgO . Please note that my April 5 letter indicated particulate matter emissions are not expected to increase above current levels since most of the $Mg(OH)_2$ additive by-product (MgO) binds with the ash during the combustion process and is retained in the boiler.

Our Port Everglades Plant (Unit 4) was one of the first facilities on our system to conduct an evaluation of the benefits of the $Mg(OH)_2$ fuel additive through the fuel injection process. Port Everglades Unit 4 and Fort Myers Unit 2 are essentially the same size boiler, each having similar fuel firing equipment. The results of particulate matter emissions testing conducted on December 13, 1992 while Unit 4 was utilizing the $Mg(OH)_2$ additive indicate a steady-state particulate matter emission rate of 0.06 pound/MMBtu which is well within the 0.10 pound/MMBtu emission limitation. That test was conducted using EPA reference methods 1-4 and 17. Furthermore, that test was conducted using a $Mg(OH)_2$ dose of 1 gallon additive to 3,500 gallons of fuel oil which is identical to the highest dose anticipated to be used at Fort Myers Unit 2. In the event FPL decides to pursue routine use of the $Mg(OH)_2$ additive as a result of the evaluation findings, all future compliance testing for particulate matter emissions will incorporate the use of the additive.

We believe conducting compliance testing during the evaluation of the additive would present an unnecessary burden on FPL from a resource management standpoint. The Port Everglades test results indicate the $Mg(OH)_2$ fuel injection approach to liming has no noticeable effect on particulate matter emissions and particulate matter emissions for the Fort Myers Units will remain well within permitted emissions limitations. Hence, FPL does not believe compliance testing is justified for the Fort Myers Plant at this time. Compliance testing for Unit 2 was conducted on March 18-19, 1993 and will not be scheduled until next year. Unit 1 is scheduled for testing on May 12-13, 1993, but is not setup to use the $Mg(OH)_2$ additive at this time since FPL is placing a priority on Unit 2 at this time.

If you have any questions regarding this matter, please contact me at (407) 625-7635.

Sincerely,



Daniel R. Adams
Environmental Specialist
Florida Power & Light Company

DRA:jm

cc: Mr. David Knowles - FDER South District
Mr. Gary Majler - FDER South District

042693.pfm

RECEIVED

MAY 14 1993

D.E.R. SOUTH DISTRICT

END

Department of Environmental Regulation
Routing and Transmittal Slip

To: (Name, Office, Location)

1. CLAIR FANCY, Bureau Chief, AIR BAR Tallahassee
2. *John*
- 3.
- 4.

Remarks:

Through: David Knowles *D. Knowles*

FYI - Re: Florida Power and Light

Just to keep you informed of District actions concerning FPL, attached are a recent letter from FPL and the South District response.

FPL's fuel ash content is normally about 500 ppm; therefore, an increase of 225 ppm may not be trivial.

We have no problem with the new fuel additive concept, but would like to see a stack test to ensure that emissions stay within limits.

Thank you.

5/19

Preston: Please review and advise whether approval to ~~test~~ use mg(CO)₂ is needed - [normally we revise permit before testing]. Also, will permit need to be revised?

[NOTE: Testing seems to have begun]

John

From: Gary Maier, South District <i>G.M.</i>	Date: 04/12/93
	Phone: SC 748-6975


FPL

April 5, 1993

Mr. David Knowles
 State of Florida
 Department of Environmental Regulation
 South Florida District
 2295 Victoria Avenue, Suite 364
 Fort Myers, Florida 33901

RE: **Florida Power & Light Company**
Fort Myers Power Plant - Units 1 and 2
Fuel Additive Use Notification

Dear Mr. Knowles:

This is to notify you of FPL's plans to evaluate the potential benefits of magnesium hydroxide (Mg(OH)₂) fuel additive on a trial basis at Units 1 and 2 of our Fort Myers Power Plant. As you are aware, it is FPL's current practice to intermittently inject a mixture of magnesium oxide (MgO) and water into our boilers through the retractable soot blowers (IKs) and/or with hand lances, to help reduce high-temperature boiler tube corrosion and thus reduce maintenance time and costs. For many years it has been common practice in the electric utility industry to use MgO fuel additive, typically a suspension of MgO in a light oil carrier, to reduce boiler tube corrosion. FPL has never been in favor of using the MgO fuel additive because of the potential for abrasive wear of the oil atomizers.

Recently, an increasing number of electric utilities have switched from using MgO-in-light-oil to Mg(OH)₂-in-water fuel oil additives. The Mg(OH)₂ fuel oil additive is a water soluble hydroxide injected into the fuel oil stream. The feed rate is continuous, based on load. Injection rate varies with fuel chemistry and can range from one gallon of additive to 3,500 gallons of fuel oil, to one gallon of additive to 15,000 gallons of fuel oil. By injecting Mg(OH)₂ into the fuel oil stream, we avoid using the IKs and hand lances for lime injection during the boiler cleaning process.

FPL's present plans call for a maximum treatment ratio of one gallon of Mg(OH)₂ additive for every 3,500 gallons of residual fuel oil. This is equivalent to adding 225 ppm of Mg(OH)₂ per pound of fuel. Mg(OH)₂ quickly converts to MgO in the flame, where it complexes with vanadium oxides and other fuel ash constituents, just like the MgO additive used at present. When used in sufficient quantities, which for the currently burned fuel oils is expected to be less than the above-mentioned maximum treatment ratio of 1:3,500, the Mg(OH)₂ additive should thus minimize high-and low-temperature boiler tube corrosion. Furthermore, particulate matter emissions are not expected to increase above current levels since most of the Mg(OH)₂ additive by-product (MgO) binds with the ash during the combustion process and is retained in the boiler.

FPL plans to commence testing of the Mg(OH)₂ fuel additive on about April 12, 1993 and continue testing for a 6-12 month period from that date. Upon completion of the evaluation, we will advise you if we decide to permanently implement the use of Mg(OH)₂ additive at the referenced units. Based on the successful results of testing Mg(OH)₂ additive at our Riviera Power Plant, FPL would expect similar

 ART *WEL*
 GARY *J.M.*

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

Post-It™ brand fax transmittal memo 7671		# of pages	2
To	David Knowles		
From	Dean Cochran		
Co.	FPL		
Dept.	407-625-7635		
Fax #	813-332-6969		

FAX
 APR 06 1993
 RECEIVED

success at the Fort Myers Power Plant which would lead to implementing the use of $Mg(OH)_2$ additive on a permanent basis and eliminate the periodic use of MgO additive.

If you have any questions regarding this matter, please contact me at (407) 625-7635.

Sincerely,

A handwritten signature in cursive script that reads "Daniel R. Adams".

Daniel R. Adams
Environmental Specialist
Florida Power & Light Company

DRA:jm

040593.pfm



Florida Department of Environmental Regulation

South District

• 2295 Victoria Avenue •

Fort Myers, Florida 33901

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

April 12, 1993

Mr. C. D. Henderson, Manager
Air & Water Permitting and Programs
Florida Power & Light Company
P.O. Box 088801
North Palm Beach, FL 33408-8801

COPY

Re: Lee County - AP
Fort Myers Power Plant
Units 1 and 2

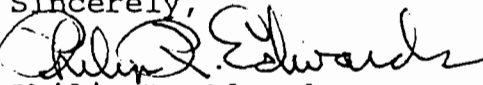
Dear Mr. Henderson:

Thank you for notifying the Department via letter dated April 5, 1993, signed by Mr. Daniel R. Adams, that FPL intends to evaluate/test the potential benefits of magnesium hydroxide fuel additive on a trial basis at Units 1 and 2 of the Fort Myers Power Plant. Please note that the appropriate procedures for Department approval of testing programs which might affect emissions are outlined in Rule 17-103.120, F.A.C. The South District assumes that FPL will follow up appropriately with Tallahassee staff regarding any paperwork deemed necessary.

*Preson
← was this
done? JB*

The South District evaluated the information in FPL's notification. Conceptually (and preliminarily), the South District has no objection to FPL's plan. In order to affirmatively provide the Department with reasonable assurance that FPL's proposed change in the method of operation will not cause pollution in contravention of Department standards or rules, the Department hereby requests FPL to conduct particulate (EPA Method 5 or 17) and visible emission (DER Method 9) stack tests at each unit, (a) within 60 days of first utilizing the magnesium hydroxide fuel additive, (b) while utilizing the magnesium hydroxide fuel additive at the maximum proposed treatment ratio, and (c) under both soot blowing and non soot blowing conditions. Please notify the South District Office at least 15 days prior to the date on which each test is to begin. Please submit the test results within 45 days of testing.

The South District looks forward to receiving these test results. If you have any questions regarding this letter, please contact Mr. Gary A. Maier at (813) 332-6975.

Sincerely,

Philip R. Edwards
Director of
District Management

PRE/GM/jw

MAILING CHECKLIST

DOCUMENTS NEEDED FOR AN AIR OPERATION PERMIT MODIFICATION: ✓

Company Name/Permit Number: FLORIDA POWER & LIGHT
CAPE CANAVERAL - BREVARD CO.
AO 05-217321
AO 05-252219

DRAFT:

	<u>Blank Filename</u>	<u>Your Filename</u>
Memo from Permit Engineer (through Al) to Clair	Clair1.doc	CLAIR
Cover letter addressed to Company	Cvrltr03.doc	CVRLTR
Intent to Issue / Certificate of Service	Intent03.doc	CAPEINT
Public Notice of the Intent to Issue	Pnotice03.doc	CAPENOT
Technical Evaluation and Preliminary Determination [if applicable]	Tepdfmt.doc	_____
Permit with General and Specific Conditions [if applicable]	Permnew.doc	_____
BACT / LAER / MACT Determination [if applicable]	Bactform.doc	_____
Seal of Approval on page with Al's signature and seal [if applicable]	Peseal.doc	_____
Letter to Company explaining the Department Action and Modification [if Permit and associated documents are not applicable]	Modltr.doc	MODIFLTR

FINAL

Memo from Permit Engineer (through Al and Clair) to Howard	Howard1.doc	_____
Transmittal letter addressed to Company (Notice of Permit)	Finlnot3.doc	_____
Certificate of Service	"	_____
Final Determination / Letter of Explanation	Finldet3.doc	_____
Permit with General and Specific Conditions [if applicable]	Permnew.doc	_____
BACT / LAER / MACT Determination [if applicable]	Bactform.doc	_____
Attachments [if applicable]		_____

_____ Logged into ARMS ?
 _____ Data/application entered into ARMS (or EARS) ?
 _____ Emission Unit created / Linked ?

Routing and Transmittal Slip

To: (Name, Office, Location)

*Al Tinero
Air Resources Mgmt
MS # 5505
Tallahassee*

*00000090-
002-70*

Remarks:

*K.m - Start file. Enter into ARMS.
Not PSD, not ^{NOT A/C} certification. Modification of
an AO. Assign to Willard. No fee needed
for AO on Title I source.*

RECEIVED

JAN 10 1997

BUREAU OF
AIR REGULATION

*Willard - This was your condition
made in 80's or 70's. Look*

*this over and decide if it can be changed
& if alternative additive seems in line with
effects of old additive. Very low
chance they need AC in my
opinion. Look at Bycon data
in files. Thanks all*



THIS WON'T HURT A BIT

P-777 © 1978 United Feature Syndicate, Inc.

FROM: *J. J. Kozlov, P.E.
Air Administrator
Central District*

DATE *1/14/97*

PHONE
SC 325.3332



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

1/4/97
D.S.

Send copies to

AL LINDO
MIKE HARLEY
AZ
AS
CS
GK

January 6, 1997

Mr. Leonard Koslov
State of Florida
Department of Environmental Protection
Central Florida District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3767



**RE: Cape Canaveral Power Plant
Addition of Fuel Oil Additive
Air Operating Permits A005-217321 and A005-252219**

Dear Mr. Koslov:

Pursuant to conversation with Mr. Anatoliy Sobolevskiy on November 8, 1996, this correspondence is to request a revision of the Cape Canaveral Power Plant Air Operating permits to change the fuel additive description from magnesium hydroxide to a magnesium based fuel oil additive. The report prepared by plant personnel is attached describing the test, plus provides data during testing with and without use of the additive.

The current permits addresses the additive on page 7 of 9 condition 5.(b), third paragraph. The following change is recommended:

- Should FPL decide to pursue routine use of ~~magnesium hydroxide (Mg(OH)₂)~~ a magnesium based fuel additive, then all future compliance testing for particulate matter and visible emissions shall include.....

If the \$250 change fee per permit is required, please give me a call so I may expedite it to you. Several of the Districts have returned checks recently indicating since fees for Title V are now being paid the change fee is not required.

If you have questions or require additional information, please give me a call at (561) 625-7637.

Sincerely,

Mary Archer
Environmental Specialist

those 1-14
depreciated
I would like to
have a
meeting.
Len

0090006-002-AD



Cape Canaveral Plant
6000 N. U.S. Hwy. 1
Cocoa, Florida 32927-6002



January 6, 1997

Subject:- Fuel Oil Additive Evaluation at FPL's Cape Canaveral Plant

Objective:- The purpose of this evaluation was to determine the effect of a Magnesium based Fuel oil additive on the products of combustion of heavy number 6 fuel oil when burned in a large utility steam generator. The main focus of this trial was to observe any changes to the ash softening characteristics of the fuel and also determine the effects (if any) on Opacity, SO₂ emissions, and Heat Rate.

Procedure:- At the request of the Technical Department at the Cape Canaveral Power Plant, FPL applied for and received permission from the Florida Department of Environmental Protection to conduct an evaluation of a fuel oil additive manufactured by Bycocin AB. The evaluation began at the Cape Canaveral Plant in early July 1996 and ran for approximately six months finishing at year end 1996. The additive was injected into the fuel oil just upstream of the oil burners and varying dosage rates were tested (i.e. a mix of 1 gallon additive to 2000 gallons oil; through a mix of 1 gallon additive to 5000 gallons oil.)

Online visual observations were made at regular intervals to determine the impact on such things as flame stability, furnace floor ash depth and furnace wall deposit build up. Two off-line inspections were also made to observe areas which could not be seen with the unit operating.

A two day, steady state test series which monitored load, oil flow, heat rate, opacity and SO₂ was conducted in mid October.

Results:- The on-line visual observations were very encouraging: burner flame shape and stability were noticeably improved which indicates that the additive was performing as required to promote complete combustion and total burn out of all the hydrocarbons in the fuel. Furnace floor ash depth, in relation to a similar amount of fuel burned previously, was much less (on the order of 40-50 %) and in addition the furnace wall deposit build up was greatly reduced. These data show that not only is the additive working as planned, but the Magnesium component of the additive was also capturing the Vanadium in the fuel oil and preventing it from converting to Vanadium pentoxide (V₂O₅) which is a very hard and corrosive substance often formed in high temperature combustion zones.(Ash softening characteristics)

The off-line inspections also proved to be encouraging in that areas usually covered with a hard tenacious material were now either bare or covered with a light, friable coating which is easily removed by either sootblowing or waterwashing. Air preheater baskets which are normally susceptible to severe pluggage were found to be in much better condition than anticipated. Ash samples were taken and analyzed by FPL's Central Laboratory. The samples were found to have very small amounts of vanadium or vanadium pentoxide which corresponds to our visual observations.

The two day steady state test was run as a "double blind" test, that is on the first day the unit was tested at steady load with the additive OFF for four hours then, without changing anything, the additive was turned ON and tested for four hours.

The second day the process was reversed with the additive ON and tested for four hours then turned OFF and tested for four hours. This was done to eliminate as many variables as possible in the testing.

The outcome of this testing was most exciting and provided the following information:

1. There was no effect on either the recorded opacity or the visual opacity (no increase or decrease) see attached chart for recorded opacity
2. There was no effect on the recorded SO₂ (additive contains no sulfur)
3. There was no effect on indicated load (net Megawatts).
4. There was a significant improvement in the indicated heat rate (Btu/kWh)

Conclusions:- The Bycocin additive has performed very favorably at the Cape Canaveral Power plant. Not only have the deposits been reduced on the furnace walls and bottom, but what deposits are left have been dry, friable and easily removed. The heat rate improvement should allow the plant to burn a little less oil and still generate the same amount of electricity.

But, far and away the most important results of this evaluation are the data that demonstrate that this additive does not increase the Opacity or the SO₂ when used with the fuel oil which is burned at this Plant.

Request:- The Technical Department at the Cape Canaveral Power Plant therefore requests that the Air Operating Permit for both Units be revised to allow inclusion of this Magnesium based additive as quickly as possible.

Submitted by: Bruce Bennett & Jay McDonald

Unit No. 1 10/17/96				Unit No. 1 10-18-96			
	additive				additive		
SMPL	NOx	Load	SO2	Time	NOx	Load	NOx
9:02:44	0	424.218	0	8:36:07	0.836	421	2.118
9:05:37	0	423.75	0	8:39:00	0.836	423	2.118
9:08:30	0	423.125	0	8:41:53	0.836	424	2.118
9:11:23	0	422.656	0	8:44:46	0.836	423	2.118
9:14:16	0	423.75	0	8:47:39	0.836	422	2.118
9:17:09	0	423.125	0	8:50:32	0.836	422	2.118
9:20:02	0	423.75	0	8:53:25	0	422	0
9:22:55	0	423.125	0	8:56:18	0	423	0
9:25:48	0	423.125	0	8:59:11	0	422	0
9:28:41	0.904	423.75	2.115	9:02:04	0	421	0
9:31:34	0.904	423.75	2.115	9:04:57	0	421	0
9:34:27	0.904	422.656	2.115	9:07:50	0	422	0
9:37:20	0.904	423.75	2.115	9:10:43	0	423	0
9:40:13	0.904	423.75	2.115	9:13:36	0	422	0
9:43:06	0.904	423.125	2.115	9:16:29	0	422	0
9:45:59	0.904	423.75	2.115	9:19:22	0	422	0
9:48:52	0.904	423.75	2.115	9:22:15	0	423	0
9:51:45	0.904	423.75	2.115	9:25:08	0	422	0
9:54:38	0.904	423.125	2.115	9:28:01	0	423	0
9:57:31	0.904	423.125	2.115	9:30:54	0.836	422	2.145
10:00:24	0.904	423.125	2.115	9:33:47	0.836	422	2.145
10:03:17	0.904	423.906	2.115	9:36:40	0.836	422	2.145
10:06:10	0.904	423.125	2.115	9:39:33	0.836	422	2.145
10:09:03	0.904	422.656	2.115	9:42:26	0.836	422	2.145
10:11:56	0.904	423.75	2.115	9:45:19	0.836	422	2.145
10:14:49	0.904	423.125	2.115	9:48:12	0.836	421	2.145
10:17:42	0.904	423.125	2.115	9:51:05	0.836	422	2.145
10:26:21	0.831	423.125	2.098	9:53:58	0.836	422	2.145
10:29:14	0.831	423.125	2.098	9:56:51	0.836	422	2.145
10:32:07	0.831	423.125	2.098	9:59:44	0.836	422	2.145
10:35:00	0.831	423.125	2.098	10:02:37	0.836	422	2.145
10:37:53	0.831	423.125	2.098	10:05:30	0.836	422	2.145
10:40:46	0.831	423.125	2.098	10:08:23	0.836	422	2.145
10:43:39	0.831	423.125	2.098	10:11:16	0.836	422	2.145
10:46:32	0.831	423.125	2.098	10:14:09	0.836	422	2.145
10:49:25	0.831	423.125	2.098	10:17:02	0.836	422	2.145
10:52:18	0.831	423.75	2.098	10:19:55	0.836	422	2.145
10:55:11	0.831	423.75	2.098	10:22:48	0	422	0
10:58:04	0.831	423.125	2.098	10:25:41	0	422	0
11:00:57	0.831	423.125	2.098	10:28:34	0.801	422	2.169
11:03:50	0.831	423.75	2.098	10:31:27	0.801	422	2.169
11:06:43	0.831	424.375	2.098	10:34:20	0.801	422	2.169
11:09:36	0.831	423.75	2.098	10:37:13	0.801	422	2.169
11:12:29	0.831	423.125	2.098	10:40:06	0.801	423	2.169
11:15:22	0.831	423.75	2.098	10:42:59	0.801	423	2.169

11:18:15	0.831	423.125	2.098	10:45:52	0.801	422	2.169
11:26:54	0.846	423.75	2.132	10:48:45	0.801	422	2.169
11:29:47	0.846	423.75	2.132	10:51:38	0.801	422	2.169
11:32:40	0.846	423.75	2.132	10:54:31	0.801	422	2.169
11:35:33	0.846	423.125	2.132	10:57:24	0.801	423	2.169
11:38:26	0.846	423.125	2.132	11:00:17	0.801	423	2.169
11:41:19	0.846	423.125	2.132	11:03:10	0.801	422	2.169
11:44:12	0.846	423.75	2.132	11:06:03	0.801	422	2.169
11:47:05	0.846	423.75	2.132	11:08:56	0.801	422	2.169
11:49:58	0.846	423.125	2.132	11:11:49	0.801	423	2.169
11:52:51	0.846	423.125	2.132	11:14:42	0.801	423	2.169
11:55:44	0.846	423.125	2.132	11:17:35	0.801	422	2.169
11:58:37	0.846	423.75	2.132	11:20:28	0	422	0
12:01:30	0.846	423.125	2.132	11:23:21	0	422	0
12:04:23	0.846	423.125	2.132	11:26:14	0	422	0
12:07:16	0.846	423.125	2.132	11:29:07	0.785	422	2.169
12:10:09	0.846	423.125	2.132	11:32:00	0.785	423	2.169
12:13:02	0.846	423.125	2.132	11:34:53	0.785	423	2.169
12:15:55	0.846	423.125	2.132	11:37:46	0.785	423	2.169
12:18:48	0.846	423.125	2.132	11:40:39	0.785	422	2.169
12:21:41	0	423.125	0	11:43:32	0.785	422	2.169
12:24:34	0	423.125	0	11:46:25	0.785	422	2.169
12:27:27	0.83	423.125	2.103	11:49:18	0.785	422	2.169
12:30:20	0.83	423.125	2.103	11:52:11	0.785	423	2.169
12:33:13	0.83	423.125	2.103	11:55:04	0.785	422	2.169
12:36:06	0.83	423.75	2.103	11:57:57	0.785	423	2.169
12:38:59	0.83	423.125	2.103	12:00:50	0.785	422	2.169
12:41:52	0.83	423.125	2.103	12:03:43	0.785	423	2.169
12:44:45	0.83	423.125	2.103	12:06:36	0.785	422	2.169
12:47:38	0.83	423.125	2.103	12:09:29	0.785	422	2.169
12:50:31	0.83	423.125	2.103	12:12:22	0.785	422	2.169
12:53:24	0.83	423.75	2.103	12:15:15	0.785	422	2.169
12:56:17	0.83	423.125	2.103	12:18:08	0.785	422	2.169
12:59:10	0.83	423.75	2.103	12:21:01	0	422	0
13:02:03	0.83	423.125	2.103	12:23:54	0	422	0
13:04:56	0.83	423.125	2.103	12:26:47	0	423	0
13:07:49	0.83	423.75	2.103	12:29:40	0.779	422	2.149
13:10:42	0.83	423.281	2.103	12:32:33	0.779	422	2.149
13:13:35	0.83	423.125	2.103	12:35:26	0.779	422	2.149
13:16:28	0.83	423.125	2.103	12:38:19	0.779	422	2.149
13:19:21	0	423.125	0	12:41:12	0.779	423	2.149
13:22:14	0	423.75	0	12:44:05	0.779	422	2.149
13:25:07	0	423.75	0	12:46:58	0.779	423	2.149
13:28:00	0.825	423.125	2.109	12:49:51	0.779	423	2.149
13:30:53	0.825	423.125	2.109	12:52:44	0.779	423	2.149
13:33:46	0.825	423.75	2.109	12:55:37	0.779	422	2.149
13:36:39	0.825	423.75	2.109	12:58:30	0.779	423	2.149
13:39:32	0.825	423.125	2.109	13:01:23	0.779	423	2.149
13:42:25	0.825	423.75	2.109	13:04:16	0.779	423	2.149
13:45:18	0.825	423.125	2.109	13:07:09	0.779	422	2.149
13:48:11	0.825	423.75	2.109	13:10:02	0.779	422	2.149

13:51:04	0.825	423.75	2.109	13:12:55	0.779	422	2.149
13:53:57	0.825	423.125	2.109	13:15:48	0.779	422	2.149
13:56:50	0.825	423.125	2.109	13:18:41	0.779	422	2.149
13:59:43	0.825	423.125	2.109	13:21:34	0	423	0
14:02:36	0.825	423.125	2.109	13:24:27	0	423	0
14:05:29	0.825	423.125	2.109	13:27:20	0.778	422	2.149
14:08:22	0.825	423.125	2.109	13:30:13	0.778	423	2.149
14:11:15	0.825	422.5	2.109	13:33:06	0.778	422	2.149
14:14:08	0.825	423.75	2.109	13:35:59	0.778	422	2.149
14:17:01	0.825	423.125	2.109	13:38:52	0.778	422	2.149
14:19:54	0	423.125	0	13:41:45	0.778	423	2.149
14:22:47	0	423.125	0	13:44:38	0.778	422	2.149
14:25:40	0	423.125	0	13:47:31	0.778	423	2.149
14:28:33	0.827	423.125	2.098	13:50:24	0.778	423	2.149
14:31:26	0.827	423.125	2.098	13:53:17	0.778	423	2.149
14:34:19	0.827	423.125	2.098	13:56:10	0.778	422	2.149
14:37:12	0.827	423.75	2.098	13:59:03	0.778	423	2.149
14:40:05	0.827	423.75	2.098	14:01:56	0.778	423	2.149
14:42:58	0.827	423.75	2.098	14:04:49	0.778	423	2.149
14:45:51	0.827	423.75	2.098	14:07:42	0.778	422	2.149
14:48:44	0.827	423.125	2.098	14:10:35	0.778	422	2.149
14:51:37	0.827	423.125	2.098	14:13:28	0.778	422	2.149
14:54:30	0.827	423.125	2.098	14:16:21	0.778	423	2.149
14:57:23	0.827	423.125	2.098	14:19:14	0.778	422	2.149
15:00:16	0.827	423.125	2.098	14:22:07	0	422	0
15:03:09	0.827	423.125	2.098	14:25:00	0	422	0
15:06:02	0.827	423.75	2.098	14:27:53	0.772	422	2.163
15:08:55	0.827	423.125	2.098	14:30:46	0.772	423	2.163
15:11:48	0.827	422.612	2.098	14:33:39	0.772	422	2.163
15:14:41	0.827	422.5	2.098	14:36:32	0.772	422	2.163
15:17:34	0.827	423.125	2.098	14:39:25	0.772	422	2.163
15:20:27	0	423.125	0	14:42:18	0.772	422	2.163
15:23:20	0	423.75	0	14:45:11	0.772	423	2.163
15:26:13	0.819	423.125	2.121	14:48:04	0.772	422	2.163
15:29:06	0.819	423.125	2.121	14:50:57	0.772	422	2.163
15:31:59	0.819	423.125	2.121	14:53:50	0.772	422	2.163
15:34:52	0.819	423.125	2.121	14:56:43	0.772	422	2.163
15:37:45	0.819	423.125	2.121	14:59:36	0.772	422	2.163
15:40:38	0.819	423.125	2.121	15:02:29	0.772	422	2.163
15:43:31	0.819	423.125	2.121	15:05:22	0.772	423	2.163
15:46:24	0.819	423.75	2.121	15:08:15	0.772	423	2.163
15:49:17	0.819	423.125	2.121	15:11:08	0.772	423	2.163
15:52:10	0.819	423.125	2.121	15:14:01	0.772	422	2.163
15:55:03	0.819	423.125	2.121	15:16:54	0.772	422	2.163
15:57:56	0.819	423.125	2.121	15:19:47	0.772	423	2.163
16:00:49	0.819	422.656	2.121	15:22:40	0	422	0
16:03:42	0.819	422.5	2.121	15:25:33	0	422	0
16:06:35	0.819	422.656	2.121	15:28:26	0.789	422	2.184
16:09:28	0.819	422.656	2.121	15:31:19	0.789	422	2.184
16:12:21	0.819	423.125	2.121	15:34:12	0.789	422	2.184
16:15:14	0.819	422.656	2.121	15:37:05	0.789	422	2.184

Sheet1

16:18:07	0.819	422.656	2.121	15:39:58	0.789	422	2.184
16:21:00	0	423.125	0	15:42:51	0.789	422	2.184
16:23:53	0	422.656	0	15:45:44	0.789	423	2.184
16:26:46	0.821	423.125	2.134	15:48:37	0.789	423	2.184
16:29:39	0.821	423.125	2.134	15:51:30	0.789	422	2.184
16:32:32	0.821	423.125	2.134	15:54:23	0.789	422	2.184
16:35:25	0.821	423.125	2.134	15:57:16	0.789	422	2.184
16:38:18	0.821	423.125	2.134	16:00:09	0.789	422	2.184
16:41:11	0.821	422.656	2.134	16:03:02	0.789	423	2.184
16:44:04	0.821	422.5	2.134	16:05:55	0.789	422	2.184
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16:58:29	0.821	423.125	2.134				
17:01:22	0.821	422.5	2.134				
17:04:15	0.821	422.656	2.134				
17:07:08	0.821	422.5	2.134				
17:10:01	0.821	422.656	2.134				
17:12:54	0.821	422.5	2.134				
17:15:47	0.821	422.5	2.134				
17:18:40	0.821	422.656	2.134				
17:21:33	0	422.656	0				
17:24:26	0	422.656	0				
17:27:19	0.829	423.125	2.146				
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17:41:44	0.829	422.656	2.146				
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17:47:30	0.829	422.656	2.146				
17:50:23	0.829	422.656	2.146				
17:53:16	0.829	422.656	2.146				
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17:59:02	0.829	422.656	2.146				
18:01:55	0.829	422.656	2.146				
18:04:48	0.829	422.656	2.146				
18:07:41	0.829	422.656	2.146				
18:10:34	0.829	423.125	2.146				
18:13:27	0.829	422.656	2.146				



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

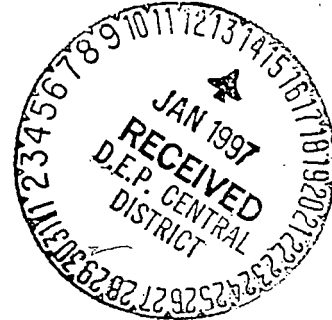
1/14/97
D.S.

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AL LIVERZO
MIKE HARLEY
AZ
AS
CS
GK

January 6, 1997

Mr. Leonard Koslov
State of Florida
Department of Environmental Protection
Central Florida District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3767



RE: Cape Canaveral Power Plant
Addition of Fuel Oil Additive
Air Operating Permits A005-217321 and A005-252219

Dear Mr. Koslov:

L. J. Jernard
3/10/93
Unit 1

Hand
7/24/94
Unit 2

Pursuant to conversation with Mr. Anatoliy Sobolevskiy on November 8, 1996, this correspondence is to request a revision of the Cape Canaveral Power Plant Air Operating permits to change the fuel additive description from magnesium hydroxide to a magnesium based fuel oil additive. The report prepared by plant personnel is attached describing the test, plus provides data during testing with and without use of the additive.

The current permits addresses the additive on page 7 of 9 condition 5.(b), third paragraph. The following change is recommended:

- Should FPL decide to pursue routine use of ~~magnesium hydroxide (Mg(OH)₂)~~ a magnesium based fuel additive, then all future compliance testing for particulate matter and visible emissions shall include.....

If the \$250 change fee per permit is required, please give me a call so I may expedite it to you. Several of the Districts have returned checks recently indicating since fees for Title V are now being paid the change fee is not required.

If you have questions or require additional information, please give me a call at (561) 625-7637.

Sincerely,

Mary Archer
Environmental Specialist

Those 1-14
delegated
I would like to
have a
meeting.
Len

0090006-002-AD



Cape Canaveral Plant
6000 N. U.S. Hwy. 1
Cocoa, Florida 32927-6002



January 6, 1997

Subject:- Fuel Oil Additive Evaluation at FPL's Cape Canaveral Plant

Objective:- The purpose of this evaluation was to determine the effect of a Magnesium based Fuel oil additive on the products of combustion of heavy number 6 fuel oil when burned in a large utility steam generator. The main focus of this trial was to observe any changes to the ash softening characteristics of the fuel and also determine the effects (if any) on Opacity, SO₂ emissions, and Heat Rate.

Procedure:- At the request of the Technical Department at the Cape Canaveral Power Plant, FPL applied for and received permission from the Florida Department of Environmental Protection to conduct an evaluation of a fuel oil additive manufactured by Bycocin AB. The evaluation began at the Cape Canaveral Plant in early July 1996 and ran for approximately six months finishing at year end 1996. The additive was injected into the fuel oil just upstream of the oil burners and varying dosage rates were tested (i.e. a mix of 1 gallon additive to 2000 gallons oil; through a mix of 1 gallon additive to 5000 gallons oil.)
Online visual observations were made at regular intervals to determine the impact on such things as flame stability, furnace floor ash depth and furnace wall deposit build up. Two off-line inspections were also made to observe areas which could not be seen with the unit operating.
A two day, steady state test series which monitored load, oil flow, heat rate, opacity and SO₂ was conducted in mid October.

Results:- The on-line visual observations were very encouraging: burner flame shape and stability were noticeably improved which indicates that the additive was performing as required to promote complete combustion and total burn out of all the hydrocarbons in the fuel. Furnace floor ash depth, in relation to a similar amount of fuel burned previously, was much less (on the order of 40-50 %) and in addition the furnace wall deposit build up was greatly reduced. These data show that not only is the additive working as planned, but the Magnesium component of the additive was also capturing the Vanadium in the fuel oil and preventing it from converting to Vanadium pentoxide (V₂O₅) which is a very hard and corrosive substance often formed in high temperature combustion zones. (Ash softening characteristics)
The off-line inspections also proved to be encouraging in that areas usually covered with a hard tenacious material were now either bare or covered with a light, friable coating which is easily removed by either sootblowing or waterwashing. Air preheater baskets which are normally susceptible to severe pluggage were found to be in much better condition than anticipated. Ash samples were taken and analyzed by FPL's Central Laboratory. The samples were found to have very small amounts of vanadium or vanadium pentoxide which corresponds to our visual observations.
The two day steady state test was run as a "double blind" test, that is on the first day the unit was tested at steady load with the additive OFF for four hours then, without changing anything, the additive was turned ON and tested for four hours.

The second day the process was reversed with the additive ON and tested for four hours then turned OFF and tested for four hours. This was done to eliminate as many variables as possible in the testing.

The outcome of this testing was most exciting and provided the following information:

1. There was no effect on either the recorded opacity or the visual opacity (no increase or decrease) see attached chart for recorded opacity
2. There was no effect on the recorded SO₂ (additive contains no sulfur)
3. There was no effect on indicated load (net Megawatts).
4. There was a significant improvement in the indicated heat rate (Btu/kWh)

Conclusions:- The Bycocin additive has performed very favorably at the Cape Canaveral Power plant. Not only have the deposits been reduced on the furnace walls and bottom, but what deposits are left have been dry, friable and easily removed. The heat rate improvement should allow the plant to burn a little less oil and still generate the same amount of electricity.

But, far and away the most important results of this evaluation are the data that demonstrate that this additive does not increase the Opacity or the SO₂ when used with the fuel oil which is burned at this Plant.

Request:- The Technical Department at the Cape Canaveral Power Plant therefore requests that the Air Operating Permit for both Units be revised to allow inclusion of this Magnesium based additive as quickly as possible.

Submitted by: Bruce Bennett & Jay McDonald

Unit No. 1 10/17/96				Unit No. 1 10-18-96			
	additive				additive		
SMPL	NOx	Load	SO2	Time	NOx	Load	NOx
9:02:44	0	424.218	0	8:36:07	0.836	421	2.118
9:05:37	0	423.75	0	8:39:00	0.836	423	2.118
9:08:30	0	423.125	0	8:41:53	0.836	424	2.118
9:11:23	0	422.656	0	8:44:46	0.836	423	2.118
9:14:16	0	423.75	0	8:47:39	0.836	422	2.118
9:17:09	0	423.125	0	8:50:32	0.836	422	2.118
9:20:02	0	423.75	0	8:53:25	0	422	0
9:22:55	0	423.125	0	8:56:18	0	423	0
9:25:48	0	423.125	0	8:59:11	0	422	0
9:28:41	0.904	423.75	2.115	9:02:04	0	421	0
9:31:34	0.904	423.75	2.115	9:04:57	0	421	0
9:34:27	0.904	422.656	2.115	9:07:50	0	422	0
9:37:20	0.904	423.75	2.115	9:10:43	0	423	0
9:40:13	0.904	423.75	2.115	9:13:36	0	422	0
9:43:06	0.904	423.125	2.115	9:16:29	0	422	0
9:45:59	0.904	423.75	2.115	9:19:22	0	422	0
9:48:52	0.904	423.75	2.115	9:22:15	0	423	0
9:51:45	0.904	423.75	2.115	9:25:08	0	422	0
9:54:38	0.904	423.125	2.115	9:28:01	0	423	0
9:57:31	0.904	423.125	2.115	9:30:54	0.836	422	2.145
10:00:24	0.904	423.125	2.115	9:33:47	0.836	422	2.145
10:03:17	0.904	423.906	2.115	9:36:40	0.836	422	2.145
10:06:10	0.904	423.125	2.115	9:39:33	0.836	422	2.145
10:09:03	0.904	422.656	2.115	9:42:26	0.836	422	2.145
10:11:56	0.904	423.75	2.115	9:45:19	0.836	422	2.145
10:14:49	0.904	423.125	2.115	9:48:12	0.836	421	2.145
10:17:42	0.904	423.125	2.115	9:51:05	0.836	422	2.145
10:26:21	0.831	423.125	2.098	9:53:58	0.836	422	2.145
10:29:14	0.831	423.125	2.098	9:56:51	0.836	422	2.145
10:32:07	0.831	423.125	2.098	9:59:44	0.836	422	2.145
10:35:00	0.831	423.125	2.098	10:02:37	0.836	422	2.145
10:37:53	0.831	423.125	2.098	10:05:30	0.836	422	2.145
10:40:46	0.831	423.125	2.098	10:08:23	0.836	422	2.145
10:43:39	0.831	423.125	2.098	10:11:16	0.836	422	2.145
10:46:32	0.831	423.125	2.098	10:14:09	0.836	422	2.145
10:49:25	0.831	423.125	2.098	10:17:02	0.836	422	2.145
10:52:18	0.831	423.75	2.098	10:19:55	0.836	422	2.145
10:55:11	0.831	423.75	2.098	10:22:48	0	422	0
10:58:04	0.831	423.125	2.098	10:25:41	0	422	0
11:00:57	0.831	423.125	2.098	10:28:34	0.801	422	2.169
11:03:50	0.831	423.75	2.098	10:31:27	0.801	422	2.169
11:06:43	0.831	424.375	2.098	10:34:20	0.801	422	2.169
11:09:36	0.831	423.75	2.098	10:37:13	0.801	422	2.169
11:12:29	0.831	423.125	2.098	10:40:06	0.801	423	2.169
11:15:22	0.831	423.75	2.098	10:42:59	0.801	423	2.169

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11:18:15	0.831	423.125	2.098	10:45:52	0.801	422	2.169
11:26:54	0.846	423.75	2.132	10:48:45	0.801	422	2.169
11:29:47	0.846	423.75	2.132	10:51:38	0.801	422	2.169
11:32:40	0.846	423.75	2.132	10:54:31	0.801	422	2.169
11:35:33	0.846	423.125	2.132	10:57:24	0.801	423	2.169
11:38:26	0.846	423.125	2.132	11:00:17	0.801	423	2.169
11:41:19	0.846	423.125	2.132	11:03:10	0.801	422	2.169
11:44:12	0.846	423.75	2.132	11:06:03	0.801	422	2.169
11:47:05	0.846	423.75	2.132	11:08:56	0.801	422	2.169
11:49:58	0.846	423.125	2.132	11:11:49	0.801	423	2.169
11:52:51	0.846	423.125	2.132	11:14:42	0.801	423	2.169
11:55:44	0.846	423.125	2.132	11:17:35	0.801	422	2.169
11:58:37	0.846	423.75	2.132	11:20:28	0	422	0
12:01:30	0.846	423.125	2.132	11:23:21	0	422	0
12:04:23	0.846	423.125	2.132	11:26:14	0	422	0
12:07:16	0.846	423.125	2.132	11:29:07	0.785	422	2.169
12:10:09	0.846	423.125	2.132	11:32:00	0.785	423	2.169
12:13:02	0.846	423.125	2.132	11:34:53	0.785	423	2.169
12:15:55	0.846	423.125	2.132	11:37:46	0.785	423	2.169
12:18:48	0.846	423.125	2.132	11:40:39	0.785	422	2.169
12:21:41	0	423.125	0	11:43:32	0.785	422	2.169
12:24:34	0	423.125	0	11:46:25	0.785	422	2.169
12:27:27	0.83	423.125	2.103	11:49:18	0.785	422	2.169
12:30:20	0.83	423.125	2.103	11:52:11	0.785	423	2.169
12:33:13	0.83	423.125	2.103	11:55:04	0.785	422	2.169
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13:39:32	0.825	423.125	2.109	13:01:23	0.779	423	2.149
13:42:25	0.825	423.75	2.109	13:04:16	0.779	423	2.149
13:45:18	0.825	423.125	2.109	13:07:09	0.779	422	2.149
13:48:11	0.825	423.75	2.109	13:10:02	0.779	422	2.149

Sheet1

13:51:04	0.825	423.75	2.109	13:12:55	0.779	422	2.149
13:53:57	0.825	423.125	2.109	13:15:48	0.779	422	2.149
13:56:50	0.825	423.125	2.109	13:18:41	0.779	422	2.149
13:59:43	0.825	423.125	2.109	13:21:34	0	423	0
14:02:36	0.825	423.125	2.109	13:24:27	0	423	0
14:05:29	0.825	423.125	2.109	13:27:20	0.778	422	2.149
14:08:22	0.825	423.125	2.109	13:30:13	0.778	423	2.149
14:11:15	0.825	422.5	2.109	13:33:06	0.778	422	2.149
14:14:08	0.825	423.75	2.109	13:35:59	0.778	422	2.149
14:17:01	0.825	423.125	2.109	13:38:52	0.778	422	2.149
14:19:54	0	423.125	0	13:41:45	0.778	423	2.149
14:22:47	0	423.125	0	13:44:38	0.778	422	2.149
14:25:40	0	423.125	0	13:47:31	0.778	423	2.149
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14:31:26	0.827	423.125	2.098	13:53:17	0.778	423	2.149
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14:42:58	0.827	423.75	2.098	14:04:49	0.778	423	2.149
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15:03:09	0.827	423.125	2.098	14:25:00	0	422	0
15:06:02	0.827	423.75	2.098	14:27:53	0.772	422	2.163
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15:49:17	0.819	423.125	2.121	15:11:08	0.772	423	2.163
15:52:10	0.819	423.125	2.121	15:14:01	0.772	422	2.163
15:55:03	0.819	423.125	2.121	15:16:54	0.772	422	2.163
15:57:56	0.819	423.125	2.121	15:19:47	0.772	423	2.163
16:00:49	0.819	422.656	2.121	15:22:40	0	422	0
16:03:42	0.819	422.5	2.121	15:25:33	0	422	0
16:06:35	0.819	422.656	2.121	15:28:26	0.789	422	2.184
16:09:28	0.819	422.656	2.121	15:31:19	0.789	422	2.184
16:12:21	0.819	423.125	2.121	15:34:12	0.789	422	2.184
16:15:14	0.819	422.656	2.121	15:37:05	0.789	422	2.184

Sheet1

16:18:07	0.819	422.656	2.121	15:39:58	0.789	422	2.184
16:21:00	0	423.125	0	15:42:51	0.789	422	2.184
16:23:53	0	422.656	0	15:45:44	0.789	423	2.184
16:26:46	0.821	423.125	2.134	15:48:37	0.789	423	2.184
16:29:39	0.821	423.125	2.134	15:51:30	0.789	422	2.184
16:32:32	0.821	423.125	2.134	15:54:23	0.789	422	2.184
16:35:25	0.821	423.125	2.134	15:57:16	0.789	422	2.184
16:38:18	0.821	423.125	2.134	16:00:09	0.789	422	2.184
16:41:11	0.821	422.656	2.134	16:03:02	0.789	423	2.184
16:44:04	0.821	422.5	2.134	16:05:55	0.789	422	2.184
16:46:57	0.821	423.125	2.134	16:08:48	0.789	423	2.184
16:49:50	0.821	422.031	2.134	16:11:41	0.789	422	2.184
16:52:43	0.821	422.656	2.134	16:14:34	0.789	423	2.184
16:55:36	0.821	422.656	2.134	16:17:27	0.789	422	2.184
16:58:29	0.821	423.125	2.134				
17:01:22	0.821	422.5	2.134				
17:04:15	0.821	422.656	2.134				
17:07:08	0.821	422.5	2.134				
17:10:01	0.821	422.656	2.134				
17:12:54	0.821	422.5	2.134				
17:15:47	0.821	422.5	2.134				
17:18:40	0.821	422.656	2.134				
17:21:33	0	422.656	0				
17:24:26	0	422.656	0				
17:27:19	0.829	423.125	2.146				
17:30:12	0.829	422.187	2.146				
17:33:05	0.829	422.656	2.146				
17:35:58	0.829	422.5	2.146				
17:38:51	0.829	422.656	2.146				
17:41:44	0.829	422.656	2.146				
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17:47:30	0.829	422.656	2.146				
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18:04:48	0.829	422.656	2.146				
18:07:41	0.829	422.656	2.146				
18:10:34	0.829	423.125	2.146				
18:13:27	0.829	422.656	2.146				



Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

Ms. Mary Archer
Environmental Specialist
Florida Power & Light Company
P.O.Box 088801
North Palm Beach, FL 33408-8801

OCD-AP-96-131

Brevard County - AP
Cape Canaveral Plant
Permit AO05-217321
Use of Fuel Oil Additive

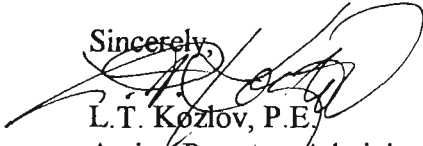
Dear Ms. Archer:

Your request has been reviewed regarding the test of a magnesium fuel oil mixture as an additive to form soft slag in the boiler of Unit #1 at the Cape Canaveral Plant. According to information provided, it is not anticipated that the new additive usage can increase the emissions of HAPs, acid mist, or criteria pollutants, thus the testing of the new additive Bycosin can be approved by the Department for the period of ninety days. The results of the test data should be submitted to the Department within 30 days after completion of the test.

If during the test, an increase in emissions is observed, a request for an amendment to the construction permit must be submitted to the Department, should the decision to use the new additive be made by the permittee.

After receipt of this letter, please inform this office of the initial date of testing.

Sincerely,


L.T. Kozlov, P.E.
Acting Program Administrator
Air Resources Management

Date 5-15-96

cc: Commissioner Scarborough, Jr.

A. Linero

C. Fancy

LTK/AS/j
A.S.



January 23, 1997

Mr. Al Linero
Bureau of Air Permitting
State of Florida Department of Environmental Protection
2600 Blair Stone Road, MS 48
Tallahassee FL 32399-2400

RECEIVED

JAN 24 1997

**BUREAU OF
AIR REGULATION**

**Re: FPL Cape Canaveral Plant
Modification to AO Permits**

Dear Mr. Linero:

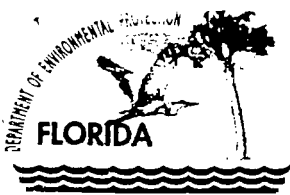
Enclosed for your use please find copies of the current Air Operating permits for the FPL Cape Canaveral Units 1 and 2 (permit numbers AO 05-217321 and AO 05-252219). I understand from Mary Archer, in my office, that you had requested these copies in order to continue processing FPL's request to utilize a different fuel oil additive in these units.

If you have any questions regarding these permits or FPL's modification request, please do not hesitate to contact Mary Archer at (407) 625-7637 or me at (407) 625-7661.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'Richard Piper', is written over a light blue horizontal line.

Richard Piper
Senior Environmental Specialist
Florida Power & Light Company



Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wethereli
Secretary

FILE COPY

NOTICE OF PERMIT ISSUANCE

CERTIFIED MAIL
P 185 466 750

RECEIVED

JUL 26 1994

MANAGER
ENVIRONMENTAL AFFAIRS

Florida Power and Light Company
11770 U.S. Highway One
North Palm Beach, Florida 33408

Attention: Elsa Bishop, Acting Supervisor
Air Permitting and Programs

Brevard County - AP
Cape Canaveral Power Plant Unit No. 2

Dear Ms. Bishop:

Enclosed is Permit Number A005-252219 to operate the above referenced source issued pursuant to Section(s) 403.087, Florida Statutes.

A person whose substantial interests are affected by this permit may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of this Permit. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The petition shall contain the following information; (a) the name, address, and telephone number of each petitioner, the applicant's name and address, the Department permit file number and the county in which the project is proposed; (b) a statement of how and when each petitioner received notice of the Department's action or proposed action; (c) a statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) a statement of the material facts disputed by petitioner, if any; (e) a statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) a statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) a statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

RECEIVED

AUG 9 1994

ENVIRONMENTAL AFFAIRS

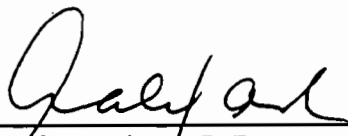
If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



A. Alexander P.E.
District Director

DATE: 7/21/54

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

Jan Murray 07-22-94
Clerk Date

ib
AA/lbt

Copies furnished to:

Lisa Barr
Commissioner Scarborough

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed
before the close of business on 7-22-94 to the listed persons, by

D. Jones



Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

Permittee:
Florida Power & Light Co.
11770 U.S. Highway One
North Palm Beach, Florida 33408

Attention: Elsa Bishop, Acting Supervisor
Air Permitting and Programs

Permit Number: AO05-252219
Date of Issue:
Expiration Date: July 19, 1999
County: Brevard
Latitude/Longitude:
28°28'10"N/80°45'51"W
UTM: 17-523.1 KmE; 3149.0 KmN
Project: Cape Canaveral Power Plant
Unit No. 2

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

The permittee may operate fossil fuel steam generator unit no. 2 equipped with a 397 foot exhaust stack and multicyclones to control particulate emissions. Unit 2 has a maximum design heat input rate of 4,000 million Btu per hour for oil, and 4180 million Btu/hr for natural gas.

This source is located at the Florida Power and Light Company, Cape Canaveral Power Plant at 6000 North U.S. Highway 1 in Frontenac, Brevard County, Florida.

General Conditions are attached to be distributed to the permittee only.

C GENERAL CONDITIONS:

1. *The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.*
2. *This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.*
3. *As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.*
4. *This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.*
5. *This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.*
6. *The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.*
7. *The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:*
 - (a) *Have access to and copy any records that must be kept under conditions of the permit;*
 - (b) *Inspect the facility, equipment, practices, or operations regulated or required under this permit; and*
 - (c) *Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.*

Reasonable time may depend on the nature of the concern being investigated.
8. *If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:*
 - (a) *A description of and cause of noncompliance; and*
 - (b) *The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.*

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

GENERAL CONDITIONS:

9. *In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.*
10. *The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.*
11. *This permit is transferable only upon Department approval in accordance with Rule 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.*
12. *This permit or a copy thereof shall be kept at the work site of the permitted activity.*
13. *This permit also constitutes:*
 - () *Determination of Best Available Control Technology (BACT)*
 - () *Determination of Prevention of Significant Deterioration (PSD)*
 - () *Certification of compliance with state Water Quality Standards (Section 401, PL 92-500)*
 - () *Compliance with New Source Performance Standards*
14. *The permittee shall comply with the following:*
 - (a) *Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.*
 - (b) *The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.*
 - (c) *Records of monitoring information shall include:*
 1. *the date, exact place, and time of sampling or measurements;*
 2. *the person responsible for performing the sampling or measurements;*
 3. *the dates analyses were performed;*
 4. *the person responsible for performing the analyses;*
 5. *the analytical techniques or methods used;*
 6. *the results of such analyses.*
15. *When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.*

PERMITTEE:
Florida Power & Light Co.

Permit Number: AO05-252219
Expiration Date: July 19, 1999

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:

OPERATING CONDITIONS

1. Heat input Rate:

The maximum permitted heat input rates for this source are 4000 MMBTU/hour for residual or used oil and 4180 MMBTU/hour for natural gas.

2. Permitted Fuels:

This source shall be fired with a variable combination of No. 6 residual fuel oil, natural gas, No. 2 fuel oil, propane gas or on-specification used oil from FPL operations. The quantity of on-specification used oil to be fired shall not exceed 2,413,530 gallons/year.

3. Operating Hours:

This source is permitted to operate continuously.

PERMITTEE:
Florida Power & Light Co.

Permit Number: A005-252219
Expiration Date: July 19, 1999

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:
(Continued)

4. Source Emission Limiting Standards and Compliance Testing Requirements:

POLLUTANT	EMISSION (1) LIMITING STDS.	TESTING FREQUENCY (2)			TEST (3) METHOD
		ANNUAL	QUARTERLY	OTHER	
Particulate Matter					
Steady State	0.1 lb/MMBtu	X(4)	X(4)	-	EPA METHOD 5 OR 17 (5)
Sootblowing or Load Changing	0.3 lb/MMBtu (6)	X	-	-	EPA METHOD 5 OR 17 (5)
Sulfur Dioxide	2.75 lb/MMBtu	-	-	X	Monthly Fuel Analysis
Visible Emissions					
Steady State	40% Opacity	X(4)	-	-	DER Method 9
Sootblowing or Load Changing	60% Opacity for up up to 3 hrs in 24 hrs, with up to four 6-minute periods of up to 100% if unit has an operational opacity CEM (6)	X(6)	-	-	DER Method 9

Footnotes:

- (1) FAC 17-210.700(3) and FAC 17-296.405(1)
- (2) FAC 17-297.340
- (3) FAC 17-297.330

PERMITTEE:
Florida Power & Light Co.

Permit Number: AO05-252219
Expiration Date: July 19, 1999

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:
(Continued)

- (4) Florida DEP Order dated January 2, 1986 granted annual particulate matter testing with a 40% opacity limit. Compliance testing shall be conducted on an annual basis on or within 60 days before the date of June 1 of each year. FPL may request an extension of the June 1 deadline on a yearly case-by-case basis. For good cause shown, the Department may extend the deadline for a reasonable time. A timely request to extend the deadline shall automatically extend the time for compliance testing for 30 days or until the request is acted upon by the Department, whichever is earlier. In the event a compliance test cannot be conducted due to an unplanned unit outage, the compliance test shall be conducted within 30 days of the date the unit is returned to service. If the source fails to comply with order conditions, then the source will resume particulate matter (steady-state) testing either annually with a 20% opacity limit or quarterly with a 40% opacity limit. Visible emissions testing will be conducted annually regardless of option selected. If a quarterly schedule is selected, the source shall advise this office in writing of the quarterly test date schedule.
- (5) EPA Method 17 may be used only if the stack gas exit temperature is less than 375°F.
- (6) FAC 17-210.700(3) allows up to 3 hours in a 24-hour period of excess emissions during sootblowing and loading changing operations. Excess emissions are authorized only if best operational practices to minimize emissions are adhered to, and the duration of excess emissions is minimized.

5. Compliance Testing Related Requirements:

(a) Notification - FAC 17-297.340(1)(i)

The Air Resources compliance section of this office shall be notified in writing at least fifteen (15) days in advance of the compliance tests (Rule 17-297.340(1)(i), F.A.C.).

(b) Conditions

Compliance testing shall be conducted while the source is firing No. 6 residual fuel oil at heat input rates from 3600-4000 MMBtu/hr. Particulate and visible emissions tests shall be conducted under both sootblowing and steady-state conditions.

Testing may be conducted while firing No. 6 residual fuel oil at less than 90 percent of the maximum permitted heat input rate, however, if so, subsequent source operation on oil is limited to up to 110% of the average No. 6 residual fuel oil heat input rate during the test. Once the unit is so limited, then operation at a higher No. 6 residual fuel

PERMITTEE:
Florida Power & Light Co.

Permit Number: AO05-252219
Expiration Date: July 19, 1999

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:
(Continued)

oil heat input rate is allowed for a total of no more than fifteen consecutive calendar days to conduct additional compliance testing to regain the higher rates, not to exceed 4,000 MMBtu/hr on No. 6 residual fuel oil with prior notification as specified in condition 5(a) to the Department. The District may give an extension to this 15 days only under unusual circumstances. The required EPA Method 5 or 17 and DER Method 9 compliance tests shall be conducted concurrently. Operating at conditions during testing which do not reflect representative operating conditions may invalidate a test.

Should FPL decide to pursue routine use of magnesium hydroxide (Mg(OH)₂) fuel additive, then all future compliance testing for particulate matter and visible emissions shall include use of the additive at an injection rate consistent with normal operation.

In the event FPL exceeds the tested additive injection rate by 10 percent or more, FPL shall notify the Central District in writing within 14 days of the date that the higher rate was initiated. The notification shall include the date the higher injection rate began, the magnitude of the higher rate, and the approximate date by which the higher rate would cease.

(c) Stack Sampling Facility - FAC 17-297.345

The stack sampling facility must comply with Rule 17-297.345, FAC.

(d) Report Submittal - FAC 17-297.570(2)

A copy of the test results shall be submitted to the Department's Central District Office within 45 days after the last test run is completed. The test report shall provide the actual heat input rate.

6. Annual Operations Report (AOR):

On or before March 1 of each calendar year, a completed DEP Form 17-210.900(4), Annual Operation Report Form for Air Emissions Sources, based on data for the preceding calendar year, shall be submitted to the Department's Central District Office.

7. Excess Emissions

(a) Events - Rule 17-210.700, FAC

Excess emissions resulting from start-up or shut-down are permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions is minimized.

PERMITTEE:

Florida Power & Light Co.

Permit Number: AO05-252219

Expiration Date: July 19, 1999

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:

(Continued)

Excess emissions resulting from malfunction are permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions is minimized but in no case exceeds two hours in any 24-hour period unless specifically authorized by the Department for longer duration.

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 are prohibited.

(b) Notification - Rules 17.210.700(6), and 17-4.130, FAC

In the event the permittee is temporarily unable to comply with any of the conditions of the permit, the permittee shall immediately notify the air compliance section of this office. Notification shall be received before 10 a.m. on the following business day, and be in accordance with General Condition (8) of this permit. In case of excess emissions resulting from malfunctions, FPL shall notify the Department. A full written report on the malfunctions shall be submitted in a quarterly report if requested by the Department.

8. Used Oil Combustion:

(a) This source is permitted to burn on-specification used oil originated from Florida Power and Light operations. Florida Power and Light shall not burn off-specification used oil. Used oil which fails to comply with any of the following specification levels is off-specification used oil.

1. Arsenic shall not exceed 5.0 ppm.
2. Cadmium shall not exceed 2.0 ppm.
3. Chromium shall not exceed 10.0 ppm.
4. Lead shall not exceed 100.0 ppm.
5. Total Halogens shall not exceed 4,000.0 ppm.
6. Flash Point shall not be less than 100.0°F. minimum
7. PCB shall be less than 50 ppm.

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

(c) Results of used oil sampling and analysis shall be retained by the permittee for at least three (3) years and made available for inspection by the Department upon request.

PERMITTEE:

Florida Power & Light Co.

Permit Number: AO05-252219

Expiration Date: July 19, 1999

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:

(Continued)

(d) Quarterly reports containing monthly summaries of the quantities of used oil burned and the sampling and analysis results shall be submitted to the Department's Central District office. Used oil burned in one month within a calendar quarter triggers the quarterly reporting requirement. Furthermore, the quantities of burned used oil shall be included in the Annual Operation Report (AOR) for Air Emissions Sources.

9. Continuous Emission Monitoring - Rule 17-210.700, FAC

FPL requested authority to occasionally exceed visible emissions of 60 percent opacity as allowed by Rule 17-210.700(3), F.A.C.; therefore, pursuant to rule Rule 17-210.700(3), F.A.C., FPL shall operate, calibrate, and maintain a continuous opacity monitoring system. The continuous opacity monitoring system shall be calibrated, operated, span checked, and maintained according to the manufacturer's recommendation. Calibrations shall consist of electronic zero and span checks and including optical lens check to ensure the monitoring system functions properly.

10. Objectionable Odors - Rule 17-296.320(2), FAC

Objectionable Odor Prohibited - No person shall cause, suffer, allow or permit the discharge air pollutants which cause or contribute to an objectionable odor.

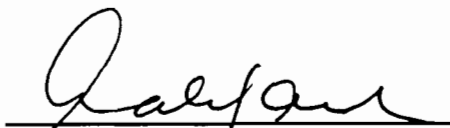
11. Disposal of Spent Boiler Cleaning Chemicals

Florida Power and Light shall not dispose of spent boiler cleaning chemicals by injecting them into this source.

12. Operation Permit Renewal - Rules 17-4.050(2) and 17-4.090(1), FAC

An operation permit renewal must be submitted at least sixty days prior to the expiration date of this permit (Rule 17-4.090, FAC.).

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

cmc 
A. Alexander, P.E.
District Director
ISSUED 7/21/99



Lawton Chiles
Governor

Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

NOTICE OF PERMIT ISSUANCE

FILE COPY

CERTIFIED MAIL
P 185 468 352

Florida Power and Light Company
11770 U.S. Highway One
North Palm Beach, Florida 33408

Attention: Elsa Bishop, Acting Supervisor
Air Permitting and Programs

RECEIVED

APR 21 1994

MANAGER
ENVIRONMENTAL AFFAIRS

Brevard County - AP
Cape Canaveral Power Plant Unit No. 1

Dear Ms. Bishop:

Enclosed is revised Permit Number A005-217321 to operate the above referenced source issued pursuant to Section(s) 403.087, Florida Statutes.

A person whose substantial interests are affected by this permit may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of this Permit. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

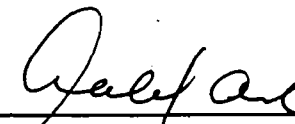
If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

emc 

A. Alexander, P.E.
District Director

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

ab
A

AA/jtt

A. Salonde *4/18/94*
Clerk Date

Copies furnished to:

Lisa Barr
Commissioner Scarborough

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed
before the close of business on *4/19/94* to the listed persons, by

Theresa Baulch.



Lawton Chiles
Governor

Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

Permittee:

Florida Power & Light Co.
11770 U.S. Highway One
North Palm Beach, Florida 33408

Attention: Elsa Bishop, Acting Supervisor
Air Permitting and Programs

Permit Number: AO05-217321

Date of Issue:

Expiration Date: February 25, 1998

County: Brevard

Latitude/Longitude:

28°28'10"N/80°45'51"W

UTM: 17-523.1 KmE; 3149.0 KmN

Project: Cape Canaveral Power Plant
Unit No. 1

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

The permittee may operate fossil fuel steam generator unit no. 1 equipped with a 397 foot exhaust stack and multicyclones to control particulate emissions. Unit 1 has a maximum design heat input rate of 4,000 million Btu per hour for oil, and 4180 million Btu/hr for natural gas.

This source is located at the Florida Power and Light Company, Cape Canaveral Power Plant at 6000 North U.S. Highway 1 in Frontenac, Brevard County, Florida.

General Conditions are attached to be distributed to the permittee only.

GENERAL CONDITIONS:

1. **The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.**
2. **This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.**
3. **As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.**
4. **This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.**
5. **This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.**
6. **The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.**
7. **The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:**
 - (a) **Have access to and copy any records that must be kept under conditions of the permit;**
 - (b) **Inspect the facility, equipment, practices, or operations regulated or required under this permit; and**
 - (c) **Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.**

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

8. **If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:**
 - (a) **A description of and cause of noncompliance; and**
 - (b) **The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.**

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

GENERAL CONDITIONS:

9. *In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.*
10. *The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.*
11. *This permit is transferable only upon Department approval in accordance with Rule 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.*
12. *This permit or a copy thereof shall be kept at the work site of the permitted activity.*
13. *This permit also constitutes:*
 - () *Determination of Best Available Control Technology (BACT)*
 - () *Determination of Prevention of Significant Deterioration (PSD)*
 - () *Certification of compliance with state Water Quality Standards (Section 401, PL 92-500)*
 - () *Compliance with New Source Performance Standards*
14. *The permittee shall comply with the following:*
 - (a) *Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.*
 - (b) *The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.*
 - (c) *Records of monitoring information shall include:*
 1. *the date, exact place, and time of sampling or measurements;*
 2. *the person responsible for performing the sampling or measurements;*
 3. *the dates analyses were performed;*
 4. *the person responsible for performing the analyses;*
 5. *the analytical techniques or methods used;*
 6. *the results of such analyses.*
15. *When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.*

PERMITTEE:

Florida Power & Light Co.

Permit Number: A005-217321

Expiration Date: February 25, 1998

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:

OPERATING CONDITIONS

1. Heat input Rate:

The maximum permitted heat input rates for this source are 4000 MMBTU/hour for residual or used oil and 4180 MMBTU/hour for natural gas.

2. Permitted Fuels:

This source shall be fired with a variable combination of No. 6 residual fuel oil, natural gas, No. 2 fuel oil, propane gas or on-specification used oil from FPL operations. The quantity of on-specification used oil to be fired shall not exceed 2,413,530 gallons/year.

3. Operating Hours:

This source is permitted to operate continuously.

PERMITTEE:
 Florida Power & Light Co.

Permit Number: A005-217321
 Expiration Date: February 25, 1998

Attention: Elsa Bishop, Acting Supervisor
 Air Permitting & Programs

SPECIFIC CONDITIONS:
 (Continued)

4. Source Emission Limiting Standards and Compliance Testing Requirements:

POLLUTANT	EMISSION (1) LIMITING STDS.	TESTING FREQUENCY (2)			TEST (3) METHOD
		ANNUAL	QUARTERLY	OTHER	
Particulate Matter					
Steady State	0.1 lb/MMBtu	X(4)	X(4)	-	EPA METHOD 5 OR 17 (5)
Sootblowing or Load Changing	0.3 lb/MMBtu (6)	X	-	-	EPA METHOD 5 OR 17 (5)
Sulfur Dioxide	2.75 lb/MMBtu	-	-	X	Monthly Fuel Analysis
Visible Emissions					
Steady State	40% Opacity	X(4)	-	-	DER Method 9
Sootblowing or Load Changing	60% Opacity for up up to 3 hrs in 24 hrs, with up to four 6-minute periods of up to 100% if unit has an operational opacity CEM (6)	X(6)	-	-	DER Method 9

Footnotes:

- (1) FAC 17-210.700(3) and FAC 17-296.405(1)
- (2) FAC 17-297.340
- (3) FAC 17-297.330

PERMITTEE:

Florida Power & Light Co.

Permit Number: AO05-217321

Expiration Date: February 25, 1998

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:

(Continued)

- (4) Florida DEP Order dated January 2, 1986 granted annual particulate matter testing with a 40% opacity limit. Compliance testing shall be conducted on an annual basis on or within 60 days before the date of June 1 of each year. FPL may request an extension of the June 1 deadline on a yearly case-by-case basis. For good cause shown, the Department may extend the deadline for a reasonable time. A timely request to extend the deadline shall automatically extend the time for compliance testing for 30 days or until the request is acted upon by the Department, whichever is earlier. In the event a compliance test cannot be conducted due to an unplanned unit outage, the compliance test shall be conducted within 30 days of the date the unit is returned to service. If the source fails to comply with order conditions, then the source will resume particulate matter (steady-state) testing either annually with a 20% opacity limit or quarterly with a 40% opacity limit. Visible emissions testing will be conducted annually regardless of option selected. If a quarterly schedule is selected, the source shall advise this office in writing of the quarterly test date schedule.
- (5) EPA Method 17 may be used only if the stack gas exit temperature is less than 375°F.
- (6) FAC 17-210.700(3) allows up to 3 hours in a 24-hour period of excess emissions during sootblowing and loading changing operations. Excess emissions are authorized only if best operational practices to minimize emissions are adhered to, and the duration of excess emissions is minimized.

5. Compliance Testing Related Requirements:

(a) Notification - FAC 17-297.340(1)(i)

The Air Resources compliance section of this office shall be notified in writing at least fifteen (15) days in advance of the compliance tests (Rule 17-297.340(1)(i), F.A.C.).

(b) Conditions

Compliance testing shall be conducted while the source is firing No. 6 residual fuel oil at heat input rates from 3600-4000 MMBtu/hr. Particulate and visible emissions tests shall be conducted under both sootblowing and steady-state conditions.

Testing may be conducted while firing No. 6 residual fuel oil at less than 90 percent of the maximum permitted heat input rate, however, if so, subsequent source operation on oil is limited to up to 110% of the average No. 6 residual fuel oil heat input rate during the test. Once the unit is so limited, then operation at a higher No. 6 residual fuel

PERMITTEE:

Florida Power & Light Co.

Permit Number: AO05-217321

Expiration Date: February 25, 1998

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:

(Continued)

oil heat input rate is allowed for a total of no more than fifteen consecutive calendar days to conduct additional compliance testing to regain the higher rates, not to exceed 4,000 MMBtu/hr on No. 6 residual fuel oil with prior notification as specified in condition 5(a) to the Department. The District may give an extension to this 15 days only under unusual circumstances. The required EPA Method 5 or 17 and DER Method 9 compliance tests shall be conducted concurrently. Operating at conditions during testing which do not reflect representative operating conditions may invalidate a test.

Should FPL decide to pursue routine use of magnesium hydroxide (Mg(OH)₂) fuel additive, then all future compliance testing for particulate matter and visible emissions shall include use of the additive at an injection rate consistent with normal operation.

In the event FPL exceeds the tested additive injection rate by 10 percent or more, FPL shall notify the Central District in writing within 14 days of the date that the higher rate was initiated. The notification shall include the date the higher injection rate began, the magnitude of the higher rate, and the approximate date by which the higher rate would cease.

(c) Stack Sampling Facility - FAC 17-297.345

The stack sampling facility must comply with Rule 17-297.345, FAC.

(d) Report Submittal - FAC 17-297.570(2)

A copy of the test results shall be submitted to the Department's Central District Office within 45 days after the last test run is completed. The test report shall provide the actual heat input rate.

6. Annual Operations Report (AOR):

On or before March 1 of each calendar year, a completed DEP Form 17-210.900(4), Annual Operation Report Form for Air Emissions Sources, based on data for the preceding calendar year, shall be submitted to the Department's Central District Office.

7. Excess Emissions

(a) Events - Rule 17-210.700, FAC

Excess emissions resulting from start-up or shut-down are permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions is minimized.

PERMITTEE:
Florida Power & Light Co.

Permit Number: AO05-217321
Expiration Date: February 25, 1998

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:
(Continued)

Excess emissions resulting from malfunction are permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions is minimized but in no case exceeds two hours in any 24-hour period unless specifically authorized by the Department for longer duration.

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 are prohibited.

(b) Notification - Rules 17.210.700(6), and 17-4.130, FAC

In the event the permittee is temporarily unable to comply with any of the conditions of the permit, the permittee shall immediately notify the air compliance section of this office. Notification shall be received before 10 a.m. on the following business day, and be in accordance with General Condition (8) of this permit. In case of excess emissions resulting from malfunctions, FPL shall notify the Department. A full written report on the malfunctions shall be submitted in a quarterly report if requested by the Department.

8. Used Oil Combustion:

- (a) This source is permitted to burn on-specification used oil originated from Florida Power and Light operations. Florida Power and Light shall not burn off-specification used oil. Used oil which fails to comply with any of the following specification levels is off-specification used oil.
1. Arsenic shall not exceed 5.0 ppm.
 2. Cadmium shall not exceed 2.0 ppm.
 3. Chromium shall not exceed 10.0 ppm.
 4. Lead shall not exceed 100.0 ppm.
 5. Total Halogens shall not exceed 4,000.0 ppm.
 6. Flash Point shall not be less than 100.0°F. minimum
 7. PCB shall be less than 50 ppm.
- (b) Each batch of used oil to be burned shall be sampled and analyzed for: arsenic, cadmium, chromium, lead, PCB, total halogens, and flash point using EPA/DEP or ASTM approved methods. Split samples of used oil shall be retained for three (3) months after analysis for further testing if necessary.
- (c) Results of used oil sampling and analysis shall be retained by the permittee for at least three (3) years and made available for inspection by the Department upon request.

PERMITTEE:
Florida Power & Light Co.

Permit Number: AO05-217321
Expiration Date: February 25, 1998

Attention: Elsa Bishop, Acting Supervisor
Air Permitting & Programs

SPECIFIC CONDITIONS:
(Continued)

(d) Quarterly reports containing monthly summaries of the quantities of used oil burned and the sampling and analysis results shall be submitted to the Department's Central District office. Used oil burned in one month within a calendar quarter triggers the quarterly reporting requirement. Furthermore, the quantities of burned used oil shall be included in the Annual Operation Report (AOR) for Air Emissions Sources.

9. Continuous Emission Monitoring - Rule 17-210.700, FAC

FPL requested authority to occasionally exceed visible emissions of 60 percent opacity as allowed by Rule 17-210.700(3), F.A.C.; therefore, pursuant to rule Rule 17-210.700(3), F.A.C., FPL shall operate, calibrate, and maintain a continuous opacity monitoring system. The continuous opacity monitoring system shall be calibrated, operated, span checked, and maintained according to the manufacturer's recommendation. Calibrations shall consist of electronic zero and span checks and including optical lens check to ensure the monitoring system functions properly.

10. Objectionable Odors - Rule 17-296.320(2), FAC

Objectionable Odor Prohibited - No person shall cause, suffer, allow or permit the discharge air pollutants which cause or contribute to an objectionable odor.


11. Disposal of Spent Boiler Cleaning Chemicals

Florida Power and Light shall not dispose of spent boiler cleaning chemicals by injecting them into this source.

12. Operation Permit Renewal - Rules 17-4.050(2) and 17-4.090(1), FAC

An operation permit renewal must be submitted at least sixty days prior to the expiration date of this permit (Rule 17-4.090, FAC.).

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

c m c 
A. Alexander, P.E.
District Director
ISSUED 4/18/94



Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

January 17, 1997

Ms. Mary Archer
Environmental Specialist
Florida Power & Light Co.
Post Office.Box 088801
North Palm Beach, Florida 33408- 8801

OCD-AP-97-15

Brevard County - AP
Cape Canaveral Power Plant
Addition of Fuel Oil Additive
Permits AO05-217321 and AO05- 252219

RECEIVED
JAN 22 1997
BUREAU OF
AIR REGULATION

Dear Ms. Archer:

This is in response to your January 6 letter and attachments requesting a change in the use of a magnesium based fuel additive in lieu of magnesium hydroxide for the above permits. During my telephone conversation with Richard Piper on Friday, January 17, I informed him that your request was being referred to the Division of Air Resources Management in Tallahassee to be processed. The person to contact regarding this matter is Al Linero.

A copy of your letter was sent to John Brown, Administrator, Title V permitting for power plants. A minor adjustment may be needed in your Title V application to have this incorporated into your Title V permit.

If you have any further questions, please contact me at (407) 893 3333.

Sincerely,

L. T. Kozlov, P. E.
Program Administrator
Air Resources Management

LTK;j
cc: Al Linero
John Brown

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

Printed on recycled paper.

the right of the return address

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

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

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

1. Addressee's Address
2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Richard Piper, Sr. Env. Spec.
 Fla. Power & Light
 11770 US Hwy 1
 N. Palm Beach, FL
 33408

4a. Article Number
P 265 659 166

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

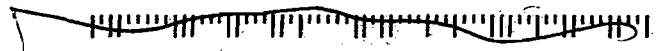
8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714

DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.



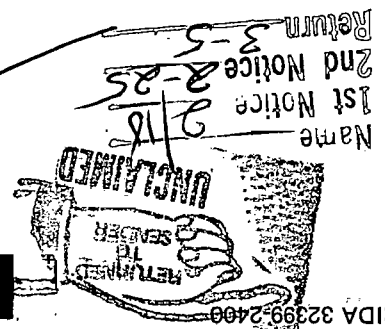
830023027



MR. RICHARD PIPER
 Senior Environmental Specialist
 Florida Power & Light Co.
 11770 US Hwy 1
 North Palm Beach, FL 33408

MAIL

P 265 659 166



STATE OF FLORIDA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 TWIN TOWERS OFFICE BUILDING
 2600 BLAIR STONE ROAD
 TALLAHASSEE, FLORIDA 32399-2400

ENVIRONMENTAL SERVICES DEPARTMENT

NAME	OFFICE
Archer, M.J. (Mary)	691-7057
Braun, F.S. (Florette)	691-7059
Brawner, J.L. (Jim)	691-7051
*Butts, R.L. (Ray)	691-7040
Ellis, T.A. (Terrie)	691-7045
Giarusso, V. J. (Vito)	691-7061
Hix, R.H. (Ron)	691-7042
Jones, M.A. (Mark)	691-7041
Kessler, R.N. (Bob)	691-7062
Krepley, Bruce	691-7050
LaBauve, R. R. (Randy)	691-7001
Maher, P. T. (Pat)	691-7055
Messer, R. F. (Roger)	691-7043
*Ondler, W.C. (Wayne)	691-7044
O'Reilly, K. M. (Kathleen)	691-7053
Perkins, W.G. (Winifred)	691-7046
Piper, R.G. (Rich)	691-7058
Salvador, K. S. (Kathryn)	691-7054
Sivia, L.M. (Lois)	691-7003
Smallridge, D.L. (Lynn)	691-7000
Uccello, K.E. (Kay)	691-7005
Zillioux, E.J. (Ed)	691-7063

Mail Address:
 FPL Environmental Services
 700 Universe Blvd.
 Juno Beach, FL 33408

OR

PO Box 14000
 Juno Beach, FL 33408

Fax Numbers:
 (561) 691-7070 west fax (Rich)
 (561) 691-7049 east fax

Post-It™ brand fax transmittal memo 7671		# of pages > /
To <i>Elsa BISHOP</i>	From <i>RICH PIPER</i>	
Co.	Co.	
	Phone #	
	Fax #	

Fold at line over top of envelope to the right of the return address

SENDER:

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

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

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Mr. Richard Piper, SES
Fla. Power & Light
PO Box 14000
Juno Beach, FL
33408

4a. Article Number
P 265 659 131

4b. Service Type

<input type="checkbox"/> Registered	<input checked="" type="checkbox"/> Certified
<input type="checkbox"/> Express Mail	<input type="checkbox"/> Insured
<input type="checkbox"/> Return Receipt for Merchandise	<input type="checkbox"/> COD

7. Date of Delivery

5. Received By: (Print Name)
H. COZZO

6. Signature: (Addressee or Agent)
X [Signature]

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

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 265 659 131

P 265 659 166

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

Sent to: Richard Piper
Street & Number: F P & L
Post Office, State, & ZIP Code: Juno Bch, FL

Postage: \$
Certified Fee:
Special Delivery Fee:
Restricted Delivery Fee:

Return Receipt Showing to Whom & Date Delivered:
Return Receipt Showing to Whom, Date, & Addressee's Address: Resent

TOTAL Postage & Fees: \$

Postmark or Date: Cape Canaveral 2-13-97
PP Units 1+2

PS Form 3800, April 1995

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

Sent to: Richard Piper
Street & Number: F P & L
Post Office, State, & ZIP Code: Juno Bch, FL

Postage: \$
Certified Fee: This card
Special Delivery Fee: Come back
Restricted Delivery Fee: w/wrong
Return Receipt Showing to Whom & Date Delivered: address-
Return Receipt Showing to Whom, Date, & Addressee's Address: (in file.)

TOTAL Postage & Fees: \$

Postmark or Date: A005-217321 2-12-97
A005-252219
New ains ID #: 009006-002-A0

PS Form 3800, April 1995



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

February 10, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard Piper
Senior Environmental Specialist
Florida Power & Light Company
11770 U.S. Highway 1
North Palm Beach, Florida 33408

New Airs I.D. # is :
0090006-002-AD

Re: Permit Modification Request - Magnesium Based Fuel Additive
File Nos. AO05-217321 and AO05-252219
Cape Canaveral Power Plant Units 1 and 2

Dear Mr. Piper:

The Department has reviewed the referenced request to use a magnesium based fuel additive known as Bicacin AB in lieu of magnesium hydroxide. Based on the test results submitted by FPL showing no increase in emissions, the permits are hereby modified as follows:

Specific Condition 5(b), Paragraph 3

FROM: Should FPL decide to pursue routine use of magnesium hydroxide ($Mg(OH)_2$) fuel additive, then all future compliance testing for particulate matter and visible emissions shall include use of the additive at an injection rate consistent with normal operation.

TO: Should FPL decide to pursue routine use of a magnesium based fuel additive, then all future compliance testing for particulate matter and visible emissions shall include use of the additive at an injection rate consistent with normal operation.

A copy of this letter shall be filed with the referenced permit and shall become part of the permit.

Sincerely,

Howard L. Rhodes, Director
Division of Air Resources
Management

HLR/hh

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT MODIFICATION ISSUANCE

In the Matter of an
Application for Permit Modification

Mr. Richard Piper
Florida Power & Light Company
11770 U.S. Highway 1
North Palm Beach, Florida 33408

DEP File No. AO05-217321 and AO05-252219
Cape Canaveral Power Plant Units 1 and 2

Enclosed is a letter that modifies Permit Numbers AO05-217321 and AO05-252219 to use a magnesium based fuel additive known as Bicacin AB in lieu of magnesium hydroxide.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9730, fax: 904/487-4938, within fourteen days of receipt of the permit modification. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the action or proposed action addressed in this modification.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this modification. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

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

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

Executed in Tallahassee, Florida.



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

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this permit modification was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 2-12-97 to the person(s) listed:

Mr. Richard Piper, Florida Power & Light, Co. *
Mr. Len Koslov, CD

Clerk Stamp



FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Keri Joban
(Clerk)

2-12-97
(Date)

Florida Department of
Environmental Protection

Memorandum

TO: Howard L. Rhodes
THRU: Clair Fancy 
FROM: Al Linero/Willard Hanks 
DATE: February 7, 1997
SUBJECT: Modification to Air Operation Permit: FPL Cape Canaveral Power Plants

Attached is a letter modifying the operation permits for Boiler No. 1 and Boiler No. 2. FPL requests that a change in Specific Condition 5(b) be made to remove the language magnesium hydroxide ($Mg(OH)_2$) and replace it with "a magnesium based fuel additive". The modification will not result in an increase in any emissions from the facility, and will not cause a violation of any state or federal ambient air quality standards or increments.

We recommend your approval and signature.

CHF/aal/hh

Attachment