



# Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: \_\_\_\_\_ Loc: \_\_\_\_\_  
To: \_\_\_\_\_ Loc: \_\_\_\_\_  
To: \_\_\_\_\_ Loc: \_\_\_\_\_  
From: \_\_\_\_\_ Date: \_\_\_\_\_

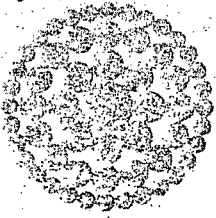
TO: Bill Thomas  
FROM: Clair Fancy *CF*  
DATE: June 9, 1987

SUBJ: Florida Power Corporation (FPC)  
Bartow Unit No. 1, AC 52-~~63210~~  
36102

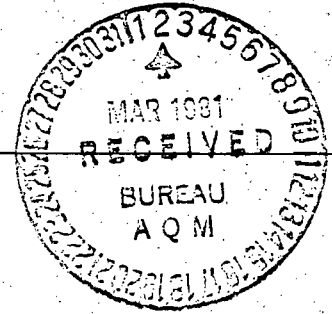
The construction permit issued to FPC Bartow Unit No. 1, AC 52-63210, dated March 18, 1981, allows for the burning of 100% fuel oil without requiring an ESP on line, and also allows for visible emissions upto 40% opacity. Since the unit can comply with the applicable permitted emission limitations while burning 100% fuel oil and without ESP control, the operating permit may be amended to allow such operation.

However, if FPC intends to dismantle (permanently remove) the ESP, the Department would require a construction permit be issued. This would make compliance federally enforceable. It is understood that burning of coal-oil mix fuel by Bartow Unit No. 1 will no longer be permitted.

PR/ks



**Florida  
Power**  
CORPORATION



February 27, 1981

Mr. Williard Hanks  
Bureau of Air Quality Management  
Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blainstone Road  
Tallahassee, FL 32301

Dear Mr. Hanks:

Subject: Proposed Construction Permit No. AC52-36102  
Bartow Unit 1

The following comments are submitted concerning the proposed construction permit:

1. Page 2, item IIId. The word minimum should be maximum.
2. Page 2, item IIId. This should read 40% opacity as allowed by Chapter 17-2.
3. Page 3, item IV. The SO<sub>2</sub> standard should be 2.75 lb/MMBTU input, and the visible emission should be 40% opacity.
4. Page 3. Specific condition 1 should clearly state that we will be allowed to burn 100% No. 6 fuel oil as well as a combination of fuel oil and coal.
5. Page 3. Specific condition 5 should be 40% opacity.
6. Page 3, specific condition 11. It is assumed that the phrase "or other Department-approved methods" will allow the use of particulate test method 17 and the submittal of fuel analyses in lieu of test method 6 for sulfur dioxide. If this is not correct we would request such permission.

Should you have any questions about these comments, please contact me by telephone at (813) 866-4544.

Sincerely,

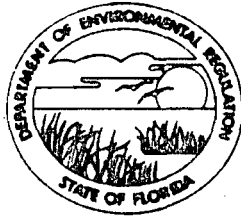
*R. E. Parnelle*  
R. E. Parnelle  
Manager, Environmental Operations

REP/kd

cc Mr. W. K. Hennessey, DER, Tampa

General Office 3201 Thirty-fourth Street South • P.O. Box 14042, St. Petersburg, Florida 33733 • 813-866-5151

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



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA  
**DEPARTMENT OF ENVIRONMENTAL REGULATION**

March 20, 1981

W. S. O'Brien  
Florida Power Corporation  
3201 34th Street South  
P. O. Box 14042  
St. Petersburg, Florida 33733

Dear Mr. O'Brien:

Enclosed is Permit Number AC 52-36102, dated March 18, 1981  
to Florida Power Corporation  
issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

Steve Smallwood, Chief  
Bureau of Air Quality Management



STATE OF FLORIDA  
DEPARTMENT OF  
ENVIRONMENTAL REGULATION

CONSTRUCTION  
PERMIT

NO. AC 52-36102  
FLORIDA POWER CORPORATION  
BARTOW UNIT No. I

DATE OF ISSUANCE

March 18, 1981

DATE OF EXPIRATION

JANUARY 31, 1983

  
VICTORIA J. TSCHINKEL,  
SECRETARY

Final Determination

Florida Power Corporation

Bartow Unit No. 1

Construction Permit

Application Number:

AC 52-36102

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

March 20, 1981

## Final Determination

Florida Power Corporation's (FPC) application for a permit to modify its Bartow Unit No. 1 located on Weedon Island in Pinellas County, Florida has been reviewed by the Bureau of Air Quality Management. Public notice of the Department's Intent to Issue the construction permit was published in the St. Petersburg Times on February 9, 1981.

Copies of the preliminary determination have been made available for public inspection at the Pinellas County's Department of Environmental Management in Clearwater, the Department's Bureau of Air Quality Management in Tallahassee and the Department's Southwest District Office in Tampa.

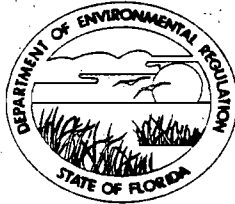
The only comments received on the proposed construction permit were from FPC. Their comments were on (1) typing errors, (2) the visible emission limit, (3) the use of 100% fuel oil and (4) compliance test methods. The Department is in agreement with the FPC comments and have made the necessary changes to the permit.

Specifically, the comments were as follows:

- (1) FPC pointed out that the word "minimum" should be "maximum" and the SO<sub>2</sub> standard should be 2.75 lb/MMBTU instead of 2.76 lb/MMBTU (Page 2; item IIId).
- (2) FPC requested the visible emission standard be 40% opacity as allowed by Chapter 17-2, Table II, instead of 20/27% that was proposed in the Preliminary Determination. This option is provided in 17-2.05.
- (3) FPC requested that Bartow Unit 1 be allowed to burn 100% No. 6 fuel oil as well as the combination fuel, and be allowed to operate without the electrostatic precipitator when burning 100% No. 6 fuel oil. This would, in effect, allow operation in accordance with present permit conditions as if no modification had taken place.
- (4) FPC asked if the "other Department-approved methods" mentioned in specific condition 11 allows the use of test method 17 to determine particulate matter emissions and fuel analyses for sulfur in lieu of test method 6 to determine sulfur dioxide emissions. The Department agrees that the condition allows the use of these methods and, therefore, no change will be made to this specific condition.

The final action by the Department will be to issue the permit with the changes noted above.

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



BOB GRAHAM  
GOVERNOR

JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

## DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Power Corporation  
P. O. Box 14042  
St. Petersburg, Florida 33733

PERMIT/CERTIFICATION  
NO. AC 52-36102

COUNTY: Pinellas

PROJECT: Bartow Unit No. 1

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

For (1) the installation of an electrostatic precipitator having a minimum efficiency of 97.9 percent to remove the additional particulate matter generated from burning a combination oil and coal fuel, and (2) those changes to the boiler needed to burn the combination fuel, and (3) construction of a fly ash silo and pneumatic conveyor controlled by a bag filter for Bartow Unit No. 1 located on Weedon Island in Pinellas County. The UTM coordinates of Bartow Unit No. 1 are 342.38 E and 2082.72 N.

Construction shall be in accordance with the attached permit application, plans, documents and drawing except as provided on pages 3 and 4, Specific Conditions.

Attachments:

Application to Construct Air Pollution Sources

Florida Power Corporation letter of 2/27/81

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions; and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.
4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.
7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.
8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.
9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgment of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
13. This permit also constitutes:
  - [ ] Determination of Best Available Control Technology (BACT)
  - [ ] Determination of Prevention of Significant Deterioration (PSD)
  - [ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)



PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

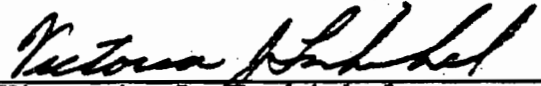
**SPECIFIC CONDITIONS:**

1. Combination fuel oil (oil and coal) will not be burned in the boiler unless the electrostatic precipitator is in operation. Use of the precipitator is not required when burning 100% fuel oil.
2. Maximum heat input to Bartow Unit 1 will be 1,220 million BTU/hr while burning either combination fuels or 100% No. 6 fuel oil.
3. Maximum particulate emission from Bartow Unit 1 will be 0.10 lb/MMBTU input and 122 lb/hr.
4. Sulfur in the fuel used in the boiler will be controlled so that theoretical emissions do not exceed 2.75 lb. SO<sub>2</sub>/MMBTU input and 3,355 lb/hr. at maximum heat input.
5. Visible emissions from the boiler shall not exceed 40% opacity provided FPC elects to make quarterly particulate matter compliance tests until less frequent test requirements are approved by the Secretary in accordance with 17-2.05 Table IIE(b).
6. Maximum hours of operation will be 8,760 hours per year.
7. Particulate emissions from the bag filter controlling the fly ash silo and conveying system shall not exceed 0.02 grains/DSCF or 5 percent opacity.
8. Reasonable precautions to prevent fugitive particulate emissions during construction such as coating of roads and construction sites used by contractors will be taken by FPC.
9. Construction and schedule shall reasonably conform to the plans submitted in the application.
10. The applicant shall report any delays in construction and completion.
11. Before the construction permit expires, Bartow Unit 1 will be tested for particulate matter, sulfur dioxide and visible emissions during normal operations near 1,220 MMBTU/hr heat input while burning combination fuel and 100% fuel oil. The electrostatic precipitator will not be used during the compliance test with 100% fuel oil. Test methods will be EPA reference methods 1,2,3,4,5,6, and 9 as described in 40 CFR 60, Appendix A or other Department approved methods. Testing will include the effect of soot blowing. Minimum sample volume and time will be that given in New Source Performance Standards (NSPS) in 40 CFR 60.46 for fossil-fuel steam generators. The bag filter serving the silos will be sampled for particulate matter if the visible emission test results are in excess of 5% opacity.

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

Specific Conditions (Con't)

12. The applicant will demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit to the Southwest District Office prior to 90 days before the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or until issuance of an operating permit.

  
Victoria J. Tschinkel,  
Secretary

Expiration Date: January 31, 1983

Issued this 18 day of March, 1981

                     Pages Attached.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

  
Signature

Check Sheet

Company Name: Florida Power Corp. Bittow Unit 1  
Permit Number: AC-52-36102  
PSD Number: \_\_\_\_\_  
Permit Engineer: \_\_\_\_\_

**Application:**

- Initial Application
- Incompleteness Letters
- Responses
- Waiver of Department Action
- Department Response
- Other

**Cross References:**

- 
- 
- 

**Intent:**

- Intent to Issue
- Notice of Intent to Issue
- Technical Evaluation
- BACT Determination
- Unsigned Permit

Correspondence with:

- EPA
- Park Services
- Other
- Proof of Publication
  - Petitions - (Related to extensions, hearings, etc.)
  - Waiver of Department Action
  - Other

**Final Determination:**

- Final Determination
- Signed Permit
- BACT Determination
- Other

**Post Permit Correspondence:**

- Extensions/Amendments/Modifications
- Other

Check Sheet

Company Name: FPC  
Permit Number: AO B2-30102  
PSD Number:  
County:  
Permit Engineer:  
Others involved:

Application:

- Initial Application
- Incompleteness Letters
- Responses
- Final Application (if applicable)
- Waiver of Department Action
- Department Response
- Other

Intent:

- Intent to Issue
- Notice to Public
- Technical Evaluation
- BACT Determination
- Unsigned Permit
- Correspondence with:
  - EPA
  - Park Services
  - County
  - Other
- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.)
- Other

Final Determination:

- Final Determination
- Signed Permit
- BACT Determination
- Other

Post Permit Correspondence:

- Extensions
- Amendments/Modifications
- Response from EPA
- Response from County
- Response from Park Services
- Other



# Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

June 24, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue, CEP  
Director, Environmental Services  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, Florida 33733

Re: PSD Applicability Determination - Bartow Unit No. 1 PSD

Dear Mr. Pardue:

The Department has reviewed your letter dated May 17 requesting a PSD applicability determination for your proposal to not use the electrostatic precipitator (ESP) when burning fuel oil at Bartow Unit No. 1.

The construction permit issued in 1981 for the electrostatic precipitator (ESP) only required that it be used when firing a coal-oil mixture. The subsequent operating permits have required the operation of the ESP at all times (regardless of the fuel used) and established actual historical emissions which would be increased as a result of a physical change in operation. Removal of the ESP would require modification of valid and enforceable state permit conditions. This would trigger the requirements of PSD (FAC 62-212.400) which would need to be addressed through the preconstruction review rather than a cleanup of conditions related to Title V permitting.

A growing body of evidence suggests that fine particulate matter in the atmosphere affects public health even at levels below the ambient air quality standards. Continued use of the electrostatic precipitator will help minimize such emissions from the Bartow Plant.

If you have any questions regarding this matter, please call Al Linero at (904)488-1344.

Sincerely,

Howard L. Rhodes, Director  
Division of Air Resources  
Management

HLR/aal/l

cc: J. Harper, EPA  
J. Bunyak, NPS  
W. Thomas, SWD  
P. Hessling, PCDEM  
P. Comer, DEP  
J. Alves, HGSS

P 339 251 115

US Postal Service  
**Receipt for Certified Mail**

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

Return to	
Jeffrey Pardue	
Street & Number	
Gla. Power Corp.	
Post Office, State, & ZIP Code	
St. Pete, 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	
TOTAL Postage & Fees	\$
Postmark or Date	6-24-96
Boston Unit #1	

PS Form 3800 April 1995

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):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
Mr. W. Jeffrey Pardue  
Gla. Power Corp.  
3201 34th St. South  
St. Petersburg, FL  
33711

4a. Article Number  
P 339 251 1165

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

7. Date of Delivery  
6/29/96

5. Signature (Addressee)

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

6. Signature (Agent)  
Frank Chapman

Thank you for using Return Receipt Service.

Florida Department of  
Environmental Protection

Memorandum

TO: Howard Rhodes  
FROM: C. H. Fancy *CHF*  
DATE: June 21, 1996  
SUBJECT: PSD Applicability - FPC Bartow Unit 1 ESP Removal

*Clair*

RECEIVED  
JUN 21 1996  
BUREAU OF  
AIR REGULATION

Attached for your review and approval is a letter to FPC advising them that removal of a functioning ESP would trip PSD.

Based on their allowable emissions at their maximum capacity, they would emit roughly 500 tpy without the ESP. Assuming that the precipitator is only 90 percent efficient, the increase due to its removal would be some 450 tpy. That is well in excess of the 25 tpy and 15 tpy triggers for PM and PM-10 with respect to PSD applicability.

It is our understanding following the National Mining and Chemical Manufacturers Decisions, that EPA is no longer as concerned about federal enforceability of conditions - at least for the NSR Program. As long as our conditions are enforceable as a practical matter and there is an effective incentive to comply (like our penalty matrix), then they will be happy. There is no pecking order of conditions which says that the construction permit conditions are more valid than more restrictive state operating permit conditions.

Attached is a press release from EPA <sup>indicating</sup> the growing concern about fine/particulate matter based on the Natural Resources Defense Council Report.

CHF/aal/l

Attachments

PR STATEMENT OF CAROL BROWNER REGARDING PARTICULATE MATTER

STATEMENT OF  
EPA ADMINISTRATOR CAROL M. BROWNER  
REGARDING  
PARTICULATE MATTER

5/8/96

EPA welcomes the new study from the Natural Resources Defense Council on the health effects of fine particles of air pollution. A growing body of evidence now suggests that particulate matter poses a serious threat to public health in many American cities and may contribute to premature deaths from lung and heart disease. It may also worsen cases of childhood asthma, which are on the rise in the U.S. And it may put the elderly especially at higher risk. The Clinton Administration is currently reviewing for potential change the health standard for particulate matter, which has not been revised since 1987. In addition, we have already taken several steps to further protect public health from the major sources of fine particle air pollution, including tough standards for cleaner-burning bus engines and stringent new controls on incinerators and power plants.

R-61

###



Date: 6/13/96 11:32:24 AM  
From: Patricia Comer TAL  
Subject: Re: PSD Applicability - ESP removal - Bartow Unit No. 1  
To: Alvaro Linero TAL  
To: Patricia Comer TAL

I'm sorry I didn't answer this earlier. I think I must have missed the letter attachment when I read your original message.

I never understood the guidance about cleaning up permit conditions for Title V purposes to mean that emissions controls could be removed and pollution increased without complying with Dept rules. My reading of the Dept rules indicates that activities at a facility that result in increases in regulated pollutant emissions require preconstruction permits. I think the fact that the permittee agreed to the continuous use of the ESP (and actually used it) for all those years is significant, too, for PSD applicability and for state rule requirements. The condition was agreed to and it had real pollutant limiting effects. The Title V permit condition that would result might be flagged as resulting from a non-federally enforceable permit condition (maybe... it is possible that the SIP requirements for preconstruction review for emissions increases, as enforceable provisions of a federally mandated/delegated state program, would require otherwise), but it would still be valid and enforceable under state law.

I agree that it is possible that PSD and maybe NSPS would be triggered by these increases, too. So I think the letter is appropriate.





*claim - pls draft  
response in  
conjunction with  
legal.  
H  
Howard  
5/23*

May 17, 1996

Howard L. Rhodes, Director  
Division of Air Resources Management  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, FL 32399-2600

**RECEIVED**

MAY 22 1996

DIVISION OF AIR  
RESOURCES MANAGEMENT

RE: Florida Power Corporation  
Bartow Plant, Unit No. 1  
Request for Applicability Determination

Dear Mr. Rhodes:

This letter is to request the Department of Environmental Protection's (DEP's) concurrence that Florida Power Corporation's (FPC's) prospective nonuse of the electrostatic precipitator (ESP) while burning fuel oil at the Bartow Plant Unit No. 1 will not constitute a modification potentially triggering Prevention of Significant Deterioration (PSD) applicability or the Subpart Da New Source Performance Standards (NSPS).

The facts underlying this request are straightforward. On March 20, 1981 DEP issued an air construction permit (No. AC 52-36102) to FPC authorizing Bartow Unit No. 1 to burn "a combination oil and coal fuel." (Attachment A.) This construction permit required the installation of an electrostatic precipitator [ESP] having a collection efficiency of 97.9 percent to remove the additional particulate matter generated from burning a combination of oil and coal fuel." The construction permit specifically required the ESP be operated only while the "combination fuel oil (oil and coal)" is combusted; Specific Condition No. 1 stated, "Use of the precipitator is not required when burning 100% fuel oil." (Emphasis added.)

On August 4, 1983, following installation of the ESP and initial operation under the construction permit, DEP issued an air operation permit (No. AO52-63210) authorizing ongoing operation of Unit No. 1. (Attachment B.) This operation permit observed that Unit No. 1 was "designed to be fired on a coal-oil mixture (COM) or No. 6 fuel oil." Specific Condition No. 9 provided: "The electrostatic precipitator must be in operation at all times except during start-up and shutdown operations." This language apparently contradicted Specific Condition No. 1 of the construction permit, which stated that it is not necessary to use the precipitator when burning 100% fuel oil. However, FPC accepted Specific Condition No. 9 in the air operation permit based on its expectation that 100% fuel oil would be fired only during periods of start-up and shutdown, and that COM would be combusted during all other periods.

Subsequently, FPC ceased burning COM in Bartow Unit No. 1, and came to rely exclusively on fuel oil. However, the air operation permits issued in 1988 (No. AO52-149126) and 1993 (No. AO52-233149) continued to require utilization of the ESP at all times. This disconnect between the air construction permit ("Use of the precipitator is not required when burning 100% fuel oil") and the air operation permits (ostensibly requiring use of the precipitator even though only fuel oil is burned) was the result of a mistake in structuring and implementing the air operation permit conditions, for there was no legal or environmental rationale that justifies requiring ESP utilization while burning fuel oil. In fact, the enclosed June 9, 1987 DEP memorandum (Attachment C) stated, "Since the unit can comply with the applicable permitted emission limitations while burning 100% fuel oil and without ESP control, the operating permit may be amended to allow such operation." (This memorandum also observed that permanently dismantling the ESP would require an amendment to the Unit No. 1 construction permit.)

DEP's February 8, 1996 "Guidance on Incorporation of Existing Permit Conditions Into Title V Permits" states that "those conditions in air operation permits that are extraneous to the conditions that were in the construction permits...may be reviewed and corrected in the Title V permit to reflect proper application of the Department's rules." This DEP guidance correctly states that air operation permit conditions not also in air construction permits must be included as applicable requirements in Title V permits only if necessary to "reflect proper application of the Department's rules." Again, there is no regulatory requirement that Bartow Unit No. 1 run the ESP while burning fuel oil.

Accordingly, FPC requests DEP's concurrence that the federally enforceable applicable requirement in the construction permit (i.e., "Use of the precipitator is not required when burning 100% fuel oil") controls, and that the apparently contradictory requirements in the air operation permits are "extraneous" and should be "corrected."

FPC also requests DEP confirmation that prospective nonuse and removal of the ESP cannot trigger PSD or NSPS requirements. This conclusion is justified because, as noted above, the ESP was "required" under the construction permit only "to remove particulate matter generated from burning a combination of oil and coal fuel," and use of the ESP explicitly was not required when only oil is burned. Therefore, nonuse of the ESP in connection with FPC's return to 100% fuel oil would simply be a return to the circumstances predating the use of COM, and would be fully consistent with federally enforceable requirements applicable to Unit No. 1.

Available EPA and judicial guidance hold that relaxations in federally enforceable requirements resulting in air emission increases generally trigger NSPS applicability.<sup>1</sup>

---

<sup>1</sup> For example, in a February 22, 1979 guidance document EPA determined that NSPS requirements apply where "a source...removes air pollution control equipment, as a result of a SIP relaxation..." (Attachment E.) Similarly, in a July 18, 1980 guidance document EPA concluded that the NSPS would apply if an experimental flue gas desulfurization project "revert(s) back to its current SIP limitation." (Attachment F.) And in National Southwire Aluminum Co. v. EPA, 838 F.2d 835 (6th Cir. 1988) a federal court (in a split decision) held that a SIP amendment relaxing emission limitations could trigger NSPS.

Mr. Howard Rhodes  
May 17, 1996  
Page 3

However, a common element in all of those cases was that sources were seeking emissions increases associated with relaxations of federally enforceable applicable requirements. That element is not present in FPC's circumstance concerning Bartow Unit 1; instead of seeking permission of obtain relief from federally enforceable requirements, FPC's intention is to conform its operations to longstanding federally enforceable requirements. Just as reverting to burning 100% oil without using the ESP was permissible (without triggering PSD or NSPS) when the construction permit was originally issued, the same outcome is warranted now.

There is no statutory, regulatory, or policy rationale in support of triggering PSD or NSPS requirements where a facility seeks to correct its inadvertent implementation of nonfederally enforceable permit conditions. The PSD and NSPS "modification" provisions reflect Congress' balanced intention to "build control technology into new plants at the time of construction." H.R. Rep. No. 294, 95th Cong., 1st Sess. 185. In this respect, "[T]he purpose of the 'modification' rule is to ensure that pollution control measures are undertaken when they can be most effective, at the time of new or modified construction." 116 Cong. Rec. 32,918, reprinted in 1 Senate Cmte. on Pub. Works, A Legislative History of the Clean Air Act Amendments of 1970 (1974) at 260. FPC's proposal to conform its operations with existing federally enforceable requirements should not be considered to be a modification because it will not constitute the type of opportunity intended under the NSPS or PSD programs for installation of new control technology. There is no legal authority suggesting that conformity with a longstanding applicable requirement can be a basis for PSD or NSPS applicability.

Thank you for considering these materials. If you have any questions or require additional information, please contact Scott Osbourn of FPC at (813) 866-5158.

Very truly yours,



W. Jeffrey Pardue, CEP  
Director, Environmental Services

SO:dyt  
attachments

cc: James S. Alves, Esq.  
William Thomas, DEP SW District  
Peter Hessling, Pinellas Co. DEM

# **ATTACHMENT A**

**Bartow Unit 1**

**Air Construction Permit**

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



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

March 20, 1981

W. S. O'Brien  
Florida Power Corporation  
3201 34th Street South  
P. O. Box 14042  
St. Petersburg, Florida 33733

Dear Mr. O'Brien:

Enclosed is Permit Number AC 52-36102, dated March 18, 1981  
to Florida Power Corporation  
issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the  
Department will periodically review this permit for compliance,  
including site inspections where applicable, and may initiate  
enforcement actions for violation of the conditions and require-  
ments thereof.

Sincerely,

Steve Smallwood, Chief  
Bureau of Air Quality Management

DER Form 17-1.122(65)



STATE OF FLORIDA  
DEPARTMENT OF  
ENVIRONMENTAL REGULATION

CONSTRUCTION  
PERMIT

NO. DC 52-36102

FLORIDA POWER CORPORATION  
BARTON UNIT No. 1

DATE OF ISSUANCE

*April 21, 1981*

DATE OF EXPIRATION

*JANUARY 31, 1983*

*Victoria J. Tschenkel*  
VICTORIA J. TSCHENKEL  
SECRETARY



Final Determination

Florida Power Corporation  
Bartow Unit No. 1

Construction Permit  
Application Number:  
AC 52-36102

Florida Department of Environmental Regulation  
Bureau of Air Quality Management  
Central Air Permitting  
March 20, 1981

### Final Determination

Florida Power Corporation's (FPC) application for a permit to modify its Bartow Unit No. 1 located on Weedon Island in Pinellas County, Florida has been reviewed by the Bureau of Air Quality Management. Public notice of the Department's Intent to Issue the construction permit was published in the St. Petersburg Times on February 9, 1981.

Copies of the preliminary determination have been made available for public inspection at the Pinellas County's Department of Environmental Management in Clearwater, the Department's Bureau of Air Quality Management in Tallahassee and the Department's Southwest District Office in Tampa.

The only comments received on the proposed construction permit were from FPC. Their comments were on (1) typing errors, (2) the visible emission limit, (3) the use of 100% fuel oil and (4) compliance test methods. The Department is in agreement with the FPC comments and have made the necessary changes to the permit.

Specifically, the comments were as follows:

- (1) FPC pointed out that the word "minimum" should be "maximum" and the SO<sub>2</sub> standard should be 2.75 lb/MMBTU instead of 2.76 lb/MMBTU (Page 2; item IIId).
- (2) FPC requested the visible emission standard be 40% opacity as allowed by Chapter 17-2, Table II, instead of 20/27% that was proposed in the Preliminary Determination. This option is provided in 17-2.05.
- (3) FPC requested that Bartow Unit 1 be allowed to burn 100% No. 6 fuel oil as well as the combination fuel, and be allowed to operate without the electrostatic precipitator when burning 100% No. 6 fuel oil. This would, in effect, allow operation in accordance with present permit conditions as if no modification had taken place.
- (4) FPC asked if the "other Department-approved methods" mentioned in specific condition 11 allows the use of test method 17 to determine particulate matter emissions and fuel analyses for sulfur in lieu of test method 6 to determine sulfur dioxide emissions. The Department agrees that the condition allows the use of these methods and, therefore, no change will be made to this specific condition.

The final action by the Department will be to issue the permit with the changes noted above.

TWIN TOWERS OFFICE BUILDING  
2900 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Power Corporation  
P. O. Box 14042  
St. Petersburg, Florida 33733

PERMIT/CERTIFICATION  
NO. AC 52-36102

COUNTY: Pinellas

PROJECT: Bartow Unit No. 1

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

For (1) the installation of an electrostatic precipitator having a minimum efficiency of 97.9 percent to remove the additional particulate matter generated from burning a combination oil and coal fuel, and (2) those changes to the boiler needed to burn the combination fuel, and (3) construction of a fly ash silo and pneumatic conveyor controlled by a bag filter for Bartow Unit No. 1 located on Weedon Island in Pinellas County. The UTM coordinates of Bartow Unit No. 1 are 342.38 E and 2082.72 N.

Construction shall be in accordance with the attached permit application, plans, documents and drawing except as provided on pages 3 and 4, Specific Conditions.

Attachments:

Application to Construct Air Pollution Sources

Florida Power Corporation letter of 2/27/81

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.18(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.
4. As provided in subsection 403.087(8), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is prohibited by Section 403.111, F.S.
7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.
8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.
9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
13. This permit also constitutes:
  - [ ] Determination of Best Available Control Technology (BACT)
  - [ ] Determination of Prevention of Significant Deterioration (PSD)
  - [ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation


**SPECIFIC CONDITIONS:**

1. Combination fuel oil (oil and coal) will not be burned in the boiler unless the electrostatic precipitator is in operation. Use of the precipitator is not required when burning 100% fuel oil.
2. Maximum heat input to Bartow Unit 1 will be 1,220 million BTU/hr while burning either combination fuels or 100% No. 6 fuel oil.
3. Maximum particulate emission from Bartow Unit 1 will be 0.10 lb/MMBTU input and 122 lb/hr.
4. Sulfur in the fuel used in the boiler will be controlled so that theoretical emissions do not exceed 2.75 lb. SO<sub>2</sub>/MMBTU input and 3,355 lb/hr. at maximum heat input.
5. Visible emissions from the boiler shall not exceed 40% opacity provided FPC elects to make quarterly particulate matter compliance tests until less frequent test requirements are approved by the Secretary in accordance with 17-2.05 Table IIE(b).
6. Maximum hours of operation will be 8,760 hours per year.
7. Particulate emissions from the bag filter controlling the fly ash silo and conveying system shall not exceed 0.02 grains/DSCF or 5 percent opacity.
8. Reasonable precautions to prevent fugitive particulate emissions during construction such as coating of roads and construction sites used by contractors will be taken by FPC.
9. Construction and schedule shall reasonably conform to the plans submitted in the application.
10. The applicant shall report any delays in construction and completion.
11. Before the construction permit expires, Bartow Unit 1 will be tested for particulate matter, sulfur dioxide and visible emissions during normal operations near 1,220 MMBTU/hr heat input while burning combination fuel and 100% fuel oil. The electrostatic precipitator will not be used during the compliance test with 100% fuel oil. Test methods will be EPA reference methods 1,2,3,4,5,6, and 9 as described in 40 CFR 60, Appendix A or other Department approved methods. Testing will include the effect of soot blowing. Minimum sample volume and time will be that given in New Source Performance Standards (NSPS) in 40 CFR 60.46 for fossil-fuel steam generators. The bag filter serving the silos will be sampled for particulate matter if the visible emission test results are in excess of 5% opacity.

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

Specific Conditions (Con't)

12. The applicant will demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit to the Southwest District Office prior to 90 days before the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or until issuance of an operating permit.

  
Victoria J. Fischinkel,  
Secretary

Expiration Date: January 31, 1983

Issued this 18 day of March, 1981

\_\_\_\_\_ Pages Attached.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

  
Signature

# **ATTACHMENT B**

**Bartow Unit 1**

**Air Operation Permits**

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH  
TAMPA, FLORIDA 33610-9544

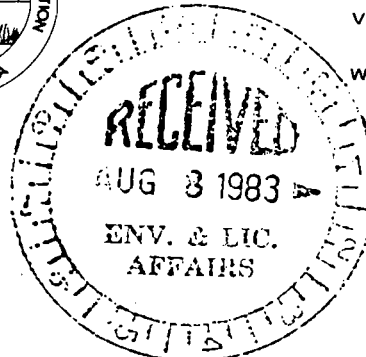
Mr. W. S. O'Brien, Director  
Environmental & Licensing Affairs  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

WILLIAM K. HENNESSEY  
DISTRICT MANAGER



Dear Mr. O'Brien:

Re: Pinellas County - AP  
Florida Power Corporation - Bartow Unit One

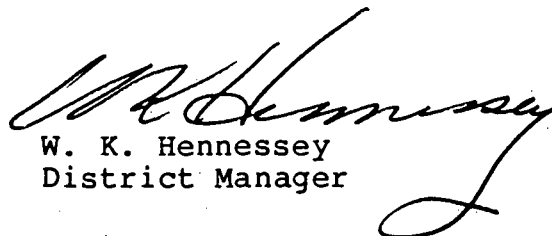
Enclosed is Permit Number A052-63210 dated 8/4/83, to operate the subject pollution source, issued pursuant to Section 403.061(14), Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Florida Administrative Code Rule 28-5.201, (copy enclosed). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

Acceptance of the permit constitutes notice and agreement that the department may periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof.

Sincerely,

  
W. K. Hennessey  
District Manager

WKH/scm

Enclosures

cc: PCDEM

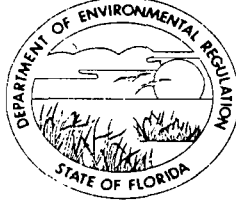
Rusty Wooten

Thomas W. Reese

DER Form 17-1.201(7)



STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

WILLIAM K. HENNESSEY  
DISTRICT MANAGER

SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH  
TAMPA, FLORIDA 33610-9544

PERMITTEE:

Mr. W. S. O'Brien, Director  
Environmental & Licensing Affairs  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733

PERMIT/CERTIFICATION

Permit No.: A052-63210  
County: Pinellas  
Expiration Date: 7/1/88  
Project: Florida Power  
Corporation - Bartow Unit One

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. 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:

For the operation of 93.4 MW steam generator unit designated as Bartow Unit One. Unit is designed to be fired on a coal-oil mixture (COM) or No. 6 fuel oil with a maximum heat input of 1,220 MMBTU/hr. Particulate emissions are controlled by a Buel Model BAB1.2x37N434-43 electrostatic precipitator.

Location: Weedon Island in Pinellas County

UTM: 17-342.3E      3082.7N      NEDS NO: 0011      Point ID: 01

Replaces Permit No.: AC52-36102

PERMITTEE: Permit/Certification No.: A052-63210  
Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate the enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.
3. As provided in Subsections 403.087(6) and 403.712(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by any order from the department.

PERMITTEE:  
Florida Power Corp.

Permit/Certification Number: AO52-63210  
Project: Florida Power Corporation  
Bartow Unit One

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

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as maybe required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purposes of;

a. Having access to and copying any records that must be kept under the conditions of the permit:

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

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

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

(a) a description of and cause of non-compliance; and

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

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

# ATTACHMENT C

DEP Memorandum

Regarding Use of Bartow ESP

State of Florida  
DEPARTMENT OF ENVIRONMENTAL REGULATION



# Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____	Leave: _____
To: _____	Leave: _____
To: _____	Leave: _____
To: _____	Leave: _____

TO: Bill Thomas  
FROM: Clair Fancy *CF*  
DATE: June 9, 1987  
SUBJ: Florida Power Corporation (FPC)  
Bartow Unit No. 1, AC 52-~~63210~~  
36102

The construction permit issued to FPC Bartow Unit No. 1, AC 52-63210, dated March 18, 1981, allows for the burning of 100% fuel oil without requiring an ESP on line, and also allows for visible emissions upto 40% opacity. Since the unit can comply with the applicable permitted emission limitations while burning 100% fuel oil and without ESP control, the operating permit may be amended to allow such operation.

However, if FPC intends to dismantle (permanently remove) the ESP, the Department would require a construction permit be issued. This would make compliance federally enforceable. It is understood that burning of coal-oil mix fuel by Bartow Unit No. 1 will no longer be permitted.

PR/ks

PERMITTEE: Permit/Certification No: A052-63210  
Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.73 and 403.111, Florida Statutes.

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

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- ( ) Determination of Best Available Control Technology (BACT)
- ( ) Determination of Prevention of Significant Deterioration (PSD)
- ( ) Certification of Compliance with State Water Quality Standards (Section 401. PL 92-500)
- ( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE: Permit/Certification No.: A052-63210  
Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

14. (con't)

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

c. Records of monitoring information shall include:

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

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

**SPECIFIC CONDITIONS:**

1. Test the emissions for the following pollutants while the unit is fired on 100% fuel oil and coal-oil mixture, respectively, in accordance with the method specified at intervals of approximately 12 months from the date of this permit. Submit a copy of the test data to this agency and the Pinellas County Department of Environmental

PERMITTEE:  
Florida Power Corporation

Permit/Certification No.: A052-63210  
Project: Florida Power Corporation  
Bartow Unit One

Management within forty-five (45) days of such testing.

<u>Pollutant</u>	<u>Test Method</u>
Visible Emissions (Steady state & soot blowing)*	DER Method 9**
Particulate (Steady state & soot blowing)*	EPA Method 17*** or EPA Method 5
Sulfur Oxides	****

\*Required on 100% fuel oil if it is burned more than 15 consecutive days per year.

\*\*Actual transmissometer data during steady state and soot blowing particulate testing is acceptable in lieu of DER Method 9 testing if monitor has been certified in accordance with Section 17-2.710, F.A.C.

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

\*\*\*\*Sulfur content shall be verified by submittal of monthly composite fuel analyses reports on a quarterly basis.

Compliance test reports shall be in accordance with Section 17-2.700(7), F.A.C.

2. The Department and Pinellas County Department of Environmental Management shall be notified of scheduled test dates at least ten (10) days prior to compliance testing and promptly notified of any changes to the scheduled test dates.

3. Testing of emissions should be conducted using the fuel and/or process input which are expected to result in the highest emissions and within ten percent (10%) of the rated capacity of the source; otherwise, the Department may require the test to be repeated.



PERMITTEE:

PERMIT/CERTIFICATION NO.: A052-63210

Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

4. Submit for this facility, each calendar year, on or before March 1, an emission report to this agency and the Pinellas County Department of Environmental Management for the preceding calendar year containing the following information as per Section 17-4.14, F.A.C.

- (A) Annual amount of materials and/or fuels utilized.
- (B) Annual emissions (note calculation basis).
- (C) Any changes in the information contained in the permit application.

5. In accordance with Florida Administrative Code (F.A.C.) Rules 17-2.250 and 17-2.600(5)(b) the emission limiting standards for Bartow Unit 2 are as follows:

a. Visible emissions for steady state operation shall not exceed the opacity limitation (20% or 40%) determined by the following procedure. The permittee shall submit a letter indicating any change in particulate testing frequency election pursuant to F.A.C. Rule 17-2.600(5)(b)1.

This notification shall be used to determine the applicable opacity limitation which will apply, based on date of receipt by this Agency, until such time as amended by letter.

b. Visible emissions for soot blowing and load changes shall not exceed 60% opacity for more than 3 hours in any 24-hour period except for up to four 6-minute periods of unlimited opacity, providing the unit has installed and is operating, or has committed to install and operate, continuous opacity monitors.

c. Particulate emissions for steady state operations shall not exceed 0.1 pounds per million BTU heat input and 122 lbs/hr.

d. Particulate emissions for soot blowing and load changes shall not exceed an average of 0.3 pounds per million BTU heat input during the 3 hour period of allowed excess emissions.

PERMITTEE:  
Florida Power Corporation

PERMIT/CERTIFICATION NO.: AO52-63210  
Project: Florida Power Corporation  
Bartow Unit One

e. SO<sub>2</sub> emissions shall not exceed 2.75 pounds per million BTU heat input and 3,355 lbs/hr. at maximum heat input.

6. In addition to the requirements of General Condition 3 of this permit, a written quarterly report shall be submitted to the Department and Pinellas County Department of Environmental Management of all opacity exceedances of emission limitations specified in Florida Administrative Code Rules 17-2.250(1) through (4) and 17-2.600(5)(b)1. The report shall state the cause, period of non-compliance, and steps taken for corrective action and/or prevention of reoccurrence. If compliance cannot be determined due to opacity monitor malfunction or for any other reason, the report shall state the cause, duration and action taken. The Department shall also be notified when there are no exceedances for a quarter. All recorded data shall be maintained on file by Florida Power Corporation for no less than two years and made available to the Department upon request.

7. In the event the permittee is temporarily unable to comply with any of the conditions of the permit, the permittee shall immediately notify the Pinellas County Department of Environmental Management. A written report shall be submitted quarterly to this office and the Pinellas County Department of Environmental Management stating the cause, period of non-compliance, and steps taken for corrective action and/or prevention of reoccurrence.

8. The pollution control equipment and monitors shall be maintained and operated in such a manner that all emissions will be in compliance with applicable D.E.R. rules and regulations. Maintenance records shall be kept and made available to D.E.R. and Pinellas County Department of Environmental Management upon request.

PERMITTEE:

PERMIT/CERTIFICATION NO.: A052-63210

Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

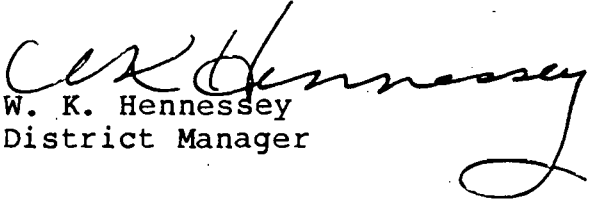
9. The electrostatic precipitator must be in operation at all times except during start-up and shut-down operations.

10. The maximum heat input to Bartow Unit One will be 1,220 MMBTU/hr. while burning 100% fuel oil or coal-oil mixture.

11. The continuous opacity monitors must be recertified in accordance with Section 17-2.710, F.A.C. The required agency notification must be given.

Issued this 4<sup>th</sup> day of Aug,  
1983.

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL REGULATION

  
W. K. Hennessey  
District Manager



*Clair - pls draft  
response in  
conjunction with  
legal.  
Howard  
5/23*

May 17, 1996

Howard L. Rhodes, Director  
Division of Air Resources Management  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, FL 32399-2600

**RECEIVED**

MAY 22 1996

DIVISION OF AIR  
RESOURCES MANAGEMENT

RE: Florida Power Corporation  
Bartow Plant, Unit No. 1  
Request for Applicability Determination

Dear Mr. Rhodes:

This letter is to request the Department of Environmental Protection's (DEP's) concurrence that Florida Power Corporation's (FPC's) prospective nonuse of the electrostatic precipitator (ESP) while burning fuel oil at the Bartow Plant Unit No. 1 will not constitute a modification potentially triggering Prevention of Significant Deterioration (PSD) applicability or the Subpart Da New Source Performance Standards (NSPS).

The facts underlying this request are straightforward. On March 20, 1981 DEP issued an air construction permit (No. AC 52-36102) to FPC authorizing Bartow Unit No. 1 to burn "a combination oil and coal fuel." (Attachment A.) This construction permit required the installation of an electrostatic precipitator [ESP] having a collection efficiency of 97.9 percent to remove the additional particulate matter generated from burning a combination of oil and coal fuel." The construction permit specifically required the ESP be operated only while the "combination fuel oil (oil and coal)" is combusted; Specific Condition No. 1 stated, "Use of the precipitator is not required when burning 100% fuel oil." (Emphasis added.)

On August 4, 1983, following installation of the ESP and initial operation under the construction permit, DEP issued an air operation permit (No. AO52-63210) authorizing ongoing operation of Unit No. 1. (Attachment B.) This operation permit observed that Unit No. 1 was "designed to be fired on a coal-oil mixture (COM) or No. 6 fuel oil." Specific Condition No. 9 provided: "The electrostatic precipitator must be in operation at all times except during start-up and shutdown operations." This language apparently contradicted Specific Condition No. 1 of the construction permit, which stated that it is not necessary to use the precipitator when burning 100% fuel oil. However, FPC accepted Specific Condition No. 9 in the air operation permit based on its expectation that 100% fuel oil would be fired only during periods of start-up and shutdown, and that COM would be combusted during all other periods.

Mr. Howard Rhodes  
May 17, 1996  
Page 2

Subsequently, FPC ceased burning COM in Bartow Unit No. 1, and came to rely exclusively on fuel oil. However, the air operation permits issued in 1988 (No. AO52-149126) and 1993 (No. AO52-233149) continued to require utilization of the ESP at all times. This disconnect between the air construction permit ("Use of the precipitator is not required when burning 100% fuel oil") and the air operation permits (ostensibly requiring use of the precipitator even though only fuel oil is burned) was the result of a mistake in structuring and implementing the air operation permit conditions, for there was no legal or environmental rationale that justifies requiring ESP utilization while burning fuel oil. In fact, the enclosed June 9, 1987 DEP memorandum (Attachment C) stated, "Since the unit can comply with the applicable permitted emission limitations while burning 100% fuel oil and without ESP control, the operating permit may be amended to allow such operation." (This memorandum also observed that permanently dismantling the ESP would require an amendment to the Unit No. 1 construction permit.)

DEP's February 8, 1996 "Guidance on Incorporation of Existing Permit Conditions Into Title V Permits" states that "those conditions in air operation permits that are extraneous to the conditions that were in the construction permits...may be reviewed and corrected in the Title V permit to reflect proper application of the Department's rules." This DEP guidance correctly states that air operation permit conditions not also in air construction permits must be included as applicable requirements in Title V permits only if necessary to "reflect proper application of the Department's rules." Again, there is no regulatory requirement that Bartow Unit No. 1 run the ESP while burning fuel oil.

Accordingly, FPC requests DEP's concurrence that the federally enforceable applicable requirement in the construction permit (i.e., "Use of the precipitator is not required when burning 100% fuel oil") controls, and that the apparently contradictory requirements in the air operation permits are "extraneous" and should be "corrected."

FPC also requests DEP confirmation that prospective nonuse and removal of the ESP cannot trigger PSD or NSPS requirements. This conclusion is justified because, as noted above, the ESP was "required" under the construction permit only "to remove particulate matter generated from burning a combination of oil and coal fuel," and use of the ESP explicitly was not required when only oil is burned. Therefore, nonuse of the ESP in connection with FPC's return to 100% fuel oil would simply be a return to the circumstances predating the use of COM, and would be fully consistent with federally enforceable requirements applicable to Unit No. 1.

Available EPA and judicial guidance hold that relaxations in federally enforceable requirements resulting in air emission increases generally trigger NSPS applicability.<sup>1</sup>

---

<sup>1</sup> For example, in a February 22, 1979 guidance document EPA determined that NSPS requirements apply where "a source...removes air pollution control equipment, as a result of a SIP relaxation..." (Attachment E.) Similarly, in a July 18, 1980 guidance document EPA concluded that the NSPS would apply if an experimental flue gas desulfurization project "revert(s) back to its current SIP limitation." (Attachment F.) And in National Southwire Aluminum Co. v. EPA, 838 F.2d 835 (6th Cir. 1988) a federal court (in a split decision) held that a SIP amendment relaxing emission limitations could trigger NSPS.

Mr. Howard Rhodes  
May 17, 1996  
Page 3

However, a common element in all of those cases was that sources were seeking emissions increases associated with relaxations of federally enforceable applicable requirements. That element is not present in FPC's circumstance concerning Bartow Unit 1; instead of seeking permission of obtain relief from federally enforceable requirements, FPC's intention is to conform its operations to longstanding federally enforceable requirements. Just as reverting to burning 100% oil without using the ESP was permissible (without triggering PSD or NSPS) when the construction permit was originally issued, the same outcome is warranted now.

There is no statutory, regulatory, or policy rationale in support of triggering PSD or NSPS requirements where a facility seeks to correct its inadvertent implementation of nonfederally enforceable permit conditions. The PSD and NSPS "modification" provisions reflect Congress' balanced intention to "build control technology into new plants at the time of construction." H.R. Rep. No. 294, 95th Cong., 1st Sess. 185. In this respect, "[T]he purpose of the 'modification' rule is to ensure that pollution control measures are undertaken when they can be most effective, at the time of new or modified construction." 116 Cong. Rec. 32,918, reprinted in 1 Senate Cmte. on Pub. Works, A Legislative History of the Clean Air Act Amendments of 1970 (1974) at 260. FPC's proposal to conform its operations with existing federally enforceable requirements should not be considered to be a modification because it will not constitute the type of opportunity intended under the NSPS or PSD programs for installation of new control technology. There is no legal authority suggesting that conformity with a longstanding applicable requirement can be a basis for PSD or NSPS applicability.

Thank you for considering these materials. If you have any questions or require additional information, please contact Scott Osbourn of FPC at (813) 866-5158.

Very truly yours,



W. Jeffrey Pardue, CEP  
Director, Environmental Services

SO:dvt  
attachments

cc: James S. Alves, Esq.  
William Thomas, DEP SW District  
Peter Hessling, Pinellas Co. DEM

# ATTACHMENT A

Bartow Unit 1

Air Construction Permit

TWIN TOWERS OFFICE BUILDING  
2800 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

March 20, 1981

W. S. O'Brien  
Florida Power Corporation  
3201 34th Street South  
P. O. Box 14042  
St. Petersburg, Florida 33733

Dear Mr. O'Brien:

Enclosed is Permit Number AC 52-36102, dated March 18, 1981  
to Florida Power Corporation  
issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

*Lawrence A. George*  
Steve Smallwood, Chief  
Bureau of Air Quality Management





**STATE OF FLORIDA  
DEPARTMENT OF  
ENVIRONMENTAL REGULATION**

**CONSTRUCTION  
PERMIT**

NO. 1-52-35102

FLORIDA POWER CORPORATION

PROJECT TITLE No. 1

DATE OF ISSUANCE

*[Signature]*

DATE OF EXPIRATION

JANUARY 31, 1983

*[Signature]*

VICTORIA J. TSCHENKEL  
SECRETARY

Final Determination

Florida Power Corporation

Bartow Unit No. 1

Construction Permit

Application Number:

AC 52-36102

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

March 20, 1981

### Final Determination

Florida Power Corporation's (FPC) application for a permit to modify its Bartow Unit No. 1 located on Weedon Island in Pinellas County, Florida has been reviewed by the Bureau of Air Quality Management. Public notice of the Department's Intent to Issue the construction permit was published in the St. Petersburg Times on February 9, 1981.

Copies of the preliminary determination have been made available for public inspection at the Pinellas County's Department of Environmental Management in Clearwater, the Department's Bureau of Air Quality Management in Tallahassee and the Department's Southwest District Office in Tampa.

The only comments received on the proposed construction permit were from FPC. Their comments were on (1) typing errors, (2) the visible emission limit, (3) the use of 100% fuel oil and (4) compliance test methods. The Department is in agreement with the FPC comments and have made the necessary changes to the permit.

Specifically, the comments were as follows:

- (1) FPC pointed out that the word "minimum" should be "maximum" and the SO<sub>2</sub> standard should be 2.75 lb/MMBTU instead of 2.76 lb/MMBTU (Page 2; item IID).
- (2) FPC requested the visible emission standard be 40% opacity as allowed by Chapter 17-2, Table II, instead of 20/27% that was proposed in the Preliminary Determination. This option is provided in 17-2.05.
- (3) FPC requested that Bartow Unit 1 be allowed to burn 100% No. 6 fuel oil as well as the combination fuel, and be allowed to operate without the electrostatic precipitator when burning 100% No. 6 fuel oil. This would, in effect, allow operation in accordance with present permit conditions as if no modification had taken place.
- (4) FPC asked if the "other Department-approved methods" mentioned in specific condition 11 allows the use of test method 17 to determine particulate matter emissions and fuel analyses for sulfur in lieu of test method 6 to determine sulfur dioxide emissions. The Department agrees that the condition allows the use of these methods and, therefore, no change will be made to this specific condition.

The final action by the Department will be to issue the permit with the changes noted above.

TWIN TOWERS OFFICE BUILDING  
2900 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Power Corporation  
P. O. Box 14042  
St. Petersburg, Florida 33733

PERMIT/CERTIFICATION  
NO. AC 52-36102

COUNTY: Pinellas

PROJECT: Bartow Unit No. 1

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

For (1) the installation of an electrostatic precipitator having a minimum efficiency of 97.9 percent to remove the additional particulate matter generated from burning a combination oil and coal fuel, and (2) those changes to the boiler needed to burn the combination fuel, and (3) construction of a fly ash silo and pneumatic conveyor controlled by a bag filter for Bartow Unit No. 1 located on Weedon Island in Pinellas County. The UTM coordinates of Bartow Unit No. 1 are 342.38 E and 2082.72 N.

Construction shall be in accordance with the attached permit application, plans, documents and drawing except as provided on pages 3 and 4, Specific Conditions.

Attachments:

Application to Construct Air Pollution Sources

Florida Power Corporation letter of 2/27/81

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions," and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.181(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.
4. As provided in subsection 403.087(8), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is prohibited by Section 403.111, F.S.
7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.
8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exemption from department rules or state statutes.
9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or lessorhold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
13. This permit also constitutes:
  - [ ] Determination of Best Available Control Technology (BACT)
  - [ ] Determination of Prevention of Significant Deterioration (PSD)
  - [ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

SPECIFIC CONDITIONS:

1. Combination fuel oil (oil and coal) will not be burned in the boiler unless the electrostatic precipitator is in operation. Use of the precipitator is not required when burning 100% fuel oil.
2. Maximum heat input to Bartow Unit 1 will be 1,220 million BTU/hr while burning either combination fuels or 100% No. 6 fuel oil.
3. Maximum particulate emission from Bartow Unit 1 will be 0.10 lb/MMBTU input and 122 lb/hr.
4. Sulfur in the fuel used in the boiler will be controlled so that theoretical emissions do not exceed 2.75 lb. SO<sub>2</sub>/MMBTU input and 3,355 lb/hr. at maximum heat input.
5. Visible emissions from the boiler shall not exceed 40% opacity provided FPC elects to make quarterly particulate matter compliance tests until less frequent test requirements are approved by the Secretary in accordance with 17-2.05 Table IIE(b).
6. Maximum hours of operation will be 8,760 hours per year.
7. Particulate emissions from the bag filter controlling the fly ash silo and conveying system shall not exceed 0.02 grains/DSCF or 5 percent opacity.
8. Reasonable precautions to prevent fugitive particulate emissions during construction such as coating of roads and construction sites used by contractors will be taken by FPC.
9. Construction and schedule shall reasonably conform to the plans submitted in the application.
10. The applicant shall report any delays in construction and completion.
11. Before the construction permit expires, Bartow Unit 1 will be tested for particulate matter, sulfur dioxide and visible emissions during normal operations near 1,220 MMBTU/hr heat input while burning combination fuel and 100% fuel oil. The electrostatic precipitator will not be used during the compliance test with 100% fuel oil. Test methods will be EPA reference methods 1,2,3,4,5,6, and 9 as described in 40 CFR 60, Appendix A or other Department approved methods. Testing will include the effect of soot blowing. Minimum sample volume and time will be that given in New Source Performance Standards (NSPS) in 40 CFR 60.46 for fossil-fuel steam generators. The bag filter serving the silos will be sampled for particulate matter if the visible emission test results are in excess of 5% opacity.

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

Specific Conditions (Con't)

12. The applicant will demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit to the Southwest District Office prior to 90 days before the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or until issuance of an operating permit.

  
Victoria J. Ischinkel,  
Secretary

Expiration Date: January 31, 1983

Issued this 18 day of March, 1981

\_\_\_\_\_ Pages Attached.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

  
\_\_\_\_\_  
Signature

# ATTACHMENT B

Bartow Unit 1

Air Operation Permits



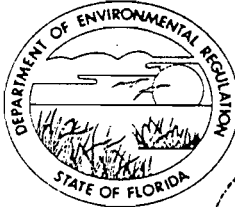
STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH  
TAMPA, FLORIDA 33610-9544

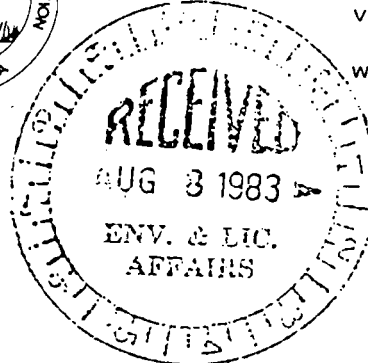
Mr. W. S. O'Brien, Director  
Environmental & Licensing Affairs  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

WILLIAM K. HENNESSEY  
DISTRICT MANAGER



Dear Mr. O'Brien:

Re: Pinellas County - AP  
Florida Power Corporation - Bartow Unit One

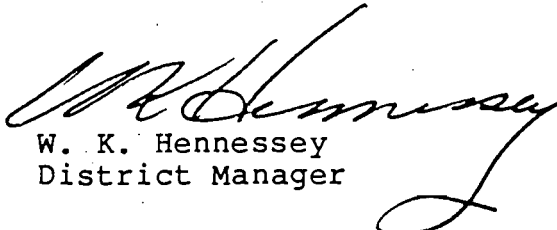
Enclosed is Permit Number A052-63210 dated 8/4/83, to operate the subject pollution source, issued pursuant to Section 403.061(14), Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Florida Administrative Code Rule 28-5.201, (copy enclosed). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

Acceptance of the permit constitutes notice and agreement that the department may periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof.

Sincerely,

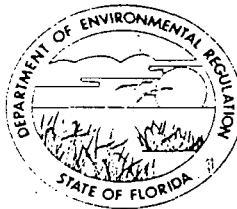
  
W. K. Hennessey  
District Manager

WKH/scm

Enclosures

cc: PCDEM  
Rusty Wooten  
Thomas W. Reese  
DER Form 17-1.201(7)

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION



SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH  
TAMPA, FLORIDA 33610-9544

BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

WILLIAM K. HENNESSEY  
DISTRICT MANAGER

PERMITTEE:  
Mr. W. S. O'Brien, Director  
Environmental & Licensing Affairs  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733

PERMIT/CERTIFICATION  
Permit No.: AO52-63210  
County: Pinellas  
Expiration Date: 7/1/88  
Project: Florida Power  
Corporation - Bartow Unit One

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. 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:

For the operation of 93.4 MW steam generator unit designated as Bartow Unit One. Unit is designed to be fired on a coal-oil mixture (COM) or No. 6 fuel oil with a maximum heat input of 1,220 MMBTU/hr. Particulate emissions are controlled by a Buel Model BAB1.2x37N434-43 electrostatic precipitator.

Location: Weedon Island in Pinellas County

UTM: 17-342.3E 3082.7N NEDS NO: 0011 Point ID: 01

Replaces Permit No.: AC52-36102

PERMITTEE: Permit/Certification No.: A052-63210  
Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate the enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.
3. As provided in Subsections 403.087(6) and 403.712(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by any order from the department.

PERMITTEE:  
Florida Power Corp.

Permit/Certification Number: AO52-63210  
Project: Florida Power Corporation  
Bartow Unit One

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

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as maybe required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purposes of;

a. Having access to and copying any records that must be kept under the conditions of the permit:

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

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

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

(a) a description of and cause of non-compliance; and

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

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

# ATTACHMENT C

DEP Memorandum

Regarding Use of Bartow ESP

State of Florida  
DEPARTMENT OF ENVIRONMENTAL REGULATION



# Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

TO: _____	DATE: _____
TO: _____	DATE: _____
TO: _____	DATE: _____
TO: _____	DATE: _____

TO: Bill Thomas  
FROM: Clair Fancy *CF*  
DATE: June 9, 1987  
SUBJ: Florida Power Corporation (FPC)  
Bartow Unit No. 1, AC 52-~~53210~~  
36102

The construction permit issued to FPC Bartow Unit No. 1, AC 52-53210, dated March 18, 1981, allows for the burning of 100% fuel oil without requiring an ESP on line, and also allows for visible emissions upto 40% opacity. Since the unit can comply with the applicable permitted emission limitations while burning 100% fuel oil and without ESP control, the operating permit may be amended to allow such operation.

However, if FPC intends to dismantle (permanently remove) the ESP, the Department would require a construction permit be issued. This would make compliance federally enforceable. It is understood that burning of coal-oil mix fuel by Bartow Unit No. 1 will no longer be permitted.

PR/ks

PERMITTEE: Permit/Certification No: AO52-63210  
Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.73 and 403.111, Florida Statutes.

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

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- ( ) Determination of Best Available Control Technology (BACT)
- ( ) Determination of Prevention of Significant Deterioration (PSD)
- ( ) Certification of Compliance with State Water Quality Standards (Section 401. PL 92-500)
- ( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE: Permit/Certification No.: A052-63210  
Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

14. (con't)

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

c. Records of monitoring information shall include:

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

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

**SPECIFIC CONDITIONS:**

1. Test the emissions for the following pollutants while the unit is fired on 100% fuel oil and coal-oil mixture, respectively, in accordance with the method specified at intervals of approximately 12 months from the date of this permit. Submit a copy of the test data to this agency and the Pinellas County Department of Environmental



PERMITTEE:  
Florida Power Corporation

Permit/Certification No.: A052-63210  
Project: Florida Power Corporation  
Bartow Unit One

Management within forty-five (45) days of such testing.

<u>Pollutant</u>	<u>Test Method</u>
Visible Emissions (Steady state & soot blowing)*	DER Method 9**
Particulate (Steady state & soot blowing)*	EPA Method 17*** or EPA Method 5
Sulfur Oxides	****

\*Required on 100% fuel oil if it is burned more than 15 consecutive days per year.

\*\*Actual transmissometer data during steady state and soot blowing particulate testing is acceptable in lieu of DER Method 9 testing if monitor has been certified in accordance with Section 17-2.710, F.A.C.

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

\*\*\*\*Sulfur content shall be verified by submittal of monthly composite fuel analyses reports on a quarterly basis.

Compliance test reports shall be in accordance with Section 17-2.700(7), F.A.C.

2. The Department and Pinellas County Department of Environmental Management shall be notified of scheduled test dates at least ten (10) days prior to compliance testing and promptly notified of any changes to the scheduled test dates.

3. Testing of emissions should be conducted using the fuel and/or process input which are expected to result in the highest emissions and within ten percent (10%) of the rated capacity of the source; otherwise, the Department may require the test to be repeated.

PERMITTEE:

PERMIT/CERTIFICATION NO.: A052-63210

Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

4. Submit for this facility, each calendar year, on or before March 1, an emission report to this agency and the Pinellas County Department of Environmental Management for the preceding calendar year containing the following information as per Section 17-4.14, F.A.C.

- (A) Annual amount of materials and/or fuels utilized.
- (B) Annual emissions (note calculation basis).
- (C) Any changes in the information contained in the permit application.

5. In accordance with Florida Administrative Code (F.A.C.) Rules 17-2.250 and 17-2.600(5)(b) the emission limiting standards for Bartow Unit 2 are as follows:

a. Visible emissions for steady state operation shall not exceed the opacity limitation (20% or 40%) determined by the following procedure. The permittee shall submit a letter indicating any change in particulate testing frequency election pursuant to F.A.C. Rule 17-2.600(5)(b)1.

This notification shall be used to determine the applicable opacity limitation which will apply, based on date of receipt by this Agency, until such time as amended by letter.

b. Visible emissions for soot blowing and load changes shall not exceed 60% opacity for more than 3 hours in any 24-hour period except for up to four 6-minute periods of unlimited opacity, providing the unit has installed and is operating, or has committed to install and operate, continuous opacity monitors.

c. Particulate emissions for steady state operations shall not exceed 0.1 pounds per million BTU heat input and 122 lbs/hr.

d. Particulate emissions for soot blowing and load changes shall not exceed an average of 0.3 pounds per million BTU heat input during the 3 hour period of allowed excess emissions.

PERMITTEE:  
Florida Power Corporation

PERMIT/CERTIFICATION NO.: A052-63210  
Project: Florida Power Corporation  
Bartow Unit One

- e. SO<sub>2</sub> emissions shall not exceed 2.75 pounds per million BTU heat input and 3,355 lbs/hr. at maximum heat input.
6. In addition to the requirements of General Condition 3 of this permit, a written quarterly report shall be submitted to the Department and Pinellas County Department of Environmental Management of all opacity exceedances of emission limitations specified in Florida Administrative Code Rules 17-2.250(1) through (4) and 17-2.600(5)(b)1. The report shall state the cause, period of non-compliance, and steps taken for corrective action and/or prevention of reoccurrence. If compliance cannot be determined due to opacity monitor malfunction or for any other reason, the report shall state the cause, duration and action taken. The Department shall also be notified when there are no exceedances for a quarter. All recorded data shall be maintained on file by Florida Power Corporation for no less than two years and made available to the Department upon request.
7. In the event the permittee is temporarily unable to comply with any of the conditions of the permit, the permittee shall immediately notify the Pinellas County Department of Environmental Management. A written report shall be submitted quarterly to this office and the Pinellas County Department of Environmental Management stating the cause, period of non-compliance, and steps taken for corrective action and/or prevention of reoccurrence.
8. The pollution control equipment and monitors shall be maintained and operated in such a manner that all emissions will be in compliance with applicable D.E.R. rules and regulations. Maintenance records shall be kept and made available to D.E.R. and Pinellas County Department of Environmental Management upon request.

PERMITTEE:

PERMIT/CERTIFICATION NO.: AO52-63210

Florida Power Corporation Project: Florida Power Corporation  
Bartow Unit One

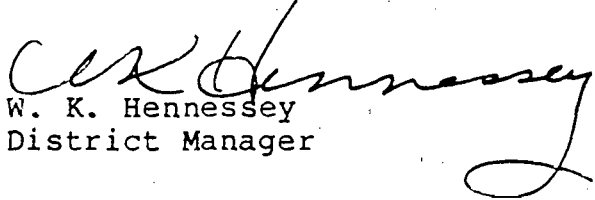
9. The electrostatic precipitator must be in operation at all times except during start-up and shut-down operations.

10. The maximum heat input to Bartow Unit One will be 1,220 MMBTU/hr. while burning 100% fuel oil or coal-oil mixture.

11. The continuous opacity monitors must be recertified in accordance with Section 17-2.710, F.A.C. The required agency notification must be given.

Issued this 4<sup>th</sup> day of Aug,  
1983.

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL REGULATION

  
W. K. Hennessey  
District Manager

In the folder labeled as follows there are documents, listed below, which were not reproduced in this electronic file. That folder can be found in the supplementary documents file drawer. Folders in that drawer are arranged alphabetically, then by permit number.

**Folder Name:** Florida Power Corporation

**Permit(s) Numbered:**

AC 52 -36102
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Documents:

<u>Period during which document was received</u>	<u>Detailed Description</u>
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Application 22 Oct 1982	1. 32"x36"Blueprint: BARTOW UNIT NO. 1 COM CONVERSION GENERAL LAYOUT (Drawing Number BA-G47-E- Preliminary)
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ST. PETERSBURG TIMES  
and EVENING INDEPENDENT

Published Daily

St. Petersburg, Pinellas County, Florida

145 9668

STATE OF FLORIDA  
COUNTY OF PINELLAS

} S. S.

Before the undersigned authority personally appeared M. O'Hara  
who on oath says that he is Front Counter Clk of the St. Petersburg Times  
a daily newspaper published at St. Petersburg, in Pinellas County, Florida: that the  
attached copy of advertisement, being a Legal Notice  
in the matter RE: Construction permit

-----  
----- in the ----- Court  
-----  
----- was published in said newspaper in the issues of February 9, 1981 -----  
-----

Affiant further says the said St. Petersburg Times is a newspaper  
published at St. Petersburg, in Said Pinellas County, Florida, and that the said news-  
paper has heretofore been continuously published in said Pinellas County, Florida,  
each day and has been entered as second class mail matter at the post office in St. Pe-  
tersburg, in said Pinellas County, Florida, for a period of one year next preceding the  
first publication of the attached copy of advertisement; and affiant further says that  
he has neither paid nor promised any person, firm, or corporation any discount, re-  
bate, commission or refund for the purpose of securing this advertisement for publi-  
cation in the said newspaper.

Sworn to and subscribed  
before me this 9th day of February  
February A. D. 19 81  
Patricia B. Hansen

(SEAL)

Notary Public  
Notary Public, State of Florida at Large

My commission expires FEB. 1, 1983

The Florida Department of Environmental Regulation (DER) has received a Application from and intends to issue a Construction Permit to Florida Power Corporation for the modification of its Bartow Unit No. 1 to be located at Weedon Island, in Pinellas County, Florida. A Determination of Best Available Control Technology was not required. Copies of the Preliminary Determination, Applications, and Departmental Intent are available for inspection at the following offices: Pinellas County Department of Environmental Management, Air and Water Division, St. Petersburg, Clearwater Airport, Clearwater, Florida 33520, Department of Environmental Regulation, Bureau of Air Quality Management, 2600 Blair Stone Road, Tallahassee, Florida 32301, Department of Environmental Regulation, Southwest District, 7601 Highway 301 North, Tampa, Florida 33601. Comments on this action shall be submitted in writing to: Willard Hanks of the Tallahassee Office, within 30 days of this notice.  
(1452668) 199

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



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

**DEPARTMENT OF ENVIRONMENTAL REGULATION**

M E M O R A N D U M

TO: Mr. W. S. O'Brien, Florida Power Corporation  
Mr. Dan Williams, Southwest District  
Ms. Joyce Gibbs, Pinellas County Department of  
Environmental Management

FROM: *Steve George*  
for Steve Smallwood, Chief, Bureau of Air Quality  
Management

SUBJ: Florida Power Corporation - Application for Permit  
to Modify Bartow Unit 1

DATE: February 6, 1981

Attached is one copy of the application, technical evaluation and proposed permit to modify Bartow Unit 1 on Weedon Island, in Pinellas County, Florida.

Please submit in writing any comments you wish to have considered concerning this action to Willard Hanks of the Bureau of Air Quality Management.

SS:caa

The Florida Department of Environmental Regulation (DER) has received an Application from and intends to issue a Construction Permit to Florida Power Corporation for the modification of its Bartow Unit No. 1 to be located at Weedon Island, in Pinellas County, Florida. A Determination of Best Available Control Technology was not required. Copies of the Preliminary Determination, Applications, and Departmental Intent are available for inspection at the following offices: Pinellas County Department of Environmental Management, Air and Water Division, St. Petersburg, Clearwater Airport, Clearwater, Florida 33520, Department of Environmental Regulation, Bureau of Air Quality Management, 2600 Blair Stone Road, Tallahassee, Florida 32301, Department of Environmental Regulation, Southwest District, 7601 Highway 301 North, Tampa, Florida 33601. Comments on this action shall be submitted in writing to: Willard Hanks of the Tallahassee Office, within 30 days of this notice.

To appear in St. Pete Times on February 9, 1981.



Technical Evaluation  
and  
Preliminary Determination

Florida Power Corporation  
Bartow Unit 1 on Weedon Island  
Pinellas County, Florida

Construction Permit Number  
AC 52-36102

Florida Department of Environmental Regulation  
Bureau of Air Quality Management  
Central Air Permitting

February 2, 1981

I. PROPOSED DEPARTMENT ACTION:

The Department intends to issue the requested construction permit to Florida Power Corporation (FPC) for modifications to the fossil-fuel steam generator unit on Weedon Island, Pinellas County, designated Bartow Unit 1. The modifications include changes to the boiler fuel system to allow the use of combination oil and coal fuel and the installation of an electrostatic precipitator to remove particulate matter from the emissions.

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

Willard Hanks, Engineer  
Bureau of Air Quality Management  
Florida Department of Environmental  
Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32301

Any comments received within thirty days of the date of this notice will be considered in the Department's final determination.

Any person whose substantial interest would be affected by the issuance of this permit may request an administrative hearing by filing a petition for hearing as set forth in Section 28-5.15, F.A.C. (copy attached). Such petition must be filed within 14 days of the date of this notice with:

Mary Clark, Attorney  
Office of General Counsel  
Florida Department of Environmental  
Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32301

II. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS:

a. Bartow Unit 1 presently emits the normal products of combustion from burning No. 6 fuel oil. The same pollutants will be emitted after the unit is modified to allow the use of a combination of No. 6 fuel oil and coal. By controlling the amount of sulfur in the combination fuel and installing an electrostatic precipitator, the new fuel will be burned without any increase in particulate and sulfur dioxide emissions.

b. The location of Bartow Unit 1 on Weedon Island is in an area of Pinellas County which is classified nonattainment for ozone and attainment for the other criteria pollutants. The unit is in the area of influence of the Pinellas County nonattainment area for sulfur dioxide and the Hillsborough County nonattainment area for particulate matter.

c. The modifications will increase volatile organic compounds (VOC) emissions by an estimated 13.5 TPY. Since the increase is less than 15 TPY, the source is exempt from the new source review requirements for ozone nonattainment areas.

d. The current and proposed emission limits for Bartow Unit 1 (at a minimum allowable heat input of 1,220 MMBTU per hour) are:

Particulate:	0.10 lb/MMBTU heat input and 122 lb/hr
Sulfur Dioxide:	2.75 lb/MMBTU heat input and 3,355 lb/hr
Visible Emission:	20% opacity except 27% allowed for one 6 minute period per hour.

e. As the allowable emissions from Bartow Unit 1 will not be changed, this modification will not cause or contribute to a violation of any ambient air quality standard or prevention of significant deterioration (PSD) increment.

### III. SYNOPSIS OF APPLICATION:

a. Name and Address of Applicant:

Florida Power Corporation  
P. O. Box 14042  
St. Petersburg, Florida 33733

b. Description of Project and Controls:

The project consists of modifications to FPC Bartow Unit 1 to allow the burning of a combination oil and coal fuel. Specifically, it involves the installation of an electrostatic precipitator having a minimum efficiency of 97.9 percent to remove the additional particulate matter generated from burning a combination oil and coal fuel. Some changes will be made to the burners to allow the use of the combination fuel. No coal handling facilities are being permitted as the coal will arrive at the plant already pulverized and mixed with the fuel oil. No increase in heat input, in particulate emissions, or in sulfur dioxide emissions will result from this modification.

c. Description of Operation:

Coal-oil mixture will be delivered to the Bartow plant by barge and transferred to an agitated oil storage tank. It will be pumped from storage to the boiler. Sulfur dioxide emissions will be controlled by limiting the amount of sulfur in the fuel. The emissions from the boiler will pass through a new electrostatic precipitator which will remove most of

the particulate matter. The particulate matter collected in the electrostatic precipitator will be pneumatically conveyed to a silo. A bag filter will control emissions from the silo. The ash collected in the storage tank will be fed into a wet mixer and then deposited in the disposal area.

IV. RULE APPLICABILITY:

The source is a major emitting facility for particulate and sulfur dioxide as defined in 17-2.02 F.A.C. because the potential emissions of particulate matter and sulfur dioxide exceed 100 TPY. The modification is subject to PSD review under 17-2.04(6) since potential (uncontrolled) emissions of particulate matter will increase. The modification is not subject to the BACT provisions of 17-2.03, however, because, no increase in particulate or sulfur dioxide concentrations over the baseline will occur (17-2.04(6)(c)). The modification is exempt from the new source review requirements for nonattainment areas (17-2.17) because no increase will occur in PM, SO<sub>2</sub>, and VOC emissions will increase by less than 15 TPY. The source is subject to 17-2.05(6)E which specifies the following emission limits:

<u>Pollutant</u>	<u>Standard</u>
Particulate Matter (PM)	0.1 lb/MMBTU input and 122 lb/hr
Sulfur Dioxide (SO <sub>2</sub> )	2.76 lb/MMBTU input and 3,555 lb/hr
Visible Emission	20% opacity except 27% for 6 minutes/hr

V. FINDINGS:

1. Bartow Unit 1 is a major emitting facility for particulate matter and sulfur dioxide because it has the potential to emit over 100 TPY of each pollutant.

2. The FPC proposed emission limits of 0.1 lb. PM/MMBTU input and 2.75 lb. SO<sub>2</sub>/MMBTU input are acceptable to the Department.

3. The proposed changes will not result in increased emissions or ambient air concentrations of particulate matter or sulfur dioxide, but VOC emissions will have a minimal increase.

4. A bag filter will be used to reduce particulate matter emission from the silo used in the disposal of fly ash.

VI. SPECIFIC CONDITIONS:

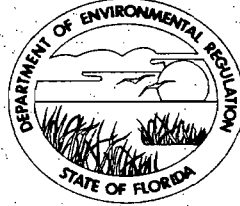
Specific Conditions are listed in the Construction

Page Four

Permit AC 52-36102

Attachment: Application to Construct Air Pollution Sources

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



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

## DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Power Corporation  
P. O. Box 14042  
St. Petersburg, Florida 33733

PERMIT/CERTIFICATION  
NO.AC 52-36102

COUNTY: Pinellas

PROJECT: Bartow Unit 1

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

For (1) the installation of an electrostatic precipitator having a minimum efficiency of 97.9 percent to remove the additional particulate matter generated from burning a combination oil and coal fuel and (2) those changes to the boiler needed to burn the combination fuel, and (3) construction of a fly ash silo and pneumatic conveyor controlled by a bag filter for Bartow Unit No. 1 located on Weedon Island in Pinellas County. The UTM coordinates of Bartow Unit 1 are 342.380E and 2082.720N.

Construction shall be in accordance with the attached permit application except as otherwise noted in the following specific conditions.

PERMIT NO.:  
APPLICANT:

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions," and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.
4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.
7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.
8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.
9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
13. This permit also constitutes:
  - Determination of Best Available Control Technology (BACT)
  - Determination of Prevention of Significant Deterioration (PSD)
  - Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

**SPECIFIC CONDITIONS:**

1. Combination fuel (oil and coal) will not be burned in the boiler unless the electrostatic precipitator is in operation.
2. Maximum heat input to Bartow Unit 1 will be 1,220 million BTU/hr.
3. Maximum particulate emission from Bartow Unit 1 will be 0.10 lb/MMBTU input and 122 lb/hr.
4. Sulfur in the fuel used in the boiler will be controlled so that theoretical emissions do not exceed 2.75 lb. SO<sub>2</sub>/MMBTU input and 3,355 lb/hr.
5. Visible emissions from the boiler shall not exceed 20% opacity except for one 6 minute period per hour which can be up to 27% opacity.
6. Maximum hours of operation will be 8,760 hours per year.
7. Particulate emissions from the bag filter controlling the fly ash silo and conveying system shall not exceed 0.02 grains/DSCF or 5 percent opacity.
8. Reasonable precautions to prevent fugitive particulate emissions during construction such as coating of roads and construction sites used by contractors will be taken by FPC.
9. Construction and schedule shall reasonably conform to the plans submitted in the application.
10. The applicant shall report any delays in construction and completion.
11. Before the construction permit expires, Bartow Unit 1 will be tested for particulate matter, sulfur dioxide and visible emissions during normal operations near 1,220 MMBTU/hr heat input. Test methods will be EPA reference methods 1, 2, 3, 4, 5, 6, and 9 as described in 40 CFR 60, Appendix A or other Department-approved methods. Testing will include the effect of soot blowing. Minimum sample volume and time will be that given in New Source Performance Standards (NSPS) in reference to 40 CFR 60 for fossil-fuel steam generators. The bag filter serving the silos will be sampled for particulate matter if the visible emission test results are in excess of 5% opacity.



PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

12. The applicant will demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit to the Southwest District office prior to 90 days before the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or until issuance of an operating permit.

Jacob D. Varn, Secretary

Expiration Date: January 31, 1983

Issued this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

\_\_\_\_\_ Pages Attached.

\_\_\_\_\_  
Signature

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



3-10  
JAG

BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA  
**DEPARTMENT OF ENVIRONMENTAL REGULATION**

January 6, 1981

Mr. R.E. Parnelle, Jr.  
Manager  
Environmental Operations  
Florida Power Corporation  
P. O. Box 14042  
St. Petersburg, Florida 33733

Dear Mr. Parnelle:

This is to confirm that the Department has received the supplemental material to your application of modifications for Bartow Unit 1, #AC 52-36102.

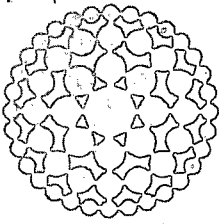
As of December 22, 1980, your application is considered complete and we have begun to process it.

Sincerely,

*Willard Hanks*

Willard Hanks  
Engineer  
Bureau of Air Quality Management

WH:dav



**Florida  
Power**  
CORPORATION

December 19, 1980

Mr. Williard Hanks  
Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blainstone Road  
Tallahassee, FL 32301

Dear Mr. Hanks:

Subject: Bartow No. 1 Coal Oil Mixture (COM)

You verbally requested information concerning fugitive particulate control for Bartow No. 1 when burning COM.

Please be advised that we have modified, somewhat, our method of ash disposal as submitted to you in the construction application. Our current plans include the use of the existing ponds located on the southeast side of the Bartow Plant property, directly south of the plant building. We plan to install a pneumatic conveyor system underground to remove flyash from the electrostatic precipitator (ESP) hoppers. This pressurized flyash conveyor system transports the ash to a small storage tank located in the flyash disposal area. This conveyor pipe will be about 1500 feet long. The storage tank will have a cyclone separator to remove the ash from the air stream and a bag filter to remove the dust from the air discharge. The ash collected in the storage tank will be fed into a wet mixer and then be deposited in the disposal area by grading and compaction. I have attached a drawing which shows this new system.

Should there be any questions, please contact me by telephone at (813) 866-4544.

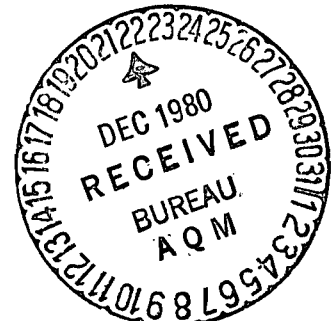
Very truly yours,

R. E. Parnelle, Jr.  
Manager  
Environmental Operations

REP/dd

Attachment: Drawing

cc; Mr. W. K. Hennessey, DER/Tampa



## DEPARTMENT OF ENVIRONMENTAL REGULATION

## INTEROFFICE MEMORANDUM

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

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

TO: File

FROM: William H. Brown *WHD* - Ralph C. Gardner *RG*

DATE: December 5, 1980

SUBJECT: F.P.C. Bartow #1 "COM"



A plant visit was made with R. Gardner regarding the COM operation and continuous monitoring operation. Mike Higgins, John Dawson, & Paul Beherns were also present. The only continuous monitor in operation for all three units is a Westinghouse economizer placed in the back end of the furnace and leads to the control room where O<sub>2</sub> is checked for excess air control. They are keeping excess air to a minimum since replacing the burners. The other monitors are T.V.'s.

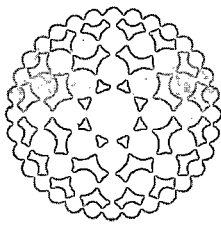
We have on hand an application for a permit to allow the burning of a 50/50 COM. At present they burn #6 fuel oil containing 2.5% sulfur. They have contracted for 1.5% sulfur coal or a decrease of .5% sulfur dioxide using 100% material balance. This does not consider any "F" factor which is less.

The COM ash projection is 6% by weight. Expectations are to operate COM about 1/1/82 and the best expectations for the ESP completion is April 1982. Some sort of meeting to resolve this problem is recommended.

If #1 works as well as predicted then 2 & 3 will probably follow. This might trigger a COM operation on site. The COM project is a separate company consisting of FPC - DRAVO & Massie Fuel (Coal Co.)

## Addendum: Industrial Waste

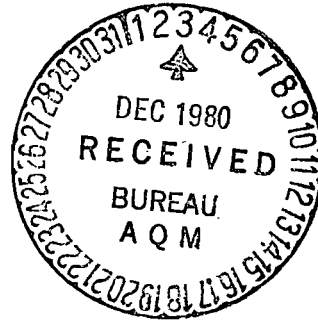
1. According to John Dawson and Paul Beherns Unit #1 will be a 60% coal/40% oil conversion unit which will be scheduled for operation in late 1981/early 1982. The fly ash and bottom ash is proposed to be disposed of upland in the vicinity of the perco/evaporation ponds (present operation). This area was created (15 to 25) years ago as a spoil bank for disposal of dredged spoil for the inlet for oil ships berthing at the Bartow Plant.
2. Core borings (several) representative samples will be provided with IW applications. (a) monitoring wells will be necessary (b) analysis of both (1) fly and (2) bottom ash for heavy metals and compliance with 17-3, 17-4, and 17-6 will be necessary.



**Florida Power**  
CORPORATION

December 1, 1980

Mr. Steve Smallwood  
Bureau of Air Quality Management  
Florida Department of Environmental Regulation  
2600 Blainstone Road  
Tallahassee, FL 32301



Dear Mr. Smallwood:

Subject: Bartow No. 1 Coal Oil Mixture (COM)

The following information is submitted in response to your letter of November 19, 1980 and follows the order in which the questions are stated in your letter.

- | Page   | Question  |
|--------|---|
| 2 IIG1 | Chapter 17-2.16(1)(Supp. No. 101) states that Pinellas County is designated as nonattainment for photochemical oxidants. Bartow Plant is located in Pinellas County.  |
| 4 IIIE | Coal is 1.5% sulfur MAX, 11,100 BTU/LB<br>Note: The average values for the coal are not known at this time.<br>Oil is 2.5% sulfur MAX, 18400 BTU/lb.<br>Note: The average values for the fuel oil for January through October, 1980 was 2.3% sulfur and 18,321 BTU/lb.<br>The construction permit application is based on 50% coal/50% oil by weight. |
| 5 V2   | The emission estimates in 111C. were calculated as follows:   |

ASSUMPTIONS FOR BARTOW NO. 1

- A. Maximum Peak Load - 120,000 KW
- B. Heat Rate at Peak Load - 10,167 BTU/KWH
- C. Maximum Burn Rate -  $1.22 \times 10^9$  BTU/HR (A x B)
- D. Annual Burn -

$$1.22 \times 10^9 \times \frac{\text{BTU}}{\text{Hr.}} \times \frac{\text{lb}}{14750} \times \frac{24 \text{ hr}}{\text{day}} \times \frac{365 \text{ days}}{\text{Yr.}} \times \frac{\text{ton}}{2000 \text{ lb.}} =$$

$$362,278 \frac{\text{tons}}{\text{Yr.}}$$

UTILIZATION RATE:

$$1.22 \times 10^9 \text{ BTU} \times \frac{\text{LB}}{\text{HR}} \times \frac{1}{14750 \text{ BTU}} = 82,712 \text{ lbs/hr}$$

Note: 14750 BTU/LB is from fuel specification

Mr. Steve Smallwood  
Page Two  
December 1, 1980

Page

5 V2 cont.

SO<sub>2</sub> is based on 100% of all sulfur in fuel converted to SO<sub>2</sub>. Since SO<sub>2</sub> is twice the weight of S, the formula is:

$$\text{Fuel burn} \times \% \text{ sulfur} \times 2 = \text{SO}_2 \text{ rate}$$
$$82,712 \times 0.02 \times 2 = 3308 \text{ lbs. SO}_2/\text{hr}$$

Actual SO<sub>2</sub> per year:

$$3308 \text{ lbs. SO}_2/\text{hr.} \times 8760 \text{ hr./yr.} \times \frac{\text{ton}}{2000 \text{ lbs.}} = 14489 \frac{\text{tons}}{\text{yr.}}$$

Particulate is based on 0.1 lb. per 10<sup>6</sup> BTU or

$$1.22 \times 10^9 \text{ BTU/hr.} \times \frac{0.1 \text{ lb.}}{10^6 \text{ BTU}} = 122 \text{ lbs particulate/hr.}$$

Actual particulate per year:

$$1.22 \times 10^9 \frac{\text{BTU}}{\text{hr.}} \times \frac{0.1 \text{ lb.}}{10^6 \text{ BTU}} \times \frac{8760 \text{ hr.}}{\text{Yr.}} \times \frac{\text{ton}}{2000 \text{ lb.}} = 534 \frac{\text{tons}}{\text{Yr.}}$$

In the application submitted to you, please correct the Actual T/yr. to read 14,489 T/yr. of sulfur dioxide (not 9600) and correct the actual T/yr. to read 534 T/yr. of particulate (not 354). Also correct the potential T/yr. of particulates to read 18633 T/yr. (not 12,345).

The present permitted maximum heat input is 1200 x 10<sup>6</sup> BTU/hr. The maximum particulate emission (using 0.1 lb./10<sup>6</sup> BTU) is 120 lbs./hr.

The maximum emission of sulfur dioxide (using 2.75 Lb./10<sup>6</sup> BTU) is 3300 lbs./hr. There is no permitted emission level for hydrocarbons (VOC). There will be no net increase above allowed particulate and SO<sub>2</sub> emissions. Method 17 will be used to test for particulate and periodic fuel analyses will be used to test for sulfur dioxide.

5 V3

The basis of potential discharge is that all the sulfur in the fuel is converted to SO<sub>2</sub> and that 85% of all the ash in the fuel would be emitted as fly ash. The other 15% would be collected in the boiler bottom ash hopper.

Mr. Steve Smallwood  
Page Three  
December 1, 1980

Page

- 5 V4 Specifications on the selected electrostatic precipitator (ESP) are attached.
- 5 V6 The flyash collected in the ESP will be pneumatically conveyed to a silo. It will be loaded into trucks from the silo and then taken to the land fill.
- 5 V8 The Bartow Plant Plot Plan is attached.

Coal oil mixture will be delivered to Bartow Plant by barge, therefore, no coal handling facilities will be constructed at the Plant.

Should there be any questions concerning the contents of this letter or the Bartow No. 1 COM application, please contact me by telephone at (813)866-4544.

Very truly yours,



R. E. Parnelle, Jr.  
Manager  
Environmental Operations

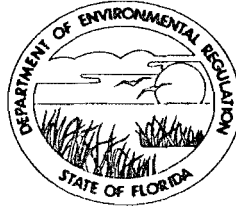
REP/dd

Attachments: Bartow No. 1 COM General Layout  
Buell ESP Specifications  
Bartow No. 1 ESP Design Details

cc Mr. Williard Hanks, DER/TLH  
Mr. W. K. Hennessey, DER/TPA

*file*

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



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA  
**DEPARTMENT OF ENVIRONMENTAL REGULATION**

November 19, 1980

Mr. W. S. O'Brien,  
Director Environmental and  
Licensing Affairs  
Florida Power Corporation  
P. O. Box 14042  
St. Petersburg, Florida 33733

Dear Mr. O'Brien:

The Department has received your application for permit to burn a combination of oil/coal fuel at Florida Corporation's Bartow Unit No. 1. Based on the initial review of your application, it has been determined that additional information is needed before we can process the application. Please furnish the information requested below.

Page	Question
2 IIG1	Is the plant located in the Pinellas County nonattainment area for ozone?
4 IIIE	What % sulfur (avg.+ max.) and BTU content is in coal and oil that FPC will be used? What % coal will be in the fuel burned?
5 V2	What is basis of emission estimate (material balance)? What is the present permitted maximum heat input and maximum emissions of particulate, sulfur dioxide and hydrocarbons (VOC)? What will be the net change in emission of these pollutants after the proposed modifications? What test method is proposed to show compliance? The particulate test method should be the same as specified in NSPS and includes soot blowing operations. If the sulfur content of the combination fuel varies, a continuous emission monitor or periodic fuel analysis can be used for determining the sulfur dioxide emission.



Mr. W. S. O'Brien  
Page Two  
November 19, 1980

Page	Question
5 V3	What is basis of potential discharge?
5 V4	Specifications or brochure on ESP selected.
5 V6	How will material collected by ESP be conveyed to the land fill?
5 V8	Furnish a plot plan of the Bartow site showing the other sources at the plant.

No information was given on coal handling facilities. Unless the coal arrives at the plant mixed with the fuel oil, an application for permit to construct coal handling facilities must be submitted to the Department.

If you have any question on the data requested, please contact Willard Hanks (904) 488-1344. We will resume processing your application as soon as this information is received.

Sincerely,

*Willard Hanks for*  
Steve Smallwood, Chief  
Bureau of Air Quality Management

cc: DER, Tampa office

SS:caa

$$1220 \times 10^6 \frac{\text{BTU}}{\text{hr}} \div 14,750 \frac{\#}{\text{DTU}} = \frac{82,712}{\text{hr}} \# \text{ fuel}$$

Then  $41356 \# \text{ Coal/hr used} \times 11,100 \text{ BTU/\#} = 459 \times 10^6 \text{ BTU/hr}$   
 $41356 \# \text{ oil/hr used} \times 18,400 \text{ BTU/\#} = \frac{761 \times 10^6 \text{ BTU/hr}}{1220 \times 10^6 \text{ BTU/hr (Total)}}$   
 20.7 TONS COAL/hr

$$\frac{41,356 \text{ gal}}{8.14} = 5,106 \text{ gallons oil/hr burned}$$

POTENTIAL EMISSION ON COMB. FUEL

TSP =  $(17)(6.05)(20.7) + (13)(2.5)(5.106) = 2295 (1.977) = 53 \# \text{ TSP/hr}$  269

SO<sub>x</sub> =  $(39)(1.5)(20.7) + (159)(2.5)(5.106) = 3210 \# \text{ SO}_2/\text{hr}$  2289

NO<sub>x</sub> =  $(18)(20.7) + (105)(5.106) = 909 \# \text{ NO}_x/\text{hr}$  869

HC =  $(0.3)(20.7) + (1)(5.106) = 11.3 \# \text{ HC/hr}$  8.3

CO =  $(1)(20.7) + 5(5.106) = 46.2 \# \text{ CO/hr}$  41.4

AP-42

FPC

Coal 11,100 BTU/#  
 Oil 18,400 BTU/#

Boilers etc Low

Pulverized <sup>BITUMINOUS</sup> Coal  
 (dry bottom)

TSP - 17% <sup>6.05%</sup> A — TONS BURNED  
 SO<sub>x</sub> 38% <sup>1.5%</sup> S — "  
 NO<sub>x</sub> 18 x — "  
 HC 0.30 x — "  
 CO 1.0 x — "

Residual Oil  
 (manned furnis)

TSP - 13.0 x <sup>2.5</sup> % S x 1000 gallons burned <sup>100% oil</sup> 269 # TSP/hr  
 $8.274 \times 10^3 \text{ gallons @ } 100\% \text{ oil}$   
 SO<sub>2</sub> 159.0 x <sup>2.5</sup> % S x " 3289 # SO<sub>2</sub>/hr  
 NO<sub>x</sub> 105 x — " 869 # NO<sub>x</sub>/hr  
 HC 1 x — " 8.3 # HC/hr  
 CO 5 x — " 41.4 # CO/hr

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL RECREATION

No. 33555

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from MR. W. S. O'BRIEN / DER FFC, BARTOW #1 COM Date 17 OCT 80

Address P.O. BOX 14042, ST. PETERSBURG, FL Dollars \$ 20<sup>00</sup>

Applicant Name & Address MR. J. E. LAWSON, SAME

Source of Revenue \_\_\_\_\_

Revenue Code 0101 Application Number AC 52-36152

By \_\_\_\_\_

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD  
FILE#000000036102 COE# DER PROCESSOR:HANKS DER OFFICE:TLH  
FILE NAME:FLA POWER CORP BARTOW #1 DATE FIRST REC: 10/22/80 APPLICATION TYPE:AC  
APPL NAME:O'BRIEN, W. S. APPL PHONE:(813)866-4410 PROJECT COUNTY:52  
ADDR:3201 34TH ST. S. P. O. BOX 14042 CITY:ST. PETERSBURG ST:FL ZIP:33733  
AGNT NAME:DAWSON, J. E. AGNT PHONE:(813)866-4523  
ADDR:P. O. BOX 14042 CITY:ST. PETERSBURG ST:FL ZIP:33733

ADDITIONAL INFO REQ:11/19/80 / / / / REC:12/22/80 / / / /  
APPL COMPLETE DATE: 12/22/80 COMMENTS NEC:Y DATE REQ: / / DATE REC: / /  
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED:02/09/81 WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /  
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /  
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N

\*\*\* RECORD HAS BEEN SUCCESSFULLY UPDATED \*\*\* 04/16/81 09:15:17

FEE PD DATE#1:10/22/80 \$9820 RECEIPT#000033555 REFUND DATE: / / REFUND \$  
FEE PD DATE#2: / / \$ RECEIPT# REFUND DATE: / / REFUND \$  
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:1S DATE:03/18/81  
REMARKS:BARTOW UNIT # 1 WITH ESP, COAL-OIL OR OIL FIRED. UTM  
3982.720 N. LAT/LONG = 27DEG 51MIN 40SEC N. /82DEG 36MIN 09SEC W.

- 11-3-80: Steve Smallwood  
said write incomplete letter  
but don't mail
- 11-3-80: Requested copy of  
Applic. from Dan Williams
- 11-7-80: BT reviewed + said  
if emission issues, FCC req. no.  
of rules
- 11-13-80 Bill Brown said modif.  
does not increase emission
- 11-14-80 BT said he should  
not tell Dist. how to permit  
source. Believed SS knew more  
of status with power industry
- 11-18-80 SS said OASD pres. copy  
said incomplete letter  
no rule require CEM
- 12-2-80 Utis Enells said he  
replied to incomplete letter
- 12-3-80 Received incomplete  
letter reply
- 12-9-80 ask FPC more info  
Auto/ask controls

Letter sent to  
Shaw Smelting  
& Dry Clark



D.E.R.

OCT 22 1980

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
APPLICATION TO OPERATE/CONSTRUCT  
AIR POLLUTION SOURCES

**SOUTHWEST DISTRICT  
TAMPA**

SOURCE TYPE: Fossil fuel steam electric plant ( ) New<sup>1</sup> (X) Existing<sup>1</sup>  
APPLICATION TYPE: ( ) Construction ( ) Operation (X) Modification  
COMPANY NAME: Florida Power Corporation COUNTY: Pinellas

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Bartow Unit No. 1 with electrostatic precipitator, coal oil mixture or oil fired

SOURCE LOCATION: Street Weedon Island City St. Petersburg  
UTM: East 342380 North 3082720  
Latitude 27 ° 51 ' 40 "N Longitude 82 ° 36 ' 09 "W

APPLICANT NAME AND TITLE: Mr. W. S. O'Brien, Director, Environmental and Licensing Affairs

APPLICANT ADDRESS: 3201 34th Street South, P.O. Box 14042, St. Petersburg, FL 33733

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative\* of Florida Power Corporation

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

\*Attach letter of authorization

Signed: [Signature]  
Mr. W. S. O'Brien, Director, Environmental  
Name and Title (Please Type)  
and Licensing Affairs  
Date: \_\_\_\_\_ Telephone No. (813)866-4410

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

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: [Signature]  
Mr. John E. Dawson  
Name (Please Type)  
Florida Power Corporation  
Company Name (Please Type)  
P. O. Box 14042, St. Petersburg, FL 33733  
Mailing Address (Please Type)

(Affix Seal)

Florida Registration No. 13197 Date: \_\_\_\_\_ Telephone No. (813)866-4523

<sup>1</sup>See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

1150M BTJ/R

1173 M BTJ  
R

363/1 MAX. ALLOW.  
65.6 allowed 11500 LBS  
HR

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.  
Make modifications to Bartow Unit 1 to permit the utilization of either a coal-oil fuel mixture or fuel oil only. Modifications include construction of a electrostatic precipitator greater than 97% efficiency.

B. Schedule of project covered in this application (Construction Permit Application Only)  
Start of Construction March, 1981 Completion of Construction July, 1982

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)  
Electrostatic precipitator \$4,000,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.  
Bartow Unit 1 Air Operating Permit No. A052-6206, expires 2/28/83

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes  No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr 8750 ; if seasonal, describe: \_\_\_\_\_

- G. If this is a new source or major modification, answer the following questions. (Yes or No)
- 1. Is this source in a non-attainment area for a particular pollutant? NO
    - a. If yes, has "offset" been applied? --
    - b. If yes, has "Lowest Achievable Emission Rate" been applied? --
    - c. If yes, list non-attainment pollutants. \_\_\_\_\_
  - 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. NO
  - 3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. NO
  - 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? NO
  - 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? NO

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

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

A. Raw Materials and Chemicals Used in your Process, if applicable: N/A

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

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

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

2. Product Weight (lbs/hr):

C. Airborne Contaminants Emitted:

*3,000 #SO<sub>2</sub>/hr currently permitted based latest applic. permit approval*

*84,560 gals/hr*

*16,055 TPY SO<sub>2</sub>*

*369 TPY partic*

*14,450 TPA based on max*

*534 TPA based on max*

Name of Contaminant	Emission <sup>1</sup>		Allowed Emission <sup>2</sup> Rate per Ch. 17-2, F.A.C.	Allowable <sup>3</sup> Emission lbs/hr	Potential Emission <sup>4</sup>		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Sulfur dioxide	3308	<del>14,489</del> 9,600	14,450 TPA based on max		3308	<del>14,489</del> 9,600	
COM Particulates	122	<del>534</del> 354	534 TPA based on max		4254	<del>18,633</del> 12,345	
Sulfur dioxide	3403	*			3403	*	
OIL Particulates	122	*			122	*	

D. Control Devices: (See Section V, Item 4)

\*This number will be highly variable depending on the load factor and availability of coal oil mixture.

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup> )
Electrostatic precipitator	Particulate	97.9	≤ 44	

<sup>1</sup> See Section V, Item 2.

<sup>2</sup> Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. - 0.1 pounds per million BTU heat input)

<sup>3</sup> Calculated from operating rate and applicable standard

<sup>4</sup> Emission, if source operated without control (See Section V, Item 3)

<sup>5</sup> If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Coal oil mixture	varies	82712 lbs/hr	1220
Fuel oil	197	197 bbl/hr	1220 <i>1200 in current permit</i>

\*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: coal oil=2.0 max oil=2.5 max Percent Ash: coal oil=6.05 max oil=0.1 max.

Density: -- lbs/gal Typical Percent Nitrogen: --

Heat Capacity: 14,750 COM BTU/lb 147,600 OIL BTU/lb

Other Fuel Contaminants (which may cause air pollution): \_\_\_\_\_

F. If applicable, indicate the percent of fuel used for space heating. Annual Average N/A Maximum \_\_\_\_\_

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

Fly ash - 4132 lbs/hr when burning COM - on site land fill

Bottom ash - 750 lbs/hr when burning COM - on site land fill

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

Stack Height: 300 ft. Stack Diameter: 9' - 0"

Gas Flow Rate: 409,000 ACFM Gas Exit Temperature: 300 °C

Water Vapor Content: 6.0 % Velocity: 107 ft/min

SECTION IV: INCINERATOR INFORMATION N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste \_\_\_\_\_

Total Weight Incinerated (lbs/hr) \_\_\_\_\_ Design Capacity (lbs/hr) \_\_\_\_\_

Approximate Number of Hours of Operation per day \_\_\_\_\_ days/week \_\_\_\_\_

Manufacturer \_\_\_\_\_

Date Constructed \_\_\_\_\_ Model No. \_\_\_\_\_



	Volume (ft) <sup>3</sup>	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: \_\_\_\_\_ ft. Stack Diameter \_\_\_\_\_ Stack Temp. \_\_\_\_\_

Gas Flow Rate: \_\_\_\_\_ ACFM \_\_\_\_\_ DSCFM\* Velocity \_\_\_\_\_ FPS

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

Type of pollution control device:  Cyclone  Wet Scrubber  Afterburner  Other (specify) \_\_\_\_\_

Brief description of operating characteristics of control devices: \_\_\_\_\_

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

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### SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight — show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

- 9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
- 10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

**SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY**

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?  
 Yes  No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy).  Yes  No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

Contaminant	Rate or Concentration

\*Explain method of determining D 3 above.

10. Stack Parameters

- a. Height: - ft.
- b. Diameter: ft.
- c. Flow Rate: ACFM
- d. Temperature: °F
- e. Velocity: FPS

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

1.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency\*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy\*:
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency\*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy\*\*:
- h. Maintenance Costs:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

\*Explain method of determining efficiency.

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

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency\*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:

\*Explain method of determining efficiency above.

- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

- a. Control Device
- b. Operating Principles:
- c. Efficiency\*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency\*:
- 3. Capital Cost:
- 4. Life:
- 5. Operating Cost:
- 6. Energy:
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:

a.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:

\*Explain method of determining efficiency above.

(7) Emissions\*:

Contaminant	Rate or Concentration

(8) Process Rate\*:

b.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions\*:

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____

(8) Process Rate\*:

10. Reason for selection and description of systems:

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

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. \_\_\_\_\_ no sites \_\_\_\_\_ TSP \_\_\_\_\_ ( ) SO<sup>2</sup> \_\_\_\_\_ Wind spd/dir  
Period of monitoring \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ to \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
month day year month day year

Other data recorded \_\_\_\_\_

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

- a) Was instrumentation EPA referenced or its equivalent? \_\_\_\_\_ Yes \_\_\_\_\_ No
b) Was instrumentation calibrated in accordance with Department procedures? \_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_ Unknown

B. Meteorological Data Used for Air Quality Modeling

- 1. \_\_\_\_\_ Year(s) of data from \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ to \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_
month day year month day year
2. Surface data obtained from (location) \_\_\_\_\_
3. Upper air (mixing height) data obtained from (location) \_\_\_\_\_
4. Stability wind rose (STAR) data obtained from (location) \_\_\_\_\_

C. Computer Models Used

- 1. \_\_\_\_\_ Modified? If yes, attach description.
2. \_\_\_\_\_ Modified? If yes, attach description.
3. \_\_\_\_\_ Modified? If yes, attach description.
4. \_\_\_\_\_ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

Table with 2 columns: Pollutant, Emission Rate. Rows for TSP and SO2 with blank lines for values and units (grams/sec).

E. Emission Data Used in Modeling

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

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

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

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

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

DESIGN DETAILS OF ELECTROSTATIC PRECIPITATOR FOR  
BARTOW UNIT #1 COM CONVERSION

1. Inlet Grain Loading = 1.017 Grains/ACFM
2. Outlet Grain Loading = .021 Grains/ACFM
3. Design Gas Flow = 488,000 ACFM
4. Maximum Average Gas Velocity = 4.1 Ft./Sec.
5. Specific Collection Area = 360 Ft.<sup>2</sup>/1,000 ACFM
6. Gas Temperature = 300<sup>0</sup> F.
7. Length of Discharge & Collecting Electrodes = 36 Ft.
8. Treatment Time = 8.1 Seconds
9. Transformer Rectifiers No.&Size= 5 Ea. 115 KVA
10. No. of Fields in Direction of Gas Flow = 5
11. Length of Fields in Direction of Gas Flow = 33'

DERIVATION OF CONTROL DEVICE EFFICIENCY FOR  
BARTOW UNIT #1 COM CONVERSION

An electrostatic precipitator will be installed with a  
guaranteed efficiency of 97.9%.

Maximum Particulate Emission = 122#/Hr.

Maximum Particulate Inlet Loading = 4,254#/Hr.

Gas-Flow = 488,000 ACFM

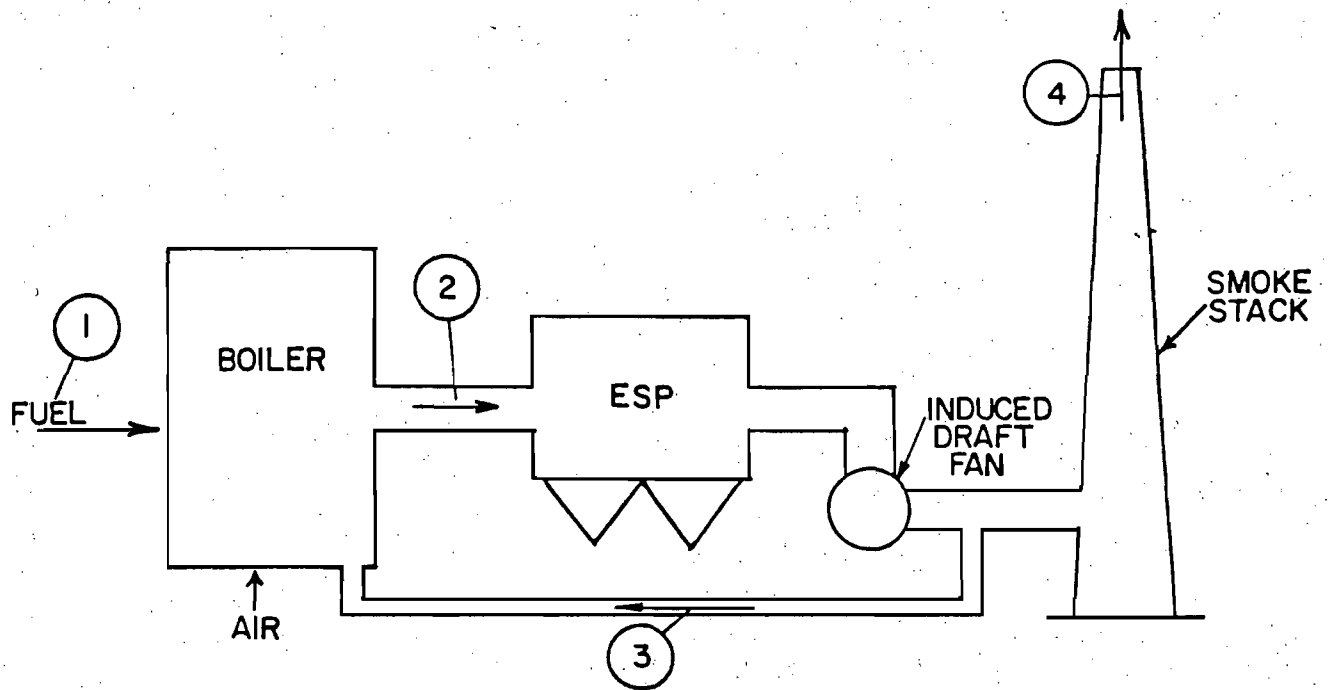
Inlet Grain Loading =  $4,254\#/Hr. \times 7,000 \text{ Grains}/\# \div 60 \frac{\text{Min.}}{\text{Hr.}} \div$   
 $488,000 \text{ Ft.}^3/\text{Min.} = 1.017 \text{ Grains/Actual Ft.}^3$

Outlet Grain Loading Required =  $122\#/Hr. \times 7,000 \text{ Grains}/\# \div$   
 $60 \frac{\text{Min.}}{\text{Hr.}} \div 488,000 \text{ Ft.}^3/\text{Min.} = .0292 \text{ Grains/Actual Ft.}^3$

Efficiency Required =  $\frac{1.017 - .0292}{1.017} \times 100 = 97.1\%$

% Design Margin =  $\frac{0.8 \times 100}{2.9} = 28\%$





GAS FLOWS

- ① 82,712 #/hr. COM; 197 bbl./hr. OIL
- ② TO ESP = 488,000 ACFM
- ③ GAS RECIRCULATION = 79,000 ACFM
- ④ TO ATMOSPHERE = 409,000 ACFM

Florida Power Corporation  
 BARTOW PLANT  
 Unit 1  
COM GAS FLOW DIAGRAM

SAFETY HARBOR

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Best Available Copy

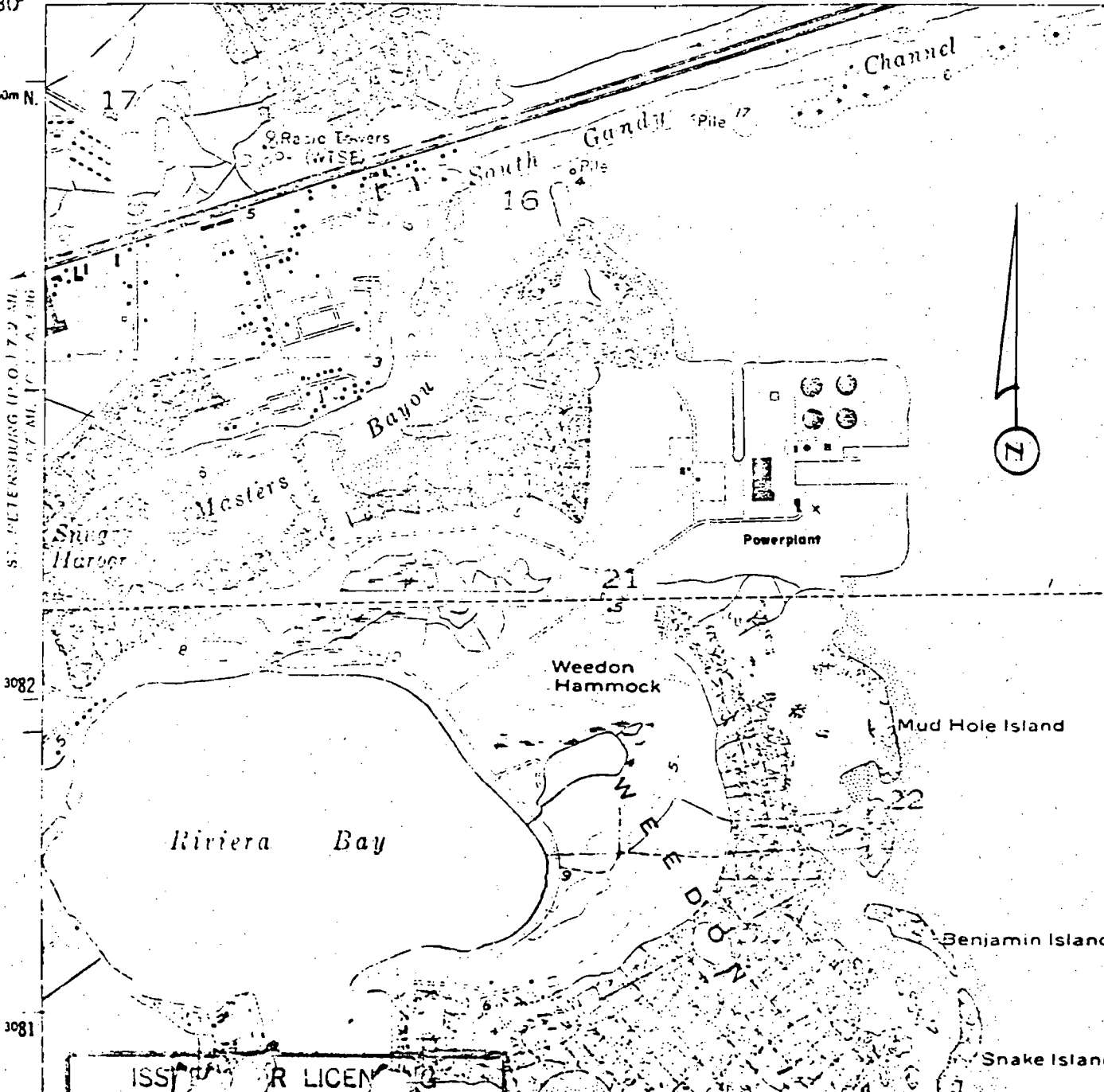
82°37'30"  
27°52'30"

341000m E.

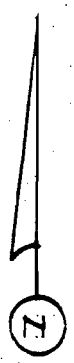
P 17 E 342

TAMPA BAY

3084000m N.

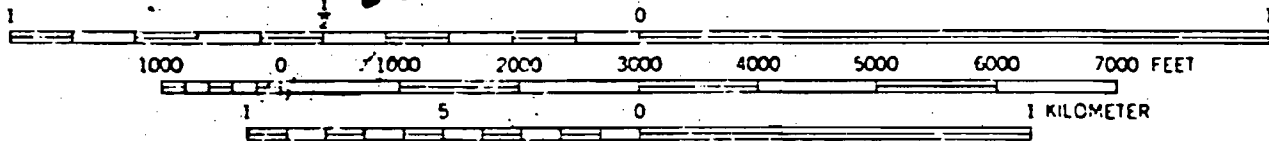


ST. PETERSBURG (P.O.) 7.2 MI.  
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ISSUE FOR LICENSING  
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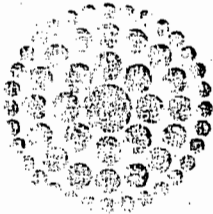
SCALE 1:24000



APPROXIMATE MEAN DECLINATION, 1959

CONTOUR INTERVAL 10 FEET  
DATUM IS MEAN SEA LEVEL

GENERAL AREA  
LOCATION MAP



**Florida  
Power**  
CORPORATION

October 16, 1978

TO WHOM IT MAY CONCERN

Subject: Letter of Authorization

Please be advised that Mr. W. S. O'Brien, Director, Environmental & Licensing Affairs, is authorized to represent Florida Power Corporation in matters relating to necessary permits required from regulatory authority in the areas of air, water and power plant site certification.

Very truly yours,

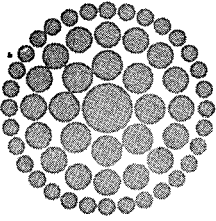
*Ned B. Spake*

Ned B. Spake  
Vice President

NBS/db

memo - Elha - from letter  
17-2-23 -

BEST AVAILABLE COPY



D. E. R.

OCT 22 1980

SOUTHWEST DISTRICT  
TAMPA

**Florida  
Power**  
CORPORATION

October 20, 1980

Mr. W. K. Hennessey  
Florida Department of Environmental Regulation  
7601 Highway 301 North  
Tampa, FL 33610

Dear Mr. Hennessey:

Subject: Bartow Unit 1 Coal-Oil Mixture Conversion Project  
Construction Permit Application

The enclosed construction permit application is for the conversion of Bartow Unit 1 from an oil-fired unit to a unit capable of utilizing either a coal-oil mixture (COM) or fuel oil.

The construction permit application is submitted in quadruplicate. A check for the \$20.00 application fee is enclosed.

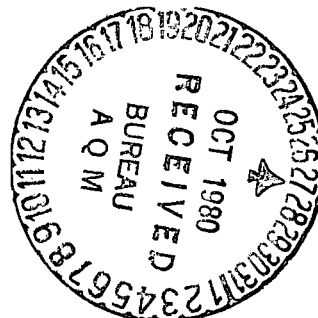
Sincerely,

R. E. Parnelle  
Manager  
Environmental Operations

REP/PJB/dd

Enclosures

cc Mr. J. E. Dawson  
Mr. M. H. Kleinman





AC

52-36102

D.E.R.

OCT 22 1980

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
APPLICATION TO OPERATE/CONSTRUCT  
AIR POLLUTION SOURCES

SOUTHWEST DISTRICT  
TAMPA

SOURCE TYPE: Fossil fuel steam electric plant  New<sup>1</sup>  Existing<sup>1</sup>

APPLICATION TYPE:  Construction  Operation  Modification

COMPANY NAME: Florida Power Corporation COUNTY: Pinellas

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Bartow Unit No. 1 with electrostatic precipitator, coal oil mixture or oil fired.

SOURCE LOCATION: Street Weedon Island City St. Petersburg

UTM: East 342380 North 3082720

Latitude 27 ° 51 ' 40 "N Longitude 82 ° 36 ' 09 "W

APPLICANT NAME AND TITLE: Mr. W. S. O'Brien, Director, Environmental and Licensing Affairs

APPLICANT ADDRESS: 3201 34th Street South, P.O. Box 14042, St. Petersburg, FL 33733

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative\* of Florida Power Corporation

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

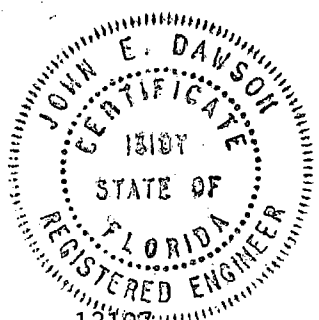
\*Attach letter of authorization

Signed: [Signature]  
Mr. W. S. O'Brien, Director, Environmental  
Name and Title (Please Type)  
and Licensing Affairs  
Date: \_\_\_\_\_ Telephone No. (813)866-4410

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

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

(Affix Seal)



Signed: [Signature]  
Mr. John E. Dawson  
Name (Please Type)  
Florida Power Corporation  
Company Name (Please Type)  
P. O. Box 14042, St. Petersburg, FL 33733  
Mailing Address (Please Type)  
Date: \_\_\_\_\_ Telephone No. (813)866-4523

Florida Registration No. 13197

<sup>1</sup>See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION II: GENERAL PROJECT INFORMATION

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

Make modifications to Bartow Unit 1 to permit the utilization of either a coal-oil fuel mixture or fuel oil only. Modifications include construction of a electrostatic precipitator greater than 97% efficiency.

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

Start of Construction March, 1981 Completion of Construction July, 1982

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

Electrostatic precipitator \$4,000,000

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

Bartow Unit 1 Air Operating Permit No. A052-6206, expires 2/28/83

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code?  Yes  No

F. Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52; if power plant, hrs/yr 8760; if seasonal, describe: \_\_\_\_\_

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

- |   |           |
|---|-----------|
| 1. Is this source in a non-attainment area for a particular pollutant?  | <u>NO</u> |
| a. If yes, has "offset" been applied?   | <u>--</u> |
| b. If yes, has "Lowest Achievable Emission Rate" been applied?  | <u>--</u> |
| c. If yes, list non-attainment pollutants.  | _____     |
| 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  | <u>NO</u> |
| 3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. | <u>NO</u> |
| 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?  | <u>NO</u> |
| 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?                                       | <u>NO</u> |

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

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

A. Raw Materials and Chemicals Used in your Process, if applicable: N/A

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

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

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

2. Product Weight (lbs/hr): \_\_\_\_\_

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission <sup>1</sup>		Allowed Emission <sup>2</sup> Rate per Ch. 17-2, F.A.C.	Allowable <sup>3</sup> Emission lbs/hr	Potential Emission <sup>4</sup>		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
COM Sulfur dioxide	3308	9,600			3308	9,600	
COM Particulates	122	354			4254	12,345	
OIL Sulfur dioxide	3403	*			3403	*	
OIL Particulates	122	*			122	*	

D. Control Devices: (See Section V, Item 4) \*This number will be highly variable depending on the load factor and availability of coal oil mixture.

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup> )
Electrostatic precipitator	Particulate	97.9	≤ 44	

<sup>1</sup>See Section V, Item 2.

<sup>2</sup>Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

<sup>3</sup>Calculated from operating rate and applicable standard

<sup>4</sup>Emission, if source operated without control (See Section V, Item 3)

<sup>5</sup>If Applicable



E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Coal oil mixture	varies	82712 lbs/hr	1220
Fuel oil	197	197 bbl/hr	1220

\*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: coal oil=2.0 max. oil=2.5 max. Percent Ash: coal oil=6.05 max. oil=0.1 max.  
 Density: -- lbs/gal Typical Percent Nitrogen: --  
 Heat Capacity: 14,750 COM BTU/lb 147,600 OIL BTU/gal  
 Other Fuel Contaminants (which may cause air pollution):

F. If applicable, indicate the percent of fuel used for space heating. Annual Average N/A Maximum

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

Fly ash - 34132 lbs/hr when burning COM - on site land fill  
 Bottom ash - 750 lbs/hr when burning COM - on site land fill

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

Stack Height: 300 ft. Stack Diameter: 9' - 0" ft.  
 Gas Flow Rate: 409,000 ACFM Gas Exit Temperature: 300 °F.  
 Water Vapor Content: 6.0 % Velocity: 107 FPS

SECTION IV: INCINERATOR INFORMATION N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste

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

Approximate Number of Hours of Operation per day days/week

Manufacturer

Date Constructed Model No.

	Volume (ft) <sup>3</sup>	Heat Release (BTU/hr)	Emission Level		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: \_\_\_\_\_ ft. Stack Diameter \_\_\_\_\_ Stack Temp. \_\_\_\_\_

Gas Flow Rate: \_\_\_\_\_ ACFM \_\_\_\_\_ DSCFM\* Velocity \_\_\_\_\_ FPS

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

Type of pollution control device:  Cyclone  Wet Scrubber  Afterburner  Other (specify) \_\_\_\_\_

Brief description of operating characteristics of control devices: \_\_\_\_\_

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

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### SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

- 9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
- 10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

**SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY**

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?  
 Yes  No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)  Yes  No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

Contaminant	Rate or Concentration

\*Explain method of determining D 3 above.

10. Stack Parameters

- a. Height: \_\_\_\_\_ ft.
- b. Diameter: \_\_\_\_\_ ft.
- c. Flow Rate: \_\_\_\_\_ ACFM
- d. Temperature: \_\_\_\_\_ °F
- e. Velocity: \_\_\_\_\_ FPS

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

1.

- a. Control Device:
- b. Operating Principles:
  
- c. Efficiency\*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy\*:
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
  
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device:
- b. Operating Principles:
  
- c. Efficiency\*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy\*\*:
- h. Maintenance Costs:
- i. Availability of construction materials and process chemicals:
  
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

\*Explain method of determining efficiency.

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

3.

- a. Control Device:
- b. Operating Principles:
  
- c. Efficiency\*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:

\*Explain method of determining efficiency above.

- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

- a. Control Device
- b. Operating Principles:
- c. Efficiency\*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency\*:
- 3. Capital Cost:
- 4. Life:
- 5. Operating Cost:
- 6. Energy:
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:

a.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:

\*Explain method of determining efficiency above.

(7) Emissions\*:

Contaminant	Rate or Concentration

(8) Process Rate\*:

b.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions\*:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

(8) Process Rate\*:

10. Reason for selection and description of systems:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. \_\_\_\_\_ no sites \_\_\_\_\_ TSP \_\_\_\_\_ ( ) SO2 • \_\_\_\_\_ Wind spd/dir  
Period of monitoring \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ to \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
month day year month day year

Other data recorded \_\_\_\_\_

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? \_\_\_\_\_ Yes \_\_\_\_\_ No

b) Was instrumentation calibrated in accordance with Department procedures? \_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. \_\_\_\_\_ Year(s) of data from \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ to \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
month day year month day year

2. Surface data obtained from (location) \_\_\_\_\_

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

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

C. Computer Models Used

1. \_\_\_\_\_ Modified? If yes, attach description.

2. \_\_\_\_\_ Modified? If yes, attach description.

3. \_\_\_\_\_ Modified? If yes, attach description.

4. \_\_\_\_\_ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO <sup>2</sup>	_____ grams/sec

E. Emission Data Used in Modeling

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

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

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

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

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

DESIGN DETAILS OF ELECTROSTATIC PRECIPITATOR FOR  
BARTOW UNIT #1 COM CONVERSION

1. Inlet Grain Loading = 1.017 Grains/ACFM
2. Outlet Grain Loading = .021 Grains/ACFM
3. Design Gas Flow = 488,000 ACFM
4. Maximum Average Gas Velocity = 4.1 Ft./Sec.
5. Specific Collection Area = 360 Ft.<sup>2</sup>/1,000 ACFM
6. Gas Temperature = 300<sup>0</sup> F.
7. Length of Discharge & Collecting Electrodes = 36 Ft.
8. Treatment Time = 8.1 Seconds
9. Transformer Rectifiers No. & Size = 5 Ea. 115 KVA
10. No. of Fields in Direction of Gas Flow = 5
11. Length of Fields in Direction of Gas Flow = 33'



DERIVATION OF CONTROL DEVICE EFFICIENCY FOR  
BARTOW UNIT #1 COM CONVERSION

An electrostatic precipitator will be installed with a guaranteed efficiency of 97.9%.

Maximum Particulate Emission = 122#/Hr.

Maximum Particulate Inlet Loading = 4,254#/Hr.

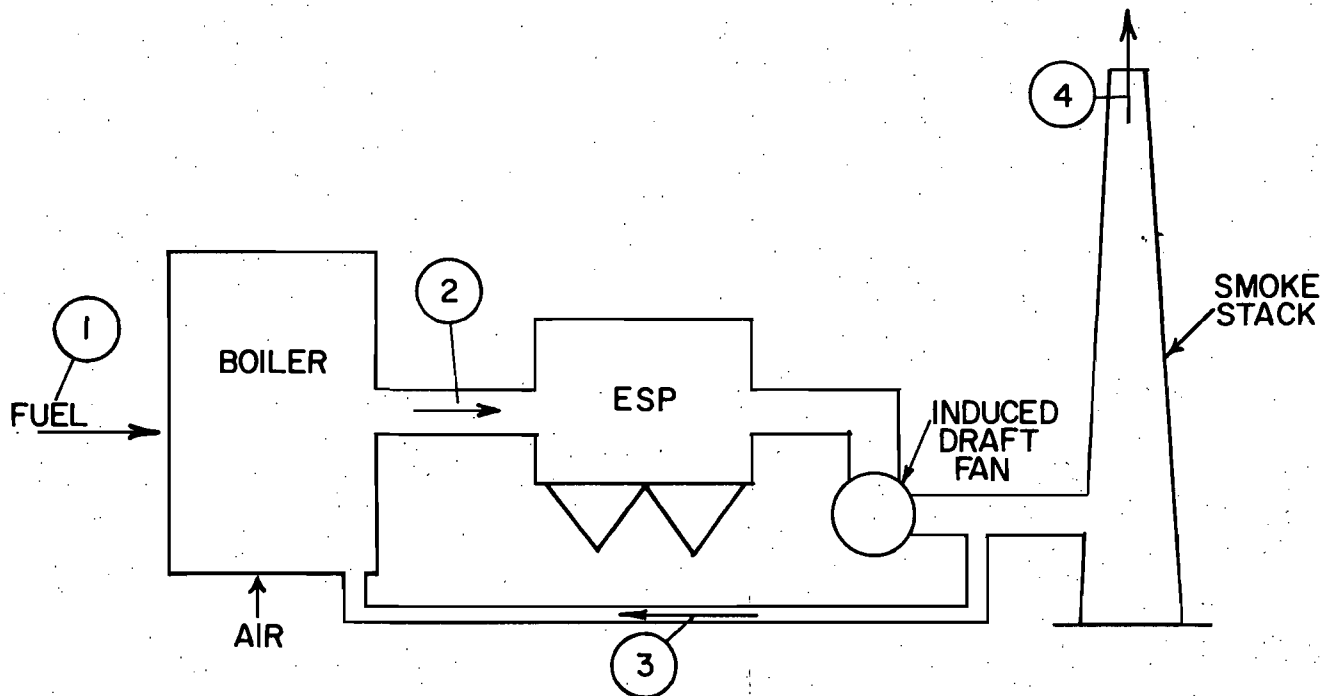
Gas Flow = 488,000 ACFM

Inlet Grain Loading =  $4,254\#/Hr. \times 7,000 \text{ Grains}/\# \div 60 \frac{\text{Min.}}{\text{Hr.}} \div 488,000 \text{ Ft.}^3/\text{Min.} = 1.017 \text{ Grains}/\text{Actual Ft.}^3$

Outlet Grain Loading Required =  $122\#/Hr. \times 7,000 \text{ Grains}/\# \div 60 \frac{\text{Min.}}{\text{Hr.}} \div 488,000 \text{ Ft.}^3/\text{Min.} = .0292 \text{ Grains}/\text{Actual Ft.}^3$

Efficiency Required =  $\frac{1.017 - .0292}{1.017} \times 100 = 97.1\%$

% Design Margin =  $\frac{0.8 \times 100}{2.9} = 28\%$



### GAS FLOWS

- ① 82,712 #/hr. COM; 197 bbl./hr. OIL
- ② TO ESP = 488,000 ACFM
- ③ GAS RECIRCULATION = 79,000 ACFM
- ④ TO ATMOSPHERE = 409,000 ACFM

Florida Power Corporation  
 BARTOW PLANT  
 Unit I  
COM GAS FLOW DIAGRAM

4439 (NW  
SAFETY HARBOR)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Best Available Copy

82°37'30"  
27°52'30"

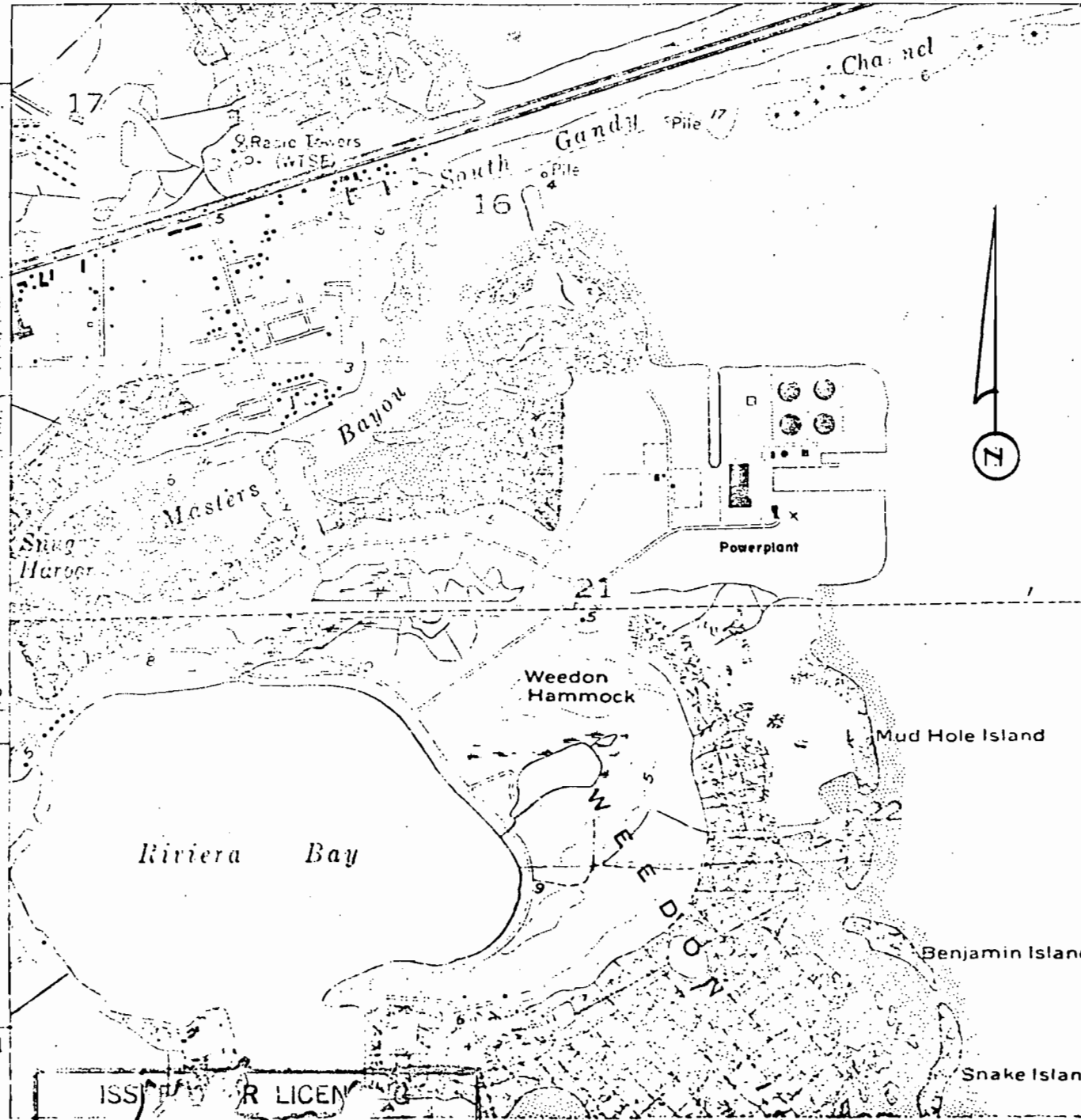
341000m E.

R 17 E 342

TAMPA 104 12 MI  
S.E. MI. TO FLA. CAS

3084600m N.

ST. PETERSBURG (P.O.) 17.2 MI.  
0.7 MI. TO A. C. 116



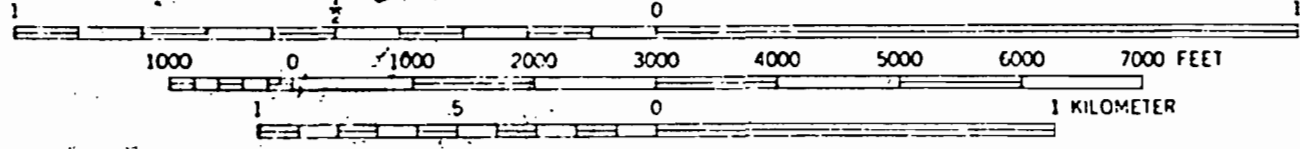
3082

3081

ISSUE FOR LICENSING  
 CK  
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SCALE 1:24 000

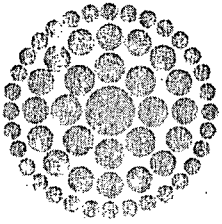
TRUE NORTH  
MAGNETIC NORTH



APPROXIMATE MEAN DECLINATION, 1959

CONTOUR INTERVAL 10 FEET  
DATUM IS MEAN SEA LEVEL

GENERAL AREA  
LOCATION MAP



**Florida  
Power**  
CORPORATION

October 16, 1978

TO WHOM IT MAY CONCERN

Subject: Letter of Authorization

Please be advised that Mr. W. S. O'Brien, Director, Environmental & Licensing Affairs, is authorized to represent Florida Power Corporation in matters relating to necessary permits required from regulatory authority in the areas of air, water and power plant site certification.

Very truly yours,

*Ned B. Spake*

Ned B. Spake  
Vice President

NBS/db

ENVIROTECH



# BUELL ELECTROSTATIC PRECIPITATOR SPECIFICATIONS

## Section I: Modular Design

### MODULAR ELECTRIC PRECIPITATOR

#### GENERAL ARRANGEMENT

The Precipitator consists of a single or divided casing in which are mounted parallel rows of grounded collecting electrodes which form the walls of the gas passages. One or more high voltage emitting systems are suspended within the casing along the center lines of the gas passages. All interior components are of modular design, permitting maximum flexibility of size and arrangement to meet various operating and layout requirements. Independent rapping mechanisms are provided for both the collecting electrodes and high voltage systems.

#### PRECIPITATOR CASING

The precipitator casing is of weather-proof construction, suitable for either indoor or outdoor installation.

Where insulation is required, the casing can be provided with insulation clips and/or girts to facilitate attachment of insulation by others or by BUELL as indicated in the text of the proposal. Insulation of the roof may be accomplished by the application of an insulating concrete of thickness as specified.

The precipitator shell is of welded, gas-tight construction, fabricated of mild steel plate (unless specified otherwise), suitably reinforced. Gas-tight integrity is insured by the use of gasketed inspection doors and covers, and by the use of sealed insulators.

Mounted on the roof of the precipitator shell are the housings for the support insulators. Each group of support insulators is contained within a housing equipped with a quick opening access door. The insulator houses are designed to permit electrical rearrangement of the electrical fields. This rearrangement can take place while the precipitator is under gas load.

Access to the interior of the precipitator is provided by means of quick opening doors through the sides of the precipitator. These doors open to access passages within the precipitator from which inspection can be made.

#### SAFETY DEVICES AND SHIELDING

The shell and insulator housings of this precipitator form a continuous, grounded steel chamber which completely encloses all high voltage elements thereby insuring complete shielding. Since this box is gas tight and completely enclosed, access to the high voltage elements can be accomplished only through the access openings. All quick opening access openings are equipped with warning signs. It is recommended that these openings be equipped with safety key interlocks tied in with the safety key interlock system of the high voltage equipment. The proposal describes the equipment offered. In addition to the above, each quick opening access door is equipped with a safety grounding hook to ground the high voltage precipitator elements before entering the precipitator. Unless otherwise specified in the proposal, bolted access openings to the hoppers will not be interlocked. The precipitator shell is equipped with a grounding connection for permanent connection to sub-terranean ground. It is recommended that the duct immediately before and after the precipitator have access doors. It is recommended that quick opening type be safety key interlocked.

#### HOPPERS

The Precipitator may be equipped with either pyramidal or trough type hoppers. Hoppers are equipped with bolted access doors, constructed to form a continuous surface within the hopper to prevent dust build-up. Hoppers may be equipped with quick opening access doors, vibrators, rappers, material level indicators, etc. The

proposal describes the type of hopper and accessories offered. For dusts which cannot be handled in hoppers, or where headroom is limited, BUELL can provide other arrangements which permit the use of a flat bottom and conveyor discharge system.

#### CONTROL OF GAS FLOW

Primary control of gas flow is accomplished by the correct design of the connecting flues. Precipitator design insures that all the gas being cleaned passes between the collecting electrodes since there are no by-pass areas above, below, or on the sides of the effective portion of the precipitator. Sneak-by through the hoppers is minimized by means of fixed baffles extending from the effective portion of the precipitator down into the hoppers. To correct for possible maldistribution of gas flow, the inlet duct of the precipitator is equipped with adjustable gas-flow-control baffles. Additional gas-flow control may be required.

#### SHOP PAINTING

All exterior casing surfaces will be given one shop coat of red oxide paint to within two inches of field welds. Substitution for red oxide paint and/or additional coats of paint will be offered to the extent described in the proposal. Unless otherwise specified in the proposal, internal surfaces are not painted nor are parts of aluminum or stainless steel. All machined parts of the precipitator will be suitably protected during shipment.

#### COLLECTING ELECTRODE SYSTEM

All parts of collecting electrode system are grounded to the casing. The Precipitator is equipped with heavy-duty, G-Type electrodes. The collecting electrodes are mounted in rows parallel to the direction of gas flow. Each electrode is suspended from the roof. The lower end is guided by a frame, the arrangement being such to permit movement for thermal expansion, but at the same time, the position of the collecting electrodes with reference to the high voltage emitting system is rigidly maintained.

The collecting electrodes are rapped by means of roof mounted vibrators connected to a vertical shaft. The vibration is transmitted to each group of collecting electrodes, and removes the precipitated dust by a shearing movement thus minimizing re-entrainment. Each rapping module is three feet in length. The number of rappers furnished is a function of the collection electrode area.

The complete rapping cycle and the intensity of the vibration are adjustable for optimum performance by varying the settings of the electrical components.

#### EMITTING ELECTRODE SYSTEMS

All parts of the emitting electrode system are energized with high voltage. The emitting electrode system is made up of structural members from which the electrodes are hung vertically. One emitting hanger is mounted on the centerline of each gas passage formed by a row of two collecting electrodes. The system is suspended at two points from the support insulators. Tension in the wires is maintained by a weight at the bottom of each wire. The weights are accurately positioned by a guide frame. The weights are restrained within this frame with sufficient clearance to allow movement for thermal expansion. The frame is designed to prevent the weights from falling into the hopper should wire breakage occur. The arrangement of the emitting electrode system is designed to afford the maximum flexibility possible with all of the advantages that multi-field design contains. Each emitting system module is three feet long. Each module is a separate and independent bus section connected to its power supply by a bus bar in the insulator compartment.

The number of bus sections and or fields stated in the proposal is based on the specific requirements of the inquiry. However, should operating conditions change indicating that a different arrangement of power and/or fields are desirable, these can be readily accomplished without any structural change to the precipitator.

The emitting electrode rapping system is similar to that used for the collecting electrodes. Vibration is transmitted to the emitting frame through an insulator. One roof mounted vibrator is furnished for each emitting system module.

The high voltage current is supplied through a high voltage connection mounted on the insulator housing. From this connection, it passes to a bus bar, hence to each emitting system module. The connection is through a flexible cable.

Two insulators are used to support each emitting system module, thereby insuring a fixed position of all high voltage elements within the precipitator. The mounting and design of these insulators protects them from excessive physical, thermal and electrical stress and also provides for easy inspection, cleaning, and replacement. Support insulators are sealed by packing to prevent outflow of gas or inflow of air. The combined effect of the precise structural positioning of the emitting electrode system and the collecting electrodes is to maintain the correct distance at all points between the two systems. Thus, a maximum voltage can be maintained at all times insuring maximum in-service efficiency.

### COLLECTING AND EMITTING SYSTEM RAPPERS

The vibrator control cabinets of NEMA III and V construction are located on the roof of the precipitator. The control systems for both collecting and emitting rapping are fundamentally similar; only the number of vibrators and timing periods vary.

The timers for the system operate on a time sharing principle to permit one and only one vibrator to be energized at a time. The "on" period and over-all timing cycle are controlled by a gear train and cam settings.

The intensity of various groups of vibrators (the groups are usually the vibrators located on a given precipitation field) is changed by adjusting the variacs.

For servicing, the groups of vibrators can be de-energized by disconnecting switches which control the particular timer relays.

## SAFETY KEY INTERLOCK SYSTEM

### GENERAL

All quick opening doors on the precipitator shell and the quick opening doors and covers of the insulator housings are equipped with a Cory Key Interlock System, consisting of Cylinder Locks on all doors, Key Blocks where the Door Keys are normally kept, and Master Keys for releasing the Door Keys from the Key Blocks. The arrangement is such as to deny personnel access to the precipitator while the Emitting Electrode System is energized. The individual items of equipment will be described in the sections below:—

### DOOR LOCKS

Each quick opening access door and cover is equipped with a Type B-857 Superior Door Lock. The openings protected include the Precipitator Shell Doors and the Insulator Housing Covers. Each lock consists of two members; a special keeper member attached to the door, and the lock proper which is attached to the door frame. The relationship of these two units is a special one, in that when the key is inserted and turned to unlock the door, it cannot be removed from the keyhole until the door has been closed and re-locked. Possession of the key is possible only when the door is closed and locked. These are cylinder locks using special keys which cannot be duplicated except by the manufacturer. Each lock is equipped with a dust cover making it suitable for either outdoor installation or severe industrial location.

### KEY BLOCKS

All door keys are normally locked in one or more Key Blocks consisting of one lock for each Door Key. These Key Blocks are Superior Key Block Type B-1088 and are mounted in a convenient location, and the Door Keys can be released from the Key Blocks only by obtaining the Master Keys which must be inserted in the Master Keyhole in the Key Block to release the Door Keys. The Master Keyhole is of a special design in that the Master Key cannot be removed from the Key Block until all the Door Keys have been returned and locked into their respective keyhole. These Key Blocks are mounted in weather proof housing to protect them from weather and dirt.

### MASTER KEYS

The Master Keys are mounted in locks on the high voltage Power Packs. These keys can be released only after the high voltage equipment is turned off, grounded, and locked in the grounded position. At the same time, the high voltage Emitting

Electrode System is grounded through the high voltage conductor. Therefore, personnel are denied access to the high voltage elements of the precipitator until the high voltage has been turned off, grounded, and locked in the grounded position. Furthermore, the arrangement is such that the high voltage portions of the precipitator cannot be re-energized until all the quick opening doors have been locked shut, the door keys returned to the Key Blocks, and the Master Keys returned to the Power Packs. The Master Key Locks are protected by dust covers.

### ARRANGEMENT FOR ONE-CHAMBER PRECIPITATORS

Under this arrangement there is one Master Key for each high voltage conductor. All high voltage conductors must be grounded and locked in the grounded position before the Master Key(s) can be released. The Master Key(s) can then be used to release the Door Keys from the Key Block. All doors must be locked shut; all Door Keys must be locked in the Key Block before the Master Key(s) can be released to enable the precipitator to be re-energized.

### ARRANGEMENT FOR TWO-CHAMBER PRECIPITATORS

Under this arrangement there are two Cory Key Interlocking Systems, one for each precipitator chamber so that it is possible to gain access to either chamber while the other chamber is operating.

This is possible because the two precipitator chambers are separated by a continuous steel wall having no access openings. The arrangement of each interlock system is similar to that described under ARRANGEMENT FOR ONE-CHAMBER above.

### NOTES

1. Bolted hopper doors are not protected with key interlocks, but may be so equipped at extra cost.
2. Installation of the component parts consists only of bolting in place on mountings furnished on the precipitator access openings. All functions are accomplished mechanically without the need for any electrical wire or conduit.

## FIELD ENGINEERING & CONTRACTUAL DATA

BUELL Engineering Company will furnish Contract Data which will include the drawings showing general arrangement, flange details, and loading diagrams, and such other items as may be required in the scope of this contract.

Customer Data furnished by the BUELL Engineering Company will include assembly drawings and bills of material, and where applicable, wiring and/or piping diagrams and Operation and Maintenance Instructions. Customer Data will be furnished as set forth in the proposal.

In connection with the start up of BUELL equipment, it is respectfully submitted that consideration be given to the employment of a BUELL operating supervisor. When the equipment is ready for air load, he will place the equipment in service, make adjustments, as required, and will instruct selected plant personnel.

In connection with the erection of equipment by others, it is respectfully submitted that consideration be given to the employment of a BUELL Erection Supervisor. It is essential that the precipitator equipment be correctly erected so that it will perform at maximum efficiency and the utilization of BUELL personnel, familiar with the equipment, will facilitate such erection.



# BUELL ELECTROSTATIC PRECIPITATOR SPECIFICATIONS

## SECTION II: POWER SUPPLY

### HIGH VOLTAGE POWER SUPPLY SILICON RECTIFICATION

#### MODEL NUMBERS, WAVE FORM AND TRANSFORMER CAPACITIES OUTPUT CAPACITIES

MODEL NUMBERS	kV (DC)	Ma (DC)	WAVE FORM
SCR-SIPP-15-11-45	45	225	Full
SCR-SIPP-22-11-45	45	325	
SCR-SIPP-35-11-45	45	550	
SCR-SIPP-50-11-45	45	770	
SCR-SIPP-70-11-45	45	1100	
SCR-SIPP-90-11-45	45	1400	
SCR-SIPP-100-11-45	45	1500	
SCR-SIPP-115-11-45	45	1800	
<hr/>			
SCR-SIPP-15-12-45	45	225	Full and Double Half
SCR-SIPP-22-12-45	45	325	
SCR-SIPP-35-12-45	45	550	
SCR-SIPP-50-12-45	45	770	
SCR-SIPP-70-12-45	45	1100	
SCR-SIPP-90-12-45	45	1400	
SCR-SIPP-100-12-45	45	1500	
SCR-SIPP-115-12-45	45	1800	

The power supply is divided into separate floor-mounted cabinets: The Control Cabinet, The Transformer-Rectifier Cabinet, and Linear Reactor Cabinet. Each cabinet is completely self-contained, enclosed in a grounded casing. Transformer-Rectifier and Control Cabinets are equipped with a safety key interlock system. It is not necessary to supply protective screens, nor to put the cabinets in a special room. Installation consists of locating, bolting down, and running the necessary external conductors.

#### POWER SUPPLY

Phase — Three  
 Frequency — 60Hz  
 Voltage — 440V  $\pm 10\%$  Standard power supplies are designed for this power supply voltage range. Designs for the voltages up to 600V maximum and 25Hz and 50Hz are available.

Stability of Power Supply — The required power supply that shall be furnished by Purchaser is given under TECHNICAL DATA and must be adequate and suitable to permit continuous operation within the specified line voltage range. Excessive variation may reduce precipitator efficiency or cause extra supervision unless compensated for by special voltage regulating equipment.

#### HIGH VOLTAGE OUTPUT

See proposal for arrangement offered.

Arrangement No.	Type Connector	Type Conductor	Position of Output (S)
A	Bushing	Solid	Center
B	Bushing	Solid	Left and Right

#### HIGH VOLTAGE SWITCHING

Single Full Wave Output — Arrangement A:

The T-R Cabinet is connected to a switch cabinet mounted above the same tank as the Transformer and Rectifier. The Switch Cabinet is equipped with a safety grounding switch for grounding the high voltage output. Grounding of the H.V. output also grounds the associates precipitator emitting system (unless external H. V. Switch gear is used) through the H. V. conductor.

Full Wave and Double Half Wave Output — Arrangement B:

The T-R Cabinet is connected to an air-insulated H. V. switch cabinet mounted above the same tank as the Transformer and Rectifier. The switching cabinet contains a safety grounding switch for grounding both Transformer-Rectifier outputs, as well as, additional switches to distribute the T-R High voltage outputs as follows:

H. V. Switch Functions	High Voltage Output	
	Left	Right
Mode #1	Safety Grounded	Safety Grounded
Mode #2	Full Wave	Grounded
Mode #3	Full Wave	Full Wave
Mode #4	Half Wave	Half Wave
Mode #5	Grounded	Full Wave

NOTE: Position #1 also grounds all internal parts normally at high voltage.

#### CONTROL CABINET

The maximum voltage within the standard Control Cabinet is 480V.

The standard cabinet construction is Nema V-XII (dust tight). All external connections to or from the Control Cabinet are made to terminal blocks and devices in the lower portion of the cabinet.

NOTE: Some designs have a filter fan arrangement to permit cooling the internal components of a cabinet.

For outdoor use the cabinet is available in Nema III (weather resistant) construction.

#### LINEAR REACTOR CABINET

The Linear Reactor provides full range control. Standard construction is Nema I. Outdoor construction is available.

## HIGH VOLTAGE CONTROL

Control means for the high voltage precipitator supply are built into the Control Cabinet, including a regulating device to vary the voltage below the maximum rated high voltage. The major items of equipment mounted in the Control Cabinet are as follows:—

- Main Breaker
- Over Current Protection
- Low Voltage Protection
- Manual Voltage Regulating Equipment
  - A. C. Ammeter
  - D. C. Milliammeter
  - A. C. Voltmeter
  - D. C. Kilovolts (optional)

This cabinet also contains all necessary internal wiring.

## TRANSFORMER-RECTIFIER CABINET

The maximum attainable voltage within the T-R Cabinet is 52,500 volts (RMS) or 75,000 peak.

The high voltage rectifying equipment is completely enclosed in the sealed transformer case to form a single floor-mounted unit. This cabinet meets the requirements of Nema III (weather-resistant) and Nema V (dust tight) construction and is suitable for installation either indoors or outdoors.

## HIGH VOLTAGE TRANSFORMER

The transformer is of oil-filled (non-flammable insulating fluid available) specially designed and shielded for precipitator service. It is single phase, rated at 480V primary, 52.5 KV secondary.

Transformer case is equipped with conduit connection box, grounding connection, filling connection, drain and sampling valves, thermometer, and oil gauge. Vacuum gauges and over-temperature alarm are optional.

## METALLIC RECTIFICATION

The alternating current output of the H. V. Transformer is rectified to direct current by means of silicon diodes mounted within the transformer case. Rectifier elements are arranged in a full wave or double half wave bridge circuit and are mounted in specially designed assemblies. The diodes were specially developed for precipitator service and are equipped with all the necessary surge equalizers and suppressors. Arrangement of interior parts is such as to facilitate circulation of oil and thereby insure adequate cooling.

## SAFETY KEY INTERLOCK SYSTEM

To protect personnel from contact with high voltage elements contained in the Transformer-Rectifier Cabinet, all power supplies are equipped with a safety key interlock system. By means of this system, access to the high voltage elements is denied personnel until the high voltage is turned off and all high voltage elements are grounded. Furthermore, it is not possible to re-energize the high voltage parts until all access openings are closed and locked. This system can be extended to the precipitator access openings.

## LOCATION OF POWER SUPPLY

It is recommended that the CONTROL CABINET be located at the main control center in order to obtain maximum supervision with a minimum of effort.

It is recommended that the LINEAR REACTOR be located as close to the control cabinet as is practical to minimize interconnecting conduit runs, but in such an area that its thermal loss will not cause inconvenience.

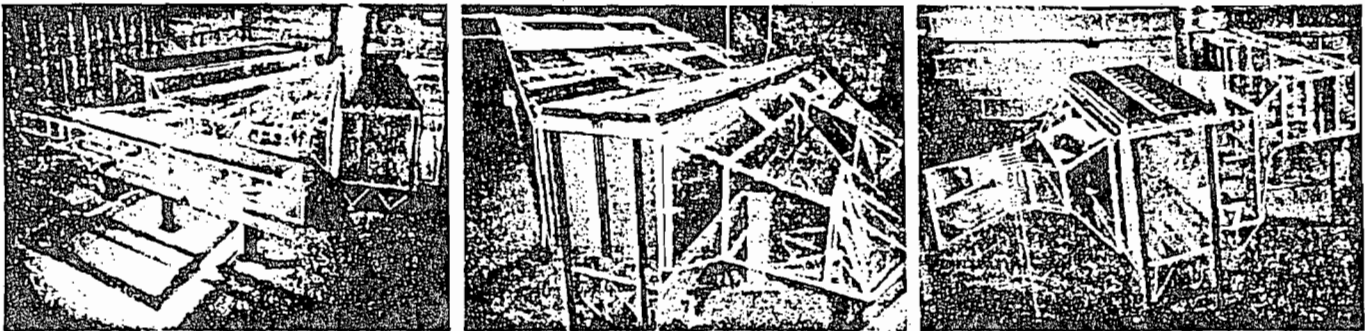
It is recommended that the TRANSFORMER-RECTIFIER CABINET be located as close as is practical to the high voltage precipitator connection so as to shorten the length of high voltage conductor.





# BUELL ELECTROSTATIC PRECIPITATOR SPECIFICATIONS

## SECTION III: MODEL FLOW STUDIES



The purpose of a precipitator model flow study is to achieve a system configuration which will insure optimum performance of the particulate collection system.

A well recognized principle followed in conducting such studies is that optimum performance is obtained when the maximum utilization of equipment supplied is attained. This condition is achieved when the gas flow distribution to the precipitator is uniform across the cross section of flow. Particular attention is given to the elimination of high velocity areas which can adversely affect performance due to the possible occurrence of dust re-entrainment.

The scope of the model constructed includes all pertinent connecting ductwork upstream and downstream of the precipitator as well as the precipitator itself. For example, in the case of a pulverized coal fired boiler, this scope is defined as being from the air heater outlet to the stack.

The three dimensional system model is constructed from transparent material to a scale of 1 to 16 or  $\frac{3}{4}$  inch to 1 ft. The construction of the precipitator includes simulation of all internals including collecting plates, internal baffles and standard inlet BUELL distribution baffles.

An objective in conducting model tests is to duplicate the design gas velocities at ambient air conditions.

Visual observation of flow distribution can be achieved by observing the pattern of "smoke", thread probes, or particulate matter introduced into the air stream. Under some circumstances, additional qualitative information can be obtained through the use of a two dimensional water table investigation.

Quantitative flow distribution data is obtained by means of a traverse of velocity measurements using a "hot wire" type anemometer. These velocity measurements are taken within the precipitator at various traverse locations.

The initial effort of a model study is to evaluate flow distribution characteristics of the proposed system configuration. If undesirable distribution characteristics are observed, an effort is made to correct these deficiencies by modification of the duct arrangement. However, in many cases this is not possible due to a predetermined equipment layout. In these cases, it is necessary to correct the flow distribution by means of internal correctional devices such as turning vanes, baffles, perforated plate distribution baffles, etc.

The culmination of a model study demonstrates a situation of acceptable gas flow distribution. It should be noted that quantitative characteristics of draft loss and dust deposition are beyond the scope of a model study technique. However, under some circumstances the relative characteristics of these factors can be ascertained.

The results of a complete model study investigation are described by a report which includes velocity distribution graphs and drawings describing the proposed system configuration.

DESIGN DETAILS OF ELECTROSTATIC PRECIPITATOR FOR  
BARTOW UNIT #1 COM CONVERSION

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2. Outlet Grain Loading = .021 Grains/ACFM
3. Design Gas Flow = 488,000 ACFM
4. Maximum Average Gas Velocity = 4.1 Ft./Sec.
5. Specific Collection Area = 360 Ft.<sup>2</sup>/1,000 ACFM
6. Gas Temperature = 300<sup>o</sup> F.
7. Length of Discharge & Collecting Electrodes = 36 Ft.
8. Treatment Time = 8.1 Seconds
9. Transformer Rectifiers No.&Size= 5 Ea. 115 KVA
10. No. of Fields in Direction of Gas Flow = 5
11. Length of Fields in Direction of Gas Flow = 33'

Proposal No: 81MBU-29287

Date: August 29, 1980

STRUCTURAL AND ELECTRICAL DESIGN CRITERIA

1. THE FOLLOWING PARAMETERS WERE USED IN THE STRUCTURAL DESIGN OF THE EQUIPMENT:

- A. TEMPERATURE: 370°F\*
- B. PRESSURE: 26"W.G.  
VACUUM: 26"W.G.
- C. DUST BULK DENSITY
  - 1. CAPACITY: 70 PCF
  - 2. STRUCTURAL: 120 PCF
- D. TOTAL PRECIPITATOR HOPPER CAPACITY: 9327 CF
- E. DUST IN FLUES: DEPTH 2 FT @ 120 PCF
- F. LIVE AND SNOW LOAD ON PRECIPITATOR ROOF: 55 PSF
- G. SNOW LOAD ON TOP OF FLUEWORK: N.A. PSF
- H. WIND LOAD: 35 PSF
- I. SEISMIC ZONE NO: 0
- J. LIVE LOADS ON PLATFORMS AND STAIRS: 75 PSF
- K. AMBIENT TEMPERATURE: 122°F MAXIMUM
- L. DEAD LOADS SUPPORTED FROM HOPPER OUTLET FLANGE: 1,000 LBS
- M. PRECIPITATOR ROOF INSULATION: 30 PSF
- N. SIDE AND END WALLS, HOPPERS AND FLUEWORK INSULATION: 7 PSF  
(SUPPLIED BY OTHERS)
- O. DUST ON PRECIPITATOR INTERNALS: 120 PCF

2. THE FOLLOWING ELECTRICAL POWER SUPPLY CRITERIA WERE USED IN THE DESIGN OF THE EQUIPMENT:

480 VOLTS, 3 PHASE, 60 CYCLES

NOTES: (1) THE ALLOWABLE DESIGN STRESS AT TEMPERATURES LESS THAN 700°F WILL BE TWO THIRDS OF THE YIELD STRESS AT THE MAXIMUM TEMPERATURE STATED IN A.

(2) ITEMS C.2 THROUGH O. DENOTE LOADS INCLUDED ON THE PRELIMINARY LOADING DIAGRAM SHOWN ON DRAWING NO. , IN ADDITION TO DEAD LOADS OF THE FOLLOWING EQUIPMENT:

WEATHER ENCLOSURE  
TRANSFORMER-RECTIFIERS  
T-R REMOVAL SYSTEM

\*WITH 685°F, EXCURSION FOR A MAXIMUM OF 30 MINUTES.



Proposal No: 81MBU-29287

Date: August 29, 1980

EMITTING ELECTRODE WARRANTY

The Buell AVCON™ 2000 Automatic Voltage Control System for electrostatic precipitator high voltage power supplies has been operationally proven to provide a major benefit to user companies by virtually eliminating emitting electrode breakage as a cause of precipitator downtime. Therefore,

Buell warrants that any emitting electrode that may have failed in service due to defects in material and workmanship within a period of two (2) years from the date of commercial operation will be replaced.

The emitting electrode warranty does not extend to failures attributable to conditions beyond the Buell control, such as, but not limited to hopper build-up, malfunctions of steam generator, or any other portions of the system that is not supplied by Buell.

Proposal No: 81MBU-29287

Date: August 29, 1980

### EQUIPMENT AND SERVICES OFFERED

The following numbered items constitute the limit and extent of this offering:

#### Item 1 - Electrostatic Precipitator

One (1) Buell Model BAB1.2X37N434-4.3 electrostatic precipitator, arranged as a one (1) chamber, two (2) bus sections per chamber wide by eleven (11) bus sections long unit. Electrically, each precipitator has five (5) electrical fields in depth and twenty two (22) isolable bus sections. The shell is fabricated from 0.25" thick ASTM A-242 type 2 steel plate with required stiffeners from ASTM A-242 type 2.

The precipitator is furnished with a total of twelve (12) pyramidal type hoppers, arranged four (4) hoppers in width by three (3) hoppers in length. Each hopper is furnished with a fixed baffle, two (2) poke holes, a 12" I.D. flanged outlet and two (2) quick opening interlocked access doors and "rounded" corners. The hoppers are designed with a 55° valley angle and provide a total usable capacity of 7,326 cubic feet. Hoppers are fabricated from 0.25" thick ASTM A-242 type 2 steel plate with required stiffeners.

The precipitator is furnished with collecting plates constructed from 18 gauge ASTM A-606 and 0.105" diameter emitting electrodes of ASTM A-227 Class 1 steel wire with a 0.25" diameter mild steel shroud on the bottom of each wire. Buell impact rappers are furnished for cleaning the collecting plates the emitting electrode system. The rapper and vibrator controls will be solid state TAPPER II. The rapping in each field can be controlled independently and can be adjusted in intensity, frequency and sequence.

Internal access beams are provided with 18" wide grating.

Structurally, the precipitator is designed to withstand an internal pressure of 26" W.G., positive or negative at a flue gas temperature up to 370°F, and a transient flue gas temperature up to 685°F for 30 minutes maximum.

#### Item 2 - Electrostatic Precipitator High Voltage Power Supply System

The high voltage power supply system for the electrostatic precipitator consists of transformer-rectifiers, control cabinets and linear reactors as follows:

##### Item 2A - Transformer-Rectifiers

Five (5) 45 KV transformer-rectifiers will be furnished. The size and quantity of transformer-rectifiers furnished will be as follows:



Proposal No: 81MBU-29287

Date: August 29, 1980

EQUIPMENT AND SERVICES OFFERED (CONT'D)

<u>Model No.</u>	<u>Quantity</u>	<u>KVA</u>	<u>Ma(DC)</u>
SCR-SIPP-115-11-45	5	115	1800

Each transformer-rectifier is oil filled self-cooled and is equipped with conduit connections, filling connection, drain and sampling valves, thermometer and oil gauge.

A high voltage switch enclosure of NEMA 4X construction is mounted on top of each transformer-rectifier tank to house the high voltage outlet bushing and an air-insulated, interlockable high voltage switch.

The construction of the transformer-rectifiers will conform to NEMA 3R requirements and are designed for 50°C ambient temperature.

Each transformer-rectifier is furnished complete with high voltage bus ducts to conduct the high voltage from the transformer-rectifiers to the high voltage lead-in bushing located in the insulator houses. The bus ducts furnished are typically shown in Section V, Figure 14 of Buell's specifications and will be to that extent required to allow connection as shown on the preliminary electrical arrangement included with the proposal drawings.

The transformer-rectifiers will be mounted on a platform above the precipitator hot roof.

An oil containment pan is provided for each transformer-rectifier.

Item 2B - Transformer-Rectifier Control Cabinets

The following components are supplied which constitute the basic Buell Intelligent Precipitator Control System:

- a. CRT Display - The CRT is used in readout alarm status, power supply meter readings, rapper operation and other functions and parameters related to precipitator performance, one (1) supplied.
- b. Keyboard - This is for manual input of information to the computer, such as: request rappers operation display, request power supply meter readings, change operating characteristics of power supplies, change sequence, timing or intensity level of rappers, one (1) supplied.
- c. AVCON™ Cabinet - This unit houses power supply drive components which include AVCON 2000, communications board, stop, start, alarm, acknowledge pushbuttons, and auto-manual switch. One (1) supplied, containing one (1) AVCON 2000 control for each transformer-rectifier.

Proposal No: 81MBU-29287

Date: August 29, 1980

EQUIPMENT AND SERVICES OFFERED (CONT'D)

- d. Console Base - The console base houses central computer hardware, which includes tape deck and digital meter display for reading power supply levels independent of the computer CRT readout, one (1) supplied.
- e. Default Components - These circuits automatically switch the operation of the power supplies and rapper controls to "stand alone" mode of operation in the event of a computer failure.
- f. T-R Power Cubicle - The power cubicle is an enclosure which contains power components for two (2) T-R sets. These cubicles are usually located near the precipitator, three (3) supplied.
- g. Rapper Power Cubicle - Located on the roof of the precipitator, this cubicle contains the power matrix drivers to operate the rappers, one (1) supplied.
- h. Power Saving Program - Signals from the Purchaser's opacity monitor and BTU input feedback will control the system power levels of the TR sets to adjust the energy consumption as required to meet the opacity requirements.
- i. Rapper Optimization Program - Optimum frequency, sequence and intensity will be controlled by this system.
- j. Hopper Level Monitor - This monitor will activate dust removal equipment and/or shut down power supplies associated with full hoppers in addition to alarming this condition.

All electrical wiring for this control system is supplied and installed by others.

Item 2C - Linear Reactors

Five (5) linear reactors will be furnished, one (1) for each transformer-rectifier. The construction of the linear reactors will meet NEMA I requirements and are designed for a 50°C ambient temperature.

Item 3 - Safety Key Interlock System

Each precipitator will be equipped with a Safety Key Interlock System to prevent access while the unit is energized. This system includes key interlocks for the five (5) transformer-rectifiers and control cabinets. Eight (8) access doors on the precipitator casing, twenty (20) access doors on the high voltage compression insulator compartments, twenty four (24) access doors on the precipitator hoppers, and four (4) access doors on the flue plenums. Interlocks will be manufactured by Kirk or equal.



Proposal No: 81MBU-29287

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EQUIPMENT AND SERVICES OFFERED (CONT'D)

Item 4 - Access Doors for Nozzles (Plenums)

Four (4) Buell standard, hinged, quick opening, interlocked access doors will be furnished for installation in the inlet and outlet flue transition ducts of each precipitator. Each door will be complete with an insulation door frame and cover.

Item 5 - Instruction Manuals

Fifteen (15) sets of instruction manuals will be furnished.

Item 6 - Slide Plates

Nineteen (19) slide plates are furnished for the installation to include those required for the precipitator and inlet plenum and outlet nozzle. Slide plates will be Merriman "Lubrite" or equal.

Item 7 - Insulator Heaters

Forty four (44) insulator compartment heaters complete with thermostats and starters in a motor control center will be furnished for the precipitator.

Item 8 - Purge System

One (1) purge system will be furnished for the precipitator to provide filtered, heated purged air to the compression, high voltage insulators. The system will be complete with one (1) blower with motor and drive, starter in a motor control center, electrical heater, thermostats, one (1) filter, one (1) rain hood, one (1) control damper, and insulated connecting piping between the blower assembly and insulator houses. A standby blower with automatic start controls is also furnished.

Item 9 - Hot Roof Insulation with Checkered Plate Walking Surface

Insulation consisting of 3" rigid block calcium silicate insulation (in two (2) 1 1/2" thick layers) covered with 0.25" thick uncoated steel checker plate will be furnished.

Item 10 - Precipitator Roof Weather Enclosure

One (1) precipitator roof weather enclosure approximately 38'-2" wide by 58'-10" long with a 17'-0" eave height will be furnished for the precipitator. The weather enclosures will be furnished complete with structural steel framing, aluminum roof panels, and a bridge crane T-R removal system with hoists. No siding is provided but provisions for a 5' wall by others will be provided. Ventilation is not required.





Proposal No: 81MBU-29287

Date: August 29, 1980

EQUIPMENT AND SERVICES OFFERED (CONT'D)

Item 11 - Hopper Vibrator Mounting Provision

Provisions will be made for future mounting of Purchaser supplied United Conveyor Corporation hopper baffle vibrators and future mounting of Purchaser supplied Eriez hopper plate vibrators.

Item 12 - Hopper Heating System

One (1) Cooperheat or equal modular type hopper heating system will be furnished for each precipitator hopper, providing an estimated 14.4 kilowatts per hopper. A total of twelve (12) heating systems providing a total of 172.8 kilowatts for the precipitator. The hopper heating systems will be complete with thermostats and the specified controls. All control enclosures will be NEMA 12. The heating system will be controlled by thermostats to reduce the KW consumption by 50% when operating at normal full load conditions.

Item 13 - Hopper Fluidizer Mounting Provision

Provisions will be made for future mounting of two (2) Purchaser supplied United Conveyor Corporation air fluidizing stones per hopper.

Item 14 - Hopper Level Indicators

One (1) Kay-Ray Series 4400 hopper level indicator system will be furnished for each hopper.

A total of twelve (12) will be furnished for the precipitator.

Item 15 - Hopper Strike Plates

One (1) strike plate will be furnished for each hopper. A total of forty (40) will be furnished for the precipitator.

Item 16 - Precipitator Access

Access will be supplied as specified and as shown on the General Arrangement Drawings. Stairs will be provided on one side of the precipitator and ladder egress on the other side.

Item 17 - Inlet and Outlet Nozzles

Precipitator inlet plenums fabricated from 0.25" thick ASTM A-242 type 2 steel plate and required stiffeners complete with two (2) rows of perforated plates fabricated from 10 gauge ASTM A-569-66T steel. Turning vanes from 3/16" ASTM A-36 plate will be furnished as required.



Proposal No: 81MBU-29287.

Date: August 29, 1980

EQUIPMENT AND SERVICES OFFERED (CONT'D)

Precipitator outlet nozzles fabricated from 0.25" thick ASTM A-242 type 2 steel plate and required stiffeners complete with one (1) row of perforated plate fabricated from 10 gauge ASTM A-569-66T steel.

The inlet perforated plates only will be furnished with an impact rapping system. This system will consist of twelve (12) impactors and associated hardware and will be controlled by the precipitator TAPPER II rapper controls.

Item 18 - Annunciator System

One (1) annunciator system with 50 points (including spares) is furnished to be housed in the Company's control room.

The following points will be alarmed:

<u>Alarm Point</u>	<u>Number</u>
Transformer-Rectifier Overcurrent	5
Transformer-Rectifier Low Voltage	5
Transformer-Rectifier High Oil Temperature	5
Transformer-Rectifier Control Cubical Fan	3
Insulator Compartment Low Air Pressure	4
Purge System Fan Failure	2
Rapper Control Failure (Loss of Power to Cabinet)	1
Insulator Heater System Failure	4
Hopper Heater System Failure	12
Hopper High Ash Level	1
TOTAL	42

A 50 point annunciator panel will be furnished. Should additional points be required to alarm additional optional functions, i.e. vibrators, additional points can be furnished at the Purchaser's expense.

Item 19 - Gutters and Downspouts

Required footage of gutter for installation along with width of the weather enclosure roof at the gas inlet and outlet sides and required footage of downspouts for installation for the weather enclosure roof elevation to grate elevation at each of the four (4) electrostatic precipitator corners. The material of construction for the gutters and downspouts will be .032" aluminum.

Proposal No: 81MBU-29287

Date: August 29, 1980

EQUIPMENT AND SERVICES OFFERED (CONT'D)

Item 20 - Electrical Controls

One (1) power distribution panel with circuits for the transformer-rectifiers, hopper level motor control center, and roof level motor control center will be furnished.

A motor control center for hopper level equipment supplied by Buell and a motor control center for roof level equipment supplied by Buell will be furnished.

Further information is as shown on ESL-29287-01.

Item 21 - Gas Flow Model Study

Buell will conduct a 1/16 scale gas flow model study to determine uniform gas flow distribution to the precipitator. The model will be constructed from clear plastic with simulation of precipitator collecting plates, internal baffle, turning vanes, and perforated plate of light gauge metal. The scope of the model study will be from the outlet flange of the west air heater to inlet flange of the stack. The study will be conducted in accordance with Publication E-P7, "Gas Flow Model Studies", of the Buell Specification, Section III located in the descriptive literature. Please note that the I.D. fans will not be geometric scale models and flow distribution through them will only be coarsely simulated.

Item 22 - Precipitator Start-Up Services

Services of a Buell Field Service Representative. During the start-up period, the equipment will be started and adjusted, the plant personnel will receive instructions in the operation of the equipment and the gas flow distribution in the precipitator will be checked. This service is included for a period of thirty-nine (39) mandays and four (4) round trips from Lebanon, Pennsylvania.

Item 23 - Erection

Buell will furnish erection of equipment to the extent herein described:

- a. Unload and erect electrostatic precipitator and auxiliary equipment described under Items 1 through 20.
- b. Erection supervision.
- c. Install thermal insulation and checker plate on the roof of the precipitator. R1
- d. Deleted. R1

Combustion AC 52-36102

Isand 1/15/80

EPA clearing house data base

1. The type of Combustion design
2. What NO<sub>x</sub> limits  
(1220 MBtu/Hr.)

Crystal River AC 09-184438

7543 TPY

AP-42 factor

125 TPAH Coal

2626 MM BTU/Hr

379 M<sub>4</sub>/hr

AC 52-36102

Boston #1

542.7 lbs NO<sub>x</sub>/hr

2077 TPY

AP42

3-18-92

Call returned by M. Bary & W. Hanks

PSD

Crystal River

NO<sub>x</sub> limit

Boiler Type - Stechen or PC

To Preston/MIRZA  
Date 3-18 Time 12:39

**WHILE YOU WERE OUT**

Mr. Verle Bland  
of Stone & Webster Engineers  
Phone 303-741-7684  
Area Code                      Number                      Extension

<input type="checkbox"/> TELEPHONED	<input checked="" type="checkbox"/> PLEASE CALL
<input type="checkbox"/> CALLED TO SEE YOU	<input type="checkbox"/> WILL CALL AGAIN
<input type="checkbox"/> WANTS TO SEE YOU	<input type="checkbox"/> URGENT
<input type="checkbox"/> RETURNED YOUR CALL	

Message RE: FL Power  
Corp. - Crystal  
River

AC 52-36102

Issued 1/15/80 PLM  
Operator

## DEPARTMENT OF ENVIRONMENTAL REGULATION

## INTEROFFICE MEMORANDUM

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

To: _____	Locn.: _____
To: _____	Locn.: _____
To: _____	Locn.: _____
From: _____	Date: _____

TO: Walter Starnes

FROM: Victoria Martinez *V.M.*

DATE: August 11, 1978

SUBJECT: BACT Determination for FPC Gas Turbines Suwannee River Plant Site - Suwannee County

The study group recommendations considered the four criteria given in the BACT rule: (a) EPA's determinations, (b) technical material available, (c) other state's BACT determinations, and (d) social, economic and energy impacts.

As regards criteria (a) EPA proposed in October, 1977, applicable NSPS for gas turbines. These standards are expected to be promulgated as proposed, in January, 1979. The proposed standards would limit the concentration of nitrogen oxides (NO<sub>x</sub>) in the exhaust gases from stationary gas turbines to .0075 percent by volumes (75 ppm) at 15 percent oxygen on a dry basis. The standard would include an upward adjustment factor for gas turbines with thermal efficiencies greater than 25 percent, and also an upward adjustment factor for turbines burning fuels with a nitrogen content greater than .15 percent by weight. Measured NO<sub>x</sub> levels would be adjusted to ISO reference conditions (see attached FR).

In addition, the proposed standards would limit the SO<sub>2</sub> emission to 150 ppm by volume corrected to 15 percent oxygen or a fuel content limit of .8 percent by weight. There would be no efficiency adjustment factor or ambient condition correction factor for SO<sub>2</sub> emission, since SO<sub>2</sub> emissions are not affected by gas turbine efficiency or ambient atmospheric conditions (see attached FR).

With respect to criteria (b), the study group relied mainly on the information in the BACT application. Steve Smallwood and the BACT coordinator had the benefit of EPA's (SSEIS) document on gas turbines, EPA 450/2-77-017. Ray Dinardo quoted the February 1977, volume of the APCA Journal on control strategies for emission reductions for gas turbines.

Walter Starnes  
PAGE TWO  
August 11, 1978

In reference to criteria (c), no other state's BACT's for gas turbines have been reported to EPA's BACT Clearinghouse in Research Triangle Park.

With respect to criteria (d), the applicant provided information only on the economics of the wet method for NO<sub>x</sub> control. The dry method also described is not commercially available. The only control technology listed for SO<sub>2</sub> was distillate fuel not exceeding .5% by weight. The comparative economic impact of other technologies such as lime or soda scrubbing for SO<sub>2</sub> removal or ammonia scrubbing for NO<sub>2</sub> removal were not discussed by the applicant, probably because they are prohibitively expensive.

The study group and the applicant's proposed BACT's are attached.

After carefully examining the study group's recommendations and EPA's proposed standards, I suggest we determine BACT as follows:

NO<sub>x</sub>

Emission to be limited according to EPA's proposed NSPS. The emission limit would be 75 ppm by volume corrected to 15 percent oxygen and ISO ambient atmospheric conditions. The standard includes an upward adjustment factor for turbine efficiencies greater than 25% and another for fuel bound nitrogen. NO<sub>x</sub> emissions would be limited according to the following equation given in EPA's proposed NSPS,

$$STP = (.0075 E) + F$$

where:

STP = allowable NO<sub>x</sub> emissions (percent by volume at 15 percent oxygen)

E = efficiency adjustment factor =  $\frac{14.4 \text{ kilo joules/watt} \cdot \text{hr}}{\text{Actual ISO heat rate}}$

The high efficiencies normally achieved by increasing combustor operating pressure and temperature are accompanied by exponential increases in NO<sub>x</sub>. However, as explained in detail on page 10 of Steve Smallwood's recommendation, it is not reasonable to select an exponential efficiency adjustment factor since it would allow for very large increases in NO<sub>x</sub> emission for small increases in efficiency, thus the EPA's linear adjustment factor given above. The 14.4 kilojoules per watt-hr corresponds to the heat rate of a gas turbine operating at 25% efficiency.

Walter Starnes  
 PAGE THREE  
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F = Fuel-bound nitrogen allowance

<u>Fuel-Bound Nitrogen</u> (percent by weight)	F <u>(NO<sub>x</sub> - percent by volume)</u>
N ≤ 0.015	0
0.015 < N ≤ 0.1	0.04 (N)
0.1 < N ≤ 0.25	0.004 + 0.0067 (N - 0.1)
N > 0.25	0.005

The fuel bound nitrogen allowance was included in EPA's NO<sub>x</sub> NSPS to provide gas turbine owners the flexibility to fire either premium or heavy and residual fuel oils. However, unlimited allowance in the NO<sub>x</sub> emission limit dependent on fuel-bound nitrogen level could permit extremely high NO<sub>x</sub> emissions when firing high nitrogen-containing fuels. Thus EPA had developed the above fuel bound nitrogen allowance which allows a maximum of 50 ppm for fuel with .25 percent nitrogen by weight or above. To adjust measured NO<sub>x</sub> emissions at 15 percent oxygen to ISO ambient atmospheric conditions, EPA gives the following correction factor.

$$NO_x = (NO_{x_{obs}}) \left( \frac{P_{ref}}{P_{obs}} \right)^{0.5} e^{19(H_{obs} - 0.00633)}$$

Where:

NO<sub>x</sub> = emissions of NO<sub>x</sub> at 15 percent oxygen and ISO standard ambient conditions.

NO<sub>x<sub>obs</sub></sub> = Measured NO<sub>x</sub> emissions at 15 percent oxygen, ppmv.

P<sub>ref</sub> = Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure

P<sub>obs</sub> = Measured combustor inlet absolute pressure.

H<sub>obs</sub> = Specific humidity of ambient air.

e = Transcendental constant (2.718)



Walter Starnes  
PAGE FOUR  
August 11, 1978

Two members of the study group, Robert Kappelmann and Steve Smallwood, suggested a lower standard for NO<sub>x</sub> emissions (50 and 60 ppm respectively). The SSEIS document does show in Figure 8-1, 3 simple cycle peaking gas turbines for which these limits are attainable (at water/fuel ratios of 0.52, 0.43 and 0.6). However, only test on 8 simple cycle peaking units or various design configurations are documented in the SSEIS report; Two of these turbines were tested using natural gas only. In setting the emission limit at 75 ppm we allow as EPA has done, for the uncertain validity of the limited test data available in the SSEIS report.

### SO<sub>2</sub>

The only available and economically feasible technique for sulfur dioxide control is low sulfur oil. Other techniques for tail gas clean-up cost two to three times as much as the turbine itself. In view of this, I suggest we adopt Florida Power's proposed .5% sulfur oil. This would be equivalent to a 95 ppm by volume standard, 37% below EPA's proposed NSPS of 150 ppm and the sulfur limit on fuel of .8% by weight.

Two members of the study group, Robert Kappelmann and Frank Darabi, recommended use of fuel with .3% S by weight. An economic evaluation of employing lower sulfur oil, 0.30% S rather than the 0.5% S proposed, indicates an increased cost of power produced by the gas turbines. Based on EPA's SSEIS document, a fuel cost increase of about \$.27/bbl could be expected. Other private communications indicate it could be higher: 0.42¢/bbl. Using the \$.27/bbl differential, the cost of fuel for producing electricity increases by about 1.8%, or about \$53.500/unit per year. This cost is equivalent to about 0.6 mills/KW.hr.

The selection of the standard 0.5% S is supported by the previous cost factors. In addition, ambient air SO<sub>2</sub> concentration increases estimated to result from the turbines do not indicate the need of the more stringent standard and increased expense.

### HC, CO, Particulates

No standards are proposed for these pollutants. The SSIES document (Chapter 6) shows insignificant impact on ambient air from these pollutant emissions.

Walter Starnes  
PAGE FIVE  
August 11, 1978

Opacity

An opacity standard of less than 20% is proposed. This standard is consistent with the SSIES document and agrees with the recommendation of two of three members of the group proposing an opacity standard.

Study Group and Applicant's Proposed BACT

	Ash Content of Fuel	Particulates	NO <sub>2</sub>	SO <sub>x</sub>	Opacity	HC	CO	Noise
Albert Townsend*			wet method	low sulfur oil				
Robert Kappelmann	.01%	none	50 ppmv water or steam to fuel ratio should be specified at about 1.4 ratio	≤.3% S fuel	10% except for start-up	none	none	none
Steve Smallwood **	none	none	≤ 75 ppmv with EPA's upward corrections for efficien- cy and fuel bound nitro- gen	≤100-ppmv	≤20%	none	none	none
Frank Darabi	low	.08 lb/BTU	75 ppmv	.3% S fuel	20%	none	none	Should be minimized to avoid annoy- ance at pro- perty line
Florida Power Corp.	.1% max.		75 ppmv	.5% S	≤20%	none	none	none

\* Albert Townsend felt the data provided by the applicant was insufficient to establish specific emission limits.

\*\* Steve Smallwood considered 60 ppmv NO<sub>2</sub> 80 ppm SO<sub>2</sub> and 10% opacity to be a reasonable alternative. However, he felt sufficient information was not provided by the applicant to analyze the economic impact of this alternative.

Check Sheet

Company Name: Fla. Power Corp - Bartow Plant #  
Permit Number: 1030011-005-AC 8006  
PSD Number: \_\_\_\_\_  
Permit Engineer: \_\_\_\_\_

**Application:**

- Initial Application
  - Incompleteness Letters
  - Responses
  - Waiver of Department Action
  - Department Response
  - Other

**Cross References:**

- 
- 
- 

**Intent:**

- Intent to Issue
- Notice of Intent to Issue
- Technical Evaluation
- BACT Determination
- Unsigned Permit
- Correspondence with:
  - EPA
  - Park Services
  - Other
- Proof of Publication
  - Petitions - (Related to extensions, hearings, etc.)
  - Waiver of Department Action
  - Other

**Final Determination:**

- Final Determination
- Signed Permit
- BACT Determination
- Other

**Post Permit Correspondence:**

- Extensions/Amendments/Modifications
- Other

Z 333 618 122

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

PS Form 3800 April 1995

Sent to: <u>Jeff Raudue</u>	
Street & Number: <u>FPC</u>	
Post Office, State, & ZIP Code: <u>St. Pete Fl</u>	
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	
<b>TOTAL Postage &amp; Fees</b>	<b>\$</b>
Postmark or Date: <u>Baytown PP 8-9-99</u> <u>Unit 1</u> <u>Fl 4 Ash H.S.</u>	

Fold at line over top of envelope to

Is your RETURN ADDRESS completed on the reverse side?

**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):

- 1.  Addressee's Address
- 2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Jeffrey Raudue  
FPC  
PO Box 14042  
St. Pete, Fl  
33733-4042

4a. Article Number

Z 333 618 122

4b. Service Type

- Registered  Certified
- Express Mail  Insured
- Return Receipt for Merchandise  COD

7. Date of Delivery: AUG 12 1999

5. Received By: (Print Name)

6. Signature (Addressee or Agent)

X [Signature]

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

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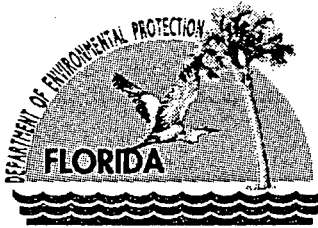
• Print your name, address, and ZIP Code in this box •

Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation, NSRS  
2600 Blair Stone Road, MS 5505  
Tallahassee, Florida 32399-2400

BUREAU OF AIR REGULATION

AUG 17 1999

RECEIVED



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

August 9, 1999

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

Mr. W. Jeffrey Pardue, C.E.P.  
Director, Environmental Services  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, Florida 33733-4042

Re: DEP File Nos. 1030011-002-AV, 1030011-005-AC, 1030011-006-AC, AO52-233149, and AO52-232464  
Bartow Power Plant - Unit 1 Fly Ash Handling System Modification - Fly Ash Silo (E.U. No. 009)

Dear Mr. Pardue:

The Department has reviewed Mr. Scott H. Osbourn's letter dated July 29, 1999 notifying the Department of FPC's intent to physically remove the inactive fly ash silo and unnecessary equipment currently designated as Emission Unit 009. The modification of the Fly Ash Handling System has been approved in the permitting action identified as 1030011-005-AC, therefore the Department agrees with FPC that this proposed request is already allowed in the existing permit revisions to this unit. It is our understanding reasonable precautions will be taken to prevent emissions of unconfined particulate matter at the facility during this removal.

Sincerely,

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

cc: Scott Osbourn, FPC  
Jerry Kissel, SWD  
Gary Robbins, PCDEM



RECEIVED

AUG 04 1999

BUREAU OF AIR REGULATION

July 29, 1999

Mr. Al Linero, P.E.  
Administrator, New Source Review Section  
Florida Department of Environmental Protection  
2600 Blair Stone Rd.  
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

Re: Florida Power Corporation's Bartow Facility  
Unit 1 Fly Ash Handling System Modification  
DEP File Nos. 1030011-002-AV, 1030011-005AC, 1030011-006-AC, AO52-233149,  
and AO52-232464

As you may recall, the electrostatic precipitator (ESP) and the fly ash conveying system associated with Unit 1 were originally constructed in 1983 when Unit 1 was modified to burn a coal-oil mixture (COM) of fuel. In 1987, Unit 1 was again modified to allow it to burn oil only. Unfortunately, Florida Power Corporation (FPC) was required to continue to operate the ESP and fly ash system while burning fuel oil only. The ESP and fly ash system were never designed to be operated in this mode, and FPC experienced chronic operational and maintenance problems with this equipment.

There were several events that drove the decision to modify the fly ash conveying system at Bartow Plant to its current configuration. These included efforts to make the conveying system safer and more effective, as well as the need to dispose of the fly ash accumulated on site. The system, prior to the current modification, was designed to pneumatically convey fly ash to a storage silo (ARMS Emission Unit 009, currently inactive) and then to an open conveyor where it would be transported and dropped to the ground. The ash would then be loaded from the open pile to trucks for transport to a landfill.

FPC subsequently applied for and received a permit to construct (1030011-005-AC). The construction permit allowed for the fly ash handling system to be reconfigured so that it now directly transfers fly ash from the ESP hoppers to enclosed bins (closed loop system) for later transport off site. The fly ash silo, ARMS Emission Unit 009, is no longer part of the handling system. The silo is "inactive" and serves no current or envisioned future need. The Bartow plant staff has requested that they be able to physically remove this equipment from the site.

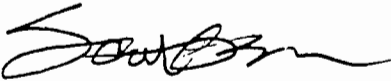


Mr. Linero  
July 29, 1999  
Page 2

Based on conversations with Mr. Jerry Kissel of the Southwest District Office and you, this letter serves to notify the Department of FPC's intent to remove the inactive and unnecessary equipment currently designated as Emission Unit 009. During this removal, reasonable precautions will be followed to prevent emissions of unconfined particulate matter at the facility. FPC anticipates that this effort could commence as early as September 1, 1999 and be completed by the end of the year. FPC requests that the Department provide written concurrence that this proposed action is allowed per the permit revisions discussed earlier.

If you should have any questions concerning this request, please do not hesitate to contact me at (727) 826-4258.

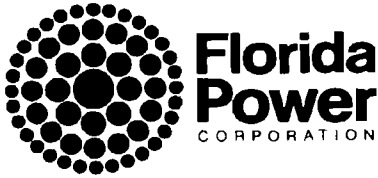
Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

cc: Jerry Kissel, DEP SW District  
Gary Robbins, PCDEM

cc: E. Svec, BAR  
T. Heron, BAR



RECEIVED

AUG 04 1999

BUREAU OF AIR REGULATION

July 29, 1999

Mr. Al Linero, P.E.  
Administrator, New Source Review Section  
Florida Department of Environmental Protection  
2600 Blair Stone Rd.  
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

Re: Florida Power Corporation's Bartow Facility  
Unit 1 Fly Ash Handling System Modification  
DEP File Nos. 1030011-002-AV, 1030011-005AC, 1030011-006-AC, AO52-233149,  
and AO52-232464

As you may recall, the electrostatic precipitator (ESP) and the fly ash conveying system associated with Unit 1 were originally constructed in 1983 when Unit 1 was modified to burn a coal-oil mixture (COM) of fuel. In 1987, Unit 1 was again modified to allow it to burn oil only. Unfortunately, Florida Power Corporation (FPC) was required to continue to operate the ESP and fly ash system while burning fuel oil only. The ESP and fly ash system were never designed to be operated in this mode, and FPC experienced chronic operational and maintenance problems with this equipment.

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Mr. Linero  
July 29, 1999  
Page 2

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If you should have any questions concerning this request, please do not hesitate to contact me at (727) 826-4258.

Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

cc: Jerry Kissel, DEP SW District  
Gary Robbins, PCDEM

cc: E. Svec, BAR  
T. Heron, BAR

**RECEIVED**

MAR 31 1999

BUREAU OF  
AIR REGULATION



March 25, 1999

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

Dear Mr. Fancy:

Re: FPC's Bartow Facility; DRAFT Title V Permit No. 1030011-002-AV  
Unit 1 Fly Ash System Modification, DEP Permit No. 1030011-005-AC

Based on a March 17, 1999 meeting with the Department, it appears as though agreement has been reached on all outstanding issues that were previously identified regarding the Draft Title V permit referenced above. However, recall that Florida Power Corporation (FPC) had previously submitted an application to the Department requesting a permit amendment for modification of the fly ash collection system associated with the Unit 1 electrostatic precipitator (ESP). The Department responded with a letter amendment, dated September 3, 1998. Subsequent discussions with Mr. John Taylor of the Pinellas County Department of Environmental Management (DEM), as well as recent developments regarding EPA's position that all applicable requirements are subject to periodic monitoring considerations, have raised concerns with some of the permit language in the above-referenced construction permit amendment.

As part of the fly ash modification permitting process, the Department's Southwest District had required that FPC... "determine, measure and record the fly ash transfer rate to the transportable containers, in order to confirm that the two tons per hour maximum transfer rate, as shown in the application, is correct." FPC subsequently conducted an engineering study that determined a fly ash transfer rate of about 0.15 ton per hour to the bin, as well as a rate of transfer from the bin vent back to the boiler of about 0.02 pounds per hour. Unfortunately, the transfer rates determined from this one-time engineering study became limits in the construction permit modification. It is the opinion of FPC that the present transfer rate and vent rate limitations are unnecessary and are not enforceable in a practical sense.

Mr. Fancy  
March 25, 1999  
Page 2

Specifically, the engineering study was required by the District to demonstrate that the original maximum fly ash transfer rate of two tons per hour would not be exceeded. The study demonstrated that the fly ash transfer rate was significantly less than the allowable rate and, therefore, reasonable assurance was provided that the modification would not result in an emissions increase. Although the transfer rate may vary on any given day due to process conditions, the engineering study has demonstrated that the modified system physically cannot even approach a transfer rate of two tons per hour. Further, given that this is a closed-loop system and that the actual transfer rate has very little effect on emissions from Bartow Unit 1, FPC requests that reference to any fly ash transfer rate be removed from the permit. Specifically, FPC requests deletion of Operating Parameter (a) in the 1030011-005-AC amendment issued on September 3, 1998. Further, Operating Parameter (e) should be revised to read: "Any future emission compliance tests shall be conducted when the fly ash system is operating under normal conditions."

FPC requests that the changes be made to the current effective modification (1030011-005-AC), in order that the appropriate conditions can be incorporated into the Title V permit for this facility. As you know, FPC has been working with Mr. Ed Svec of your office towards issuance of a Proposed Title V permit for this facility.

A check for \$250 is enclosed to cover the associated permit processing fee. If you should have any questions, please do not hesitate to contact me at (727) 826-4258.

Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

Enclosure

cc: Al Linero, DEP, BAR  
John Taylor, PCDEM  
Jerry Kissel, DEP SW District  
Robert Manning, HGS&S

cc: E. Svec

P 265 659 411

US Postal Service

**Receipt for Certified Mail**

No Insurance Coverage Provided.

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PS Form 3800, April 1995

Sent to <i>Jeff Pardue</i>	
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Restricted Delivery Fee	
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Postmark or Date	<i>BAYTON FLA 9-4-98</i>

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<p><b>SENDER:</b></p> <ul style="list-style-type: none"> <li>Complete items 1 and/or 2 for additional services.</li> <li>Complete items 3, 4a, and 4b.</li> <li>Print your name and address on the reverse of this form so that we can return this card to you.</li> <li>Attach this form to the front of the mailpiece, or on the back if space does not permit.</li> <li>Write "Return Receipt Requested" on the mailpiece below the article number.</li> <li>The Return Receipt will show to whom the article was delivered and the date delivered.</li> </ul>		<p>I also wish to receive the following services (for an extra fee):</p> <p>1. <input type="checkbox"/> Addressee's Address</p> <p>2. <input type="checkbox"/> Restricted Delivery</p> <p>Consult postmaster for fee.</p>	
<p>3. Article Addressed to:</p> <p><i>Mr. W. Jeffrey Pardue Fla. Power Corp PO Box 14042 St. Pete, FL 33711</i></p>		<p>4a. Article Number <i>P 265 659 411</i></p> <p>4b. Service Type</p> <p><input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified</p> <p><input type="checkbox"/> Express Mail <input type="checkbox"/> Insured</p> <p><input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD</p>	
<p>5. Received By: (Print Name)</p>		<p>7. Date of Delivery <i>SEP 08 1998</i></p>	
<p>6. Signature: (Addressee or Agent)</p> <p><i>[Signature]</i></p>		<p>8. Addressee's Address (Only if requested and fee is paid)</p>	

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BUREAU OF  
AIR REGULATION

Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation, NSRS  
2600 Blair Stone Road, MS 5505  
Tallahassee, Florida 32399-2400





# Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

September 3, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue, C.E.P.  
Director, Environmental Services  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, Florida 33711

Re: DEP File Nos. 1030011-005AC, AO52-233149, and AO52-232464  
Bartow Power Plant - Unit 1 Fly Ash Handling System Modification

Dear Mr. Pardue:

The Department has reviewed Florida Power Corporation's application received on June 12, 1998 and subsequent correspondence, requesting an amendment to its operation permits to modify the flyash collection system. Flyash collected in the Bartow Unit 1 electrostatic precipitator hoppers will be pneumatically transferred via the two existing pressure lines to a transportable container, instead of the permitted storage silo. Displaced air from the transportable container will be vented back to Unit 1, thus creating a closed loop system.

This request is acceptable and permits AO52-233149 and AO52-232464 are hereby amended as follows:

New Specific Condition:

**FLY ASH SYSTEM OPERATING PARAMETERS**

- a) The maximum transfer rate of the fly ash from the electrostatic precipitator to the transportable bins shall not exceed 0.15 tons/hour. The maximum transfer rate of flyash vented from the transportable bins to the boiler shall not exceed 0.02 lb/hour.
- b) Each of the two (2) pneumatic flyash transfer lines shall transfer only fly ash from one of 12 electrostatic precipitator's hoppers at a time.
- c) Only one (1) transportable container shall be loaded at any one time.
- d) Each pneumatic transfer line shall serve a separate bank of 6 of the 12 hoppers.
- e) Any future emission compliance tests shall be conducted when the fly ash system is operating within 90-100% of the maximum fly ash transfer rate. [FPC's Determination of Transfer Rate - Fly Ash Handling System, August 1998].

A person whose substantial interests are affected by this permitting decision may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57 of the 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 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first.

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

*Printed on recycled paper.*



Under Section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall 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 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any; which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and (f) A demand for relief.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301

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 notice. 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.

Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

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

Sincerely,



Howard L. Rhodes, Director  
Division of Air Resources  
Management

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this permit amendment was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 9-4-98 to the person(s) listed:

Mr. W. Jeffrey Pardue, FPC\*  
Mr. Bill Thomas, P.E., DEP/SWD  
Mr. Gary Robbins, PCDEM  
Ms. Jennifer L. Tillman, P.E.

Clerk Stamp

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

Kevin Tolson  
(Clerk)

9-4-98  
(Date)

Florida Department of  
Environmental Protection

Memorandum

DARM-PER/GEN-25

RECEIVED

JUN 10 1995

TO: District Air Program Administrators  
County Air Program Administrators  
Bureau of Air Regulation Engineers

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

DATE: June 8, 1995

SUBJECT: Guidance on the Replacement or Addition of Air Pollution  
Control Equipment on Existing Sources

This memo is to provide guidance to district, local program, and headquarters staff on the permitting action required when a source owner replaces or adds an air pollution control device to an existing source.

If the pollution control equipment is for a unit with uncontrolled emissions of less than 100 tons per year, and the equipment is "off the shelf", then no permitting action is required.

If the pollution control equipment is custom designed for any source, or is "off the shelf" to control a unit with uncontrolled emissions greater than or equal to 100 tons per year, the source owner will need to apply for an amendment to the permit. The request would need to be signed and sealed by a P.E. The Department or local program, if it finds the replacement air pollution equipment to be satisfactory, shall issue a letter amendment to the operation permit. No public notice shall be required for such an action.

HLR/chf/cd

Florida Department of  
Environmental Protection

Memorandum

---

TO: Howard L. Rhodes

THRU: Clair Fancy *CHF*  
Al Linero *AL 9/2*

FROM: Teresa Heron

DATE: September 2, 1998

SUBJECT: Florida Power Corporation - Bartow Plant  
Fly Ash Handling System Modification  
DEP Permit File No. 1030011-005AC

Attached for approval and signature is a letter that will amend operation permits for Unit 1 and its flyash system at the Bartow Power Plant. This amendment will allow the fly ash collected in the 12 ESP hoppers to be pneumatically transferred via the two existing pressure lines to a transportable container instead of the flyash storage silo. The transportable container's displaced air during loading will then be vented back into Unit No. 1's boiler, thus creating a closed loop system.

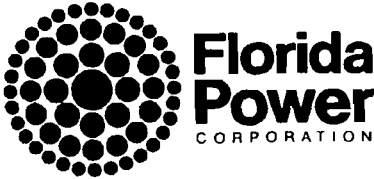
We determined that there will likely be a very small, but unpredictable increase or decrease in PM/PM<sub>10</sub> emissions and a slight shift toward a smaller particle distribution.

The change amounts to a custom-designed replacement of an existing pollution control system. The applicant's design was sealed by a P.E. We are amending the operation permits in accordance with Guidance DARM-PER/GEN-25.

I recommend your approval and signature.

Attachments

CHF/th



RECEIVED

AUG 27 1998

BUREAU OF  
AIR REGULATION

August 24, 1998

Mr. Al Linero  
Administrator, New Source Review Section  
Florida Department of Environmental Protection  
2600 Blair Stone Rd.  
Tallahassee, Florida 32399

Dear Mr. Linero:

Re: Bartow Plant; Fly Ash System Modification  
DEP Permit File No. 1030011-005AC

Florida Power Corporation (FPC) submitted an application for a modification to the above-referenced unit on June 12, 1998. In a letter dated July 14, 1998, the Department has indicated that additional information is necessary in order to proceed with processing of this application. The issues raised by the Department are addressed below in the order in which they were received.

*Comment - Please clarify this emission unit ID number after this modification. The proposed application lists the fly ash system with different ID numbers (006, 009 and 001). Our database (ARMS system) and the Title V draft permit lists the fly ash handling system as Emission Unit 009. We are considering inactivating Emission Unit 009 and making the fly ash handling system a part of Emission Unit 001 (Fossil Fuel Fired Steam Generator, No. 1, with Electrostatic Precipitator).*

*Response - The correct Unit ID No. is 009, as listed in the Title V permit application.*

*Comment - Pursuant to Rule 62-212.400(2), F.A.C., please calculate the net emission change (if any) for the affected PSD pollutant(s) as a result of this modification.*

*Response - The only pollutant that is affected by this modification is PM/PM<sub>10</sub>. With the elimination of the fly ash baghouse (Unit ID No. 009), as well as other potential sources of fugitive emissions having been eliminated by this new design, emissions of PM/PM<sub>10</sub> will be reduced.*

*Comment - Pursuant to Rule 62-296.700, any existing emissions unit that emits particulate matter and that is located in a particulate matter air quality maintenance area shall limit the emission of particulate matter through the application of Reasonably Available Control Technology (RACT). Please submit the proposed RACT for this emission unit including the proposed reasonable precautions taken to minimize unconfined emissions of particulate matter. Please update the operation and maintenance plan for this emission unit.*

Mr. Linero  
August 24, 1998  
Page 2

*Response* - FPC believes that this improved design could be classified as particulate RACT. The original design, which was classified as particulate RACT, has been improved by the elimination of an emission point, and unconfined emissions are now more fully addressed.

*Comment* - *Submit the data specified in Item 6 of the June 18, 1998, DEP Southwest District office's Notice of Authorization to Implement Modified Ash Handling System.*

*Response* - The requested engineering study and report are attached.

*Comment* - *Submit an updated process flow diagram of the Boiler No. 1 Fly Ash System.*

*Response* - An updated process flow diagram of the Boiler No. 1 fly ash handling system is attached. This version differs slightly from the version submitted with the June 12, 1998 application. Specifically, in the event of a boiler trip, an automatic safety shut-off valve has been designed into the vent line that returns to the boiler. If a boiler trip occurs, a back-up vent line to the ESP inlet would be activated. The ESP would remain energized.

*Comment* - *Does this emission unit comply with the Pinellas County air pollution control regulations?*

*Response* - To the best of our knowledge, the emission unit complies with applicable Pinellas County air pollution control regulations.

If you should have any questions or require additional information, please do not hesitate to contact me at (727) 826-4258.

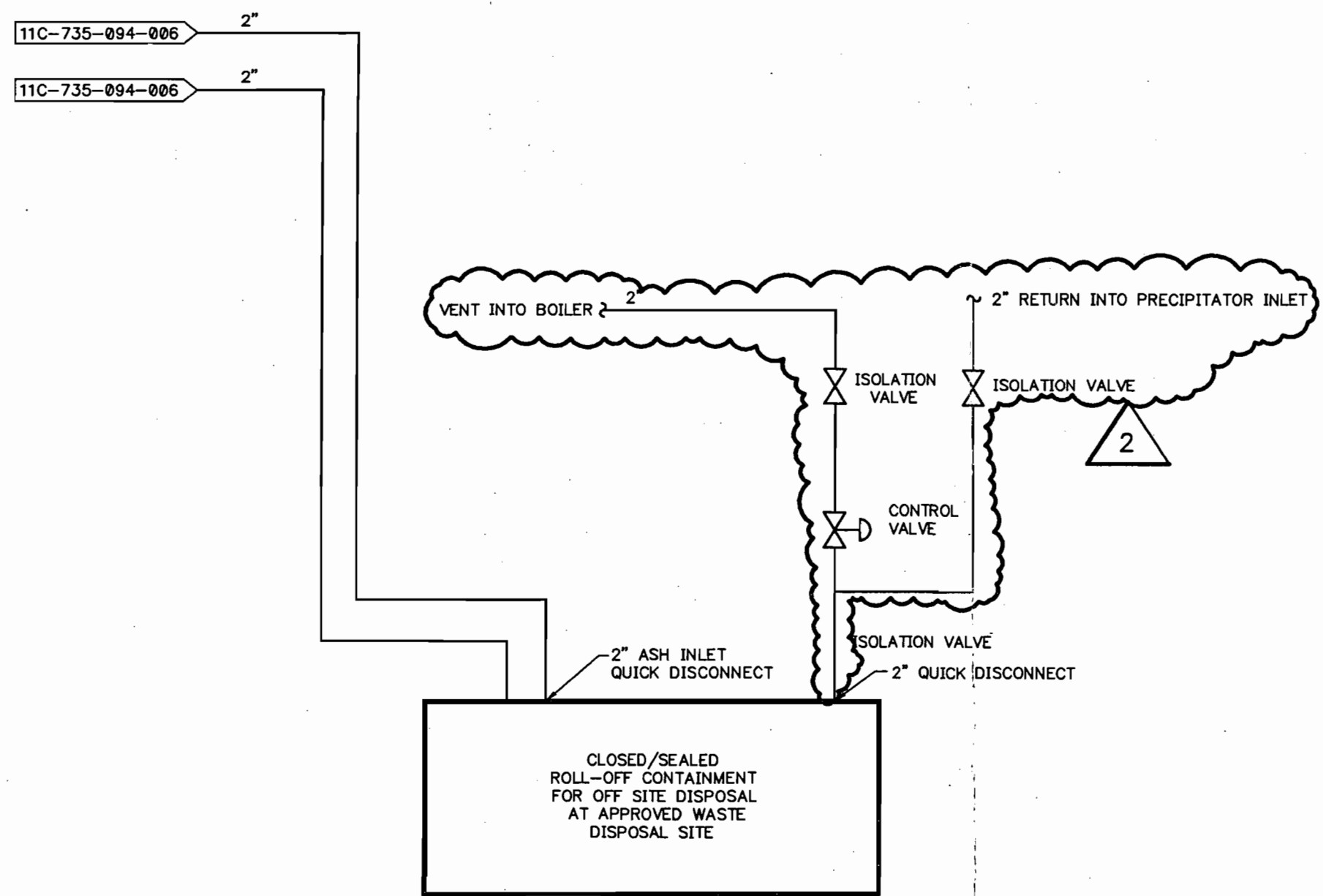
Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

Enclosures


cc: Bill Thomas, DEP SW District  
Gary Robbins, Pinellas Co. DEM



NOTE:  
 1. CLOSED SYSTEM  
 2. DRAWING REPLACES FLAKT, INC. DRAWING #AC-11C-735-094-007

NO.	DESCRIPTION	DRAWN	CHKD	APPR.	DATE
2	PLANT REVISION	JR	<i>WJP</i>	<i>TOP</i>	8/21/98
1	ISSUED TO REPLACE FLAKT DWG. #AC-11C-735-094-007	MJC	JNC	JNC	5/29/98

<b>REVISIONS</b>					
 <b>FLORIDA POWER CORPORATION</b>		<b>ENERGY SUPPLY</b>			
		<b>BARTOW PLANT- UNIT 1</b>			
		<b>DISPOSAL STORAGE OF FLY ASH</b>			
MJC DRAWN	RMN CHKD.	JNC APRVD.	5-28-98 DATE	NTS SCALE	
S DISC.	1 SHEET	DWG.	<b>BA1-M82-B</b>		2 REV.

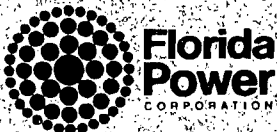
FILE: BA1M82B.DWG

# Determination of Transfer Rate Fly Ash Handling System

Paul L. Bartow Plant  
St. Petersburg, FL

August 1998

Prepared by Jennifer L. Tillman, P.E.



One Power Plaza  
263 – 13<sup>th</sup> Avenue South  
St. Petersburg, FL 33701-5511



## Overview

The purpose of this report is to determine the fly ash transfer rate of the modified fly ash handling system for Bartow Plant Unit No. 1.

The modified system consists of two pressure lines that carry the fly ash pneumatically from the electrostatic precipitator (ESP) hopper to a transportable container (see figures 1 & 2). There are two 2-inch stainless steel pressure lines (yellow) with one coming from the north side of hopper under the precipitator and one from the south side of hopper. There is also a 2-inch stainless steel vent line coming from the container (brown line). The container is sealed to prevent fugitive emissions. Under normal operation, the vented emissions go directly to the boiler to form a closed loop. In the event that the unit trips offline, the vented emissions would be re-routed to go directly to the inlet of the precipitator. The precipitator would remain energized.



**Figure 1**  
Transportable fly ash bins



**Figure 2**  
Top view of bins

## Background Data

**Source** Unit No. 1 Modified Fly Ash System

**Location** Florida Power Corporation  
Paul L. Bartow Plant  
Weedon Island Drive  
St. Petersburg, FL

**Current Permit** AO52-232464

**Test Date** August 4, 1998

**Test Coordinator** Florida Power Corporation  
One Power Plaza  
263 - 13<sup>th</sup> Avenue South  
MAC BB1A  
St. Petersburg, FL 33701-5511  
ATTN: Jennifer L. Tillman, P.E.  
(727) 826-4132 TEL  
(727) 826-4216 FAX

**Test Participants** Ms. Jennifer L. Tillman and Ms. Juliet A. Gridley

## Summary

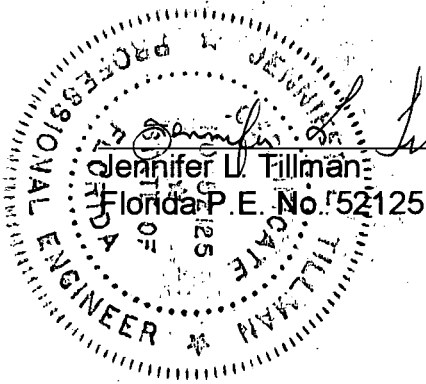
The modified fly ash system was tested on August 4, 1998 to determine the transfer rates of the fly ash. This report should fulfill requirement No. 6 from the "Notice of Authorization to Implement Modified Fly Ash Handling System for Bartow Plant Unit No. 1" dated June 18, 1998.

The testing was performed based on basic engineering principles using mass, volume and time. All procedures and calculations are listed in the appropriate sections.

The maximum transfer rate that was calculated for the fly ash coming from the precipitator to the transportable bins was 0.149 tons/hr. The maximum transfer rate calculated for the fly ash that is vented from the transportable bins to the boiler was 0.0152 lb/hr.

This test report was prepared for submittal to the Florida Department of Environmental Protection (FDEP) and is signed and sealed by a Florida registered professional engineer as required in item No. 6 referenced above.

I certify that the engineering features of the emission unit described in this test report have been examined by me and found to be in conformity with sound engineering principles applicable to the control of air emissions. I further certify that the procedures and calculations used to determine the transfer rate in this report follow fundamental engineering principles.



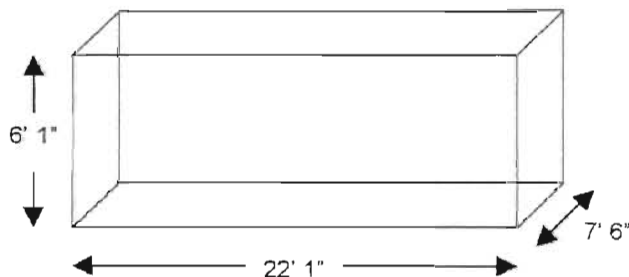
## Procedures

The transfer rate of the fly ash from the electrostatic precipitator hopper to the transportable container was determined by measuring the volume of fly ash accumulated in the empty container over a specified amount of time. To calculate the transfer rate of any fly ash via the container's vent back to the boiler, a cloth filter was utilized. This filter was temporarily installed in the vent line near the boiler. Figure 3 shows the filter and the measuring pole used during this testing.



**Figure 3**  
Measuring pole with 6-inch markings and cloth filter

**Figure 4**  
Dimensions of the empty bin



### Measurement of transfer rate from ESP to the transportable bin

At 10:30 AM on Tuesday, August 4, 1998, the current fly ash container was swapped with an empty container. Measurements of the empty container were made prior to putting the system into service (See figure 4). The length and width measurements were made using a standard tape measure and the depth measurement was made using the measuring pole shown in figure 3.

At 10:40 AM the empty container was put into service to collect the fly ash. The container was allowed to fill for approximately seven hours while Unit No. 1 was at full load. The system was briefly put out of service at 1:40 PM while the test filter was removed.

At 6:45 PM, the end of the test period, a measurement was made from the top of the container to determine the depth of the fly ash. The table below shows the depths and times measured. The unit was maintained at full load for the majority of the test period to calculate a maximum transfer rate.

A sample of the fly ash was sent to Progress Environmental Laboratories to determine the density. The result was 0.49 g/cm<sup>3</sup> which equates out to 30.59 lb/cu. ft.

	<b>Start</b>	<b>Stop</b>	<b>Start</b>	<b>Stop</b>
Date	8/4/98	8/4/98	8/4/98	8/4/98
Time	10:40 AM	1:40 PM	2:40 PM	6:45 PM
Cumulative time (min)	0	180	180	425
Depth to fly ash (ft)	6' 1" (73")	N/A	N/A	5' 8" (68")
Depth of fly ash (ft)	0"	N/A	N/A	5"
Area of bin (sq in)	23,850	N/A	N/A	23,850
Volume of fly ash (cu in)	0	N/A	N/A	119,250
Volume of fly ash (cu ft)	0	N/A	N/A	69.01

#### Measurement of transfer rate from bin's vent to the boiler

At 10:20 AM, the clean cloth filter was weighed using a gram scale in the laboratory. The scale was calibrated with a standard 10g weight prior to the measurements. The weight of the clean (empty) filter was 50.6 grams.

The filter was then installed in the vent line prior to the boiler. The fly ash system was turned on at 10:40 AM and allowed to run for 3 hours while the unit was ramping up to full load. At 1:40 PM the fly ash system was taken out of service so that the filter could be removed. After removing the filter, it was weighed again to determine the mass of fly ash captured by the filter. The final weight was 71.3 grams for a total of 20.7 grams of fly ash captured during the 3-hour test.

# Calculations

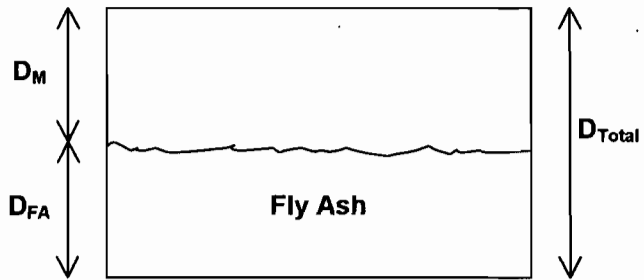
## ESP to Bin

The transfer rate of the fly ash from the ESP hopper to the bin was calculated using the following equations:

$$V_{FA} = \frac{W \times L \times D_{FA}}{1728}$$

$$D_{FA} = D_{Total} - D_M$$

- $V_{FA}$  = volume of fly ash (cu. ft.)
- $W$  = width of container (in.)
- $L$  = length of container (in.)
- $D_{FA}$  = depth of fly ash (in.)
- $D_T$  = total depth of container (in.)
- $D_M$  = measured depth (in.)



$$TR_{FA} = \frac{V_{FA} \times Density}{\frac{t_M}{60} \times 2000 \text{ lb/ton}}$$

- $TR_{FA}$  = transfer rate (tons/hr)
- $V_{FA}$  = volume of fly ash (cu. ft.)
- Density = density of fly ash (lb/cu. ft.)
- $t_M$  = measured time (min)

$$V_{FA} = \frac{W \times L \times D_{FA}}{1728} = \frac{90'' \times 265'' \times 5''}{1728} = 69.01 \text{ cu. ft.}$$

$$D_{FA} = D_{Total} - D_M = 73'' - 68'' = 5''$$

$$TR_{FA} = \frac{V_{FA} \times Density}{\frac{t_M}{60} \times 2000 \text{ lb/ton}} = \frac{69.01 \text{ cu. ft.} \times 30.59 \text{ lb/cu. ft.}}{\frac{425 \text{ min}}{60} \times 2000 \text{ lb/ton}} = 0.149 \text{ tons/hr}$$

## Vent Line

The transfer rate of the fly ash from the transportable bin to the boiler via the vent line was calculated using the following equations:

$$TR_{FAV} = \frac{M_{FAV} \times (2.205 \times 10^{-3} \text{ g/lb})}{\frac{t_M}{60} \times 2000 \text{ lb/ton}}$$

$TR_{FAV}$  = transfer rate through vent (tons/hr)

$M_{FAV}$  = mass of fly ash through vent (g)

$t_M$  = measured time (min)

$$TR_{FAV} = \frac{M_{FAV} \times (2.205 \times 10^{-3} \text{ g/lb})}{\frac{t_M}{60} \times 2000 \text{ lb/ton}} = \frac{5 \text{ g} \times (2.205 \times 10^{-3})}{\frac{180}{60} \times 2000 \text{ lb/ton}} = 0.0152 \text{ lb/hr} = 7.6 \times 10^{-6} \text{ ton/hr}$$





P 265 659 388

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to W. Jeff. Pardue	
Street & Number FPC - Barton	
Post Office, State, & ZIP Code St. Pete, 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	
TOTAL Postage & Fees	\$
Postmark or Date 7-14-98	
1030011-005-AC Fly Ash Handling	

PS Form 3800, April 1995

Is your RETURN ADDRESS completed on the reverse side?

**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):

1.  Addressee's Address
2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
 Mr. W. Jeffrey Pardue  
 Director, Env. Services  
 Fla. Power Corp.  
 P O Box 14042  
 St. Petersburg, FL  
 33711

4a. Article Number  
 P265 659 388

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

7. Date of Delivery  
 JUL 16 1998

5. Received By: (Print Name)

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

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

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JUL 20 1998

**BUREAU OF  
AIR REGULATION**

• Print your name, address, and ZIP Code in this box •

Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation, NSRS  
2600 Blair Stone Road, MS 5505  
Tallahassee, Florida 32399-2400



# Department of Environmental Protection

Lawton Chiles  
Governor

Virginia B. Wetherell  
Secretary

July 14, 1998

CERTIFIED MAIL -RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue, C.E.P.  
Director, Environmental Services  
Florida Power Corporation  
P.O.Box 14042  
St. Petersburg, Fl 33711

RE: Florida Power Corporation- Bartow Plant- Pinellas County  
DEP Permit File No. 1030011-005AC Fly Ash Handling System Modification

Dear Mr. Pardue:

The Department received your application for the modification of the fly ash handling system at the existing Bartow Power Plant in Pinellas County, Florida on June 18, 1998. It is our understanding that the District in Tampa provided a temporary authorization for the project which has already been implemented. Based on a technical review, the application is incomplete. Pursuant to Rules 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C., please submit the following information, including all assumptions, reference materials and calculations:

1. Please clarify this emission unit ID number after this modification. The proposed application lists the fly ash system with different ID numbers (006, 009 and 001). Our database (ARMS system) and the Title V draft permit lists the fly ash handling system as Emission Unit 009. We are considering inactivating Emission Unit 009 and making the fly ash handling system a part of Emission Unit 001 (Fossil Fuel Fired Steam Generator, No. 1, with Electrostatic Precipitator).
2. Pursuant to Rule 62-212.400 (2), F.A.C., please calculate the net emission change (if any) for the affected PSD pollutant(s) as a result of this modification.
3. Pursuant to Rule 62-296. 700, any existing emissions unit that emits particulate matter and is located in a particulate matter air quality maintenance area shall limit the emission of particulate matter through the application of Reasonably Available Control Technology (RACT). Please submit the proposed RACT for this emission unit including the proposed

Mr. Jeffrey Pardue, C.E.P.

Page 2

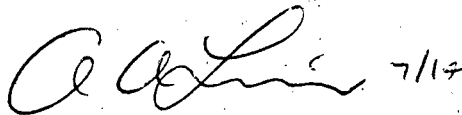
July 14, 1998

reasonable precautions taken to minimize unconfined emissions of particulate matter. Please update the operation and maintenance plan for this emissions unit.

4. Submit the data specified in item 6 of the June 18, 1998, DEP Southwest District office's Notice of Authorization to Implement Modified Ash Handling System.
5. Submit an updated process flow diagram of the Boiler No. 1 Fly Ash System.
6. Does this emissions unit comply with the Pinellas County air pollution control regulations?

We will resume processing the application after the requested information is received. If you have any questions regarding this matter, please call Teresa Heron (Review Engineer) at 850/921-9529 or Cleve Holladay (Meteorologist) at 850/921-9530.

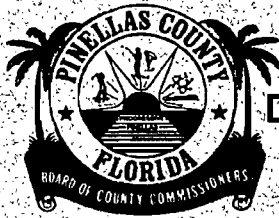
Sincerely,



A. A. Linero, P.E. Administrator  
New Source Review Section

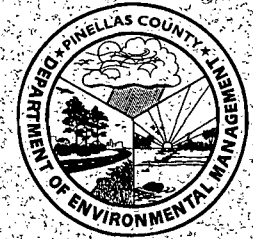
AAL/th/t

cc: Jennifer L. Tillman, P.E., FPC  
Scott H. Osborne, FPC  
David T. Buell, FPC  
Brian Beals, EPA  
John Bunyak, NPS  
Gary Robbins, PCDEM  
Bill Thomas SED



PINELLAS COUNTY  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AIR QUALITY DIVISION  
300 SOUTH GARDEN AVENUE  
CLEARWATER, FLORIDA 33756



COMMISSIONERS  
BARBARA SHEEN TODD - CHAIRMAN  
STEVE SEIBERT - VICE CHAIRMAN  
CALVIN D. HARRIS  
SALLIE PARKS  
ROBERT B. STEWART

RECEIVED

JUL 09 1998

BUREAU OF  
AIR REGULATION

PHONE: (813) 464-4422  
FAX: (813) 464-4420  
SUNCOM: 570-4422  
SUNCOMFAX: 570-4420

July 7, 1998

Teresa Heron  
Florida Department of Environmental Protection  
Division of Air Resources Management  
2600 Blair Stone Road, MS 5505  
Tallahassee, Florida 32399-2400

Re: Florida Power Corporation, Bartow 1030011-005-AC


Ms. Heron:

This office has reviewed the construction permit to modify the fly ash handling system into a closed system. The system, as describe, should emit less particulate than the current permitted configuration. The application did not detail the net change in emissions. The system is not truly closed loop since a percentage of particulate, not collected by the closed container, will be emitted from stack number 1 (not all particulate will be collected by the electrostatic precipitator). The Southwest District office provided temporary permission to proceed with system change. If DEP issues a permit for this change, please consider the following.

1. Emission Unit No. 9 should be inactivated, with Emission Unit No. 1 being redefined to include the new fly ash handling system.
2. The application shows a redefinition of emission units, with the four turbines (currently 005 - 008) combined as emission unit no. 5, and the fly ash system as emission unit no. 6. As stated above, the fly ash system should become part of emission unit no. 1 with emission unit no. 9 inactivated. The turbines should keep their own, current emission unit identifications.

If you have any questions, contact this office at (813) 464-4422 or Suncom 570-4422.

Sincerely,

  
Gary Robbins, Environmental Program Manager  
Air Quality Division  
cc: PF(0011), RF





# Department of Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

## Notice of Authorization to Implement Modified Fly Ash Handling System for Bartow Plant Unit No. 1

### CERTIFIED MAIL

Mr. Scott H. Osbourn  
Senior Environmental Engineer  
Florida Power Corporation  
P.O. Box 14042  
St. Petersburg, FL 33733

**RECEIVED**

JUN 22 1998

BUREAU OF  
AIR REGULATION

1030011-005-AC

Dear Mr. Osbourn:

Ref: Letter dated June 16, 1998  
Application dated June 12, 1998  
Permit Nos. A052-233149 & A052-232464

Your letter of June 16, 1998, requests the Department to authorize Unit No. 1's Fly Ash System to be operated as proposed in your air pollution construction modification application dated June 12, 1998, until the Department takes final action on that application. Specifically, the request is to allow the fly ash collected in Unit No. 1's electrostatic precipitator's 12 hoppers to be pneumatically transferred via the 2 existing pressure lines to a transportable container, instead of the Storage Silo on permit A052-232464. The transportable container's displaced air during loading will then be vented back into Unit No. 1's boiler, thus creating a closed loop system.

After reviewing the information in the letter and application, this office hereby grants the request with the following stipulations:

1. The proposed fly ash handling system shall operate as described in the application dated June 12, 1998, until the Department takes final action on that application.
2. The loading rate of a transportable container shall not exceed the proposed design rate of 2 tons/hr.

3. The 2 pneumatic fly ash transfer lines shall each only transfer fly ash from 1 of the 12 electrostatic precipitator's hoppers at any one time.
4. Only 1 transportable container shall be loaded at any 1 time.
5. Each pneumatic transfer line is dedicated to a separate bank of 6 of the 12 electrostatic precipitator's hoppers.
6. Within 30 days of operating the proposed fly ash system authorized by this letter, Florida Power Corporation shall determine, measure, and record the fly ash transfer rate to the transportable containers, in order to confirm the 2 tons/hr. maximum transfer rate as shown in the application is correct. A written report, describing the methods and/or procedures used to determine and measure the maximum fly ash transfer rate along with the dates and results of any recorded transfer rates, shall be submitted to the Air Permitting Sections of this office and the Pinellas County Department of Environmental Management within 45 days of operating the proposed system. Be sure the report is signed and sealed by a Florida registered professional engineer.
7. Any future emission compliance tests required by Unit No. 1's permit A052-233149 shall be conducted when the proposed fly ash system is operating within 90-100% of the maximum fly ash transfer rate as determined by No. 6 above.
8. Notify Mr. Wayne Martin of the Pinellas County Department of Environmental Management via telephone of initial operation of the proposed fly ash system by the end of the following business day.

A person whose substantial interests are affected by this authorization may petition for an administrative hearing in accordance with sections 120.569 and 120.57 of the 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 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000 must be filed within 21 days of receipt of this authorization. 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 of the Florida Statutes, 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:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number, and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by the petitioner, if any;
- (e) A statement of 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 authorization.

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 authorization. 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.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under section 120.542 of the Florida Statutes. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to this authorization.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. The petition must specify the following information:



- (a) The name, address, and telephone number of the petitioner;
- (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any;
- (c) Each rule or portion of a rule from which a variance or waiver is requested;
- (d) The citation to the statute underlying (implemented by) the rule identified in (c) above;
- (e) The type of action requested;
- (f) The specific facts that would justify a variance or waiver for the petitioner;
- (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and
- (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in section 120.542(2) of the Florida Statutes, and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of EPA and by the person under the Clean Air Act unless and until Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

This authorization is final and effective on the date filed with the Clerk of the Department unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 of the Florida Statutes or unless a request for an 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. before the deadline for filing a petition. Upon timely filing of a petition or a request for an extension of time to file the petition, this permit will not be effective until further Order of the Department.

When the Order (Authorization) 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, Douglas Building, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000; 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 Tampa, Florida.

Sincerely,



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


cc: Wayne Martin - PCDEM  
Ed Svec - FDEP, DARM, Tallahassee  
Al Linero - FDEP, DARM, Tallahassee

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF AUTHORIZATION TO IMPLEMENT MODIFIED FLY ASH HANDLING SYSTEM was sent to the addressee by certified mail and all copies were sent by regular mail before the close of business on JUN 18 1998 to the listed persons, unless otherwise noted.

Clerk Stamp

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

---

(Clerk)

JUN 18 1998  

---

(Date)

RECEIVED

JUN 22 1998

BUREAU OF  
AIR REGULATION

TO: Ms. Patty Adams

FROM: Jim McDonald *JM*

DATE: June 19, 1998

SUBJECT: Florida Power Corporation's AC Modification for  
Unit No. 1's Fly Ash Handling System  
ARMS Facility No.: 1030011

As we discussed on this date, attached please find a check from the Florida Power Corporation (FPC) for \$250.00, which we received on June 18, 1998 (the received date for ARMS). The check is for an air pollution construction modification application received on June 12, 1998, to enable FPC's Bartow Plant to modify the Fly Ash Handling System associated with Unit No. 1's electrostatic precipitator. Al Linero already has a copy of the application.

Unit No. 1 is currently operating on permit A052-233149. The proposed modified system would replace the current fly ash handling system currently operating on permit A052-232464.

If you need any additional information, please do not hesitate to call me.

Thanks for your help.



RECEIVED

MAR 29 1999

BUREAU OF  
AIR REGULATION

March 25, 1999

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

Dear Mr. Fancy:

1030011-006-AC

Re: FPC's Bartow Facility; DRAFT Title V Permit No. 1030011-002-AV  
Unit 1 Fly Ash System Modification, DEP Permit No. 1030011-005-AC

Based on a March 17, 1999 meeting with the Department, it appears as though agreement has been reached on all outstanding issues that were previously identified regarding the Draft Title V permit referenced above. However, recall that Florida Power Corporation (FPC) had previously submitted an application to the Department requesting a permit amendment for modification of the fly ash collection system associated with the Unit 1 electrostatic precipitator (ESP). The Department responded with a letter amendment, dated September 3, 1998. Subsequent discussions with Mr. John Taylor of the Pinellas County Department of Environmental Management (DEM), as well as recent developments regarding EPA's position that all applicable requirements are subject to periodic monitoring considerations, have raised concerns with some of the permit language in the above-referenced construction permit amendment.

As part of the fly ash modification permitting process, the Department's Southwest District had required that FPC... "determine, measure and record the fly ash transfer rate to the transportable containers, in order to confirm that the two tons per hour maximum transfer rate, as shown in the application, is correct." FPC subsequently conducted an engineering study that determined a fly ash transfer rate of about 0.15 ton per hour to the bin, as well as a rate of transfer from the bin vent back to the boiler of about 0.02 pounds per hour. Unfortunately, the transfer rates determined from this one-time engineering study became limits in the construction permit modification. It is the opinion of FPC that the present transfer rate and vent rate limitations are unnecessary and are not enforceable in a practical sense.

Mr. Fancy  
March 25, 1999  
Page 2

Specifically, the engineering study was required by the District to demonstrate that the original maximum fly ash transfer rate of two tons per hour would not be exceeded. The study demonstrated that the fly ash transfer rate was significantly less than the allowable rate and, therefore, reasonable assurance was provided that the modification would not result in an emissions increase. Although the transfer rate may vary on any given day due to process conditions, the engineering study has demonstrated that the modified system physically cannot even approach a transfer rate of two tons per hour. Further, given that this is a closed-loop system and that the actual transfer rate has very little effect on emissions from Bartow Unit 1, FPC requests that reference to any fly ash transfer rate be removed from the permit. Specifically, FPC requests deletion of Operating Parameter (a) in the 1030011-005-AC amendment issued on September 3, 1998. Further, Operating Parameter (e) should be revised to read: "Any future emission compliance tests shall be conducted when the fly ash system is operating under normal conditions."

FPC requests that the changes be made to the current effective modification (1030011-005-AC), in order that the appropriate conditions can be incorporated into the Title V permit for this facility. As you know, FPC has been working with Mr. Ed Svec of your office towards issuance of a Proposed Title V permit for this facility.

A check for \$250 is enclosed to cover the associated permit processing fee. If you should have any questions, please do not hesitate to contact me at (727) 826-4258.

Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

Enclosure

cc: Al Linero, DEP, BAR  
John Taylor, PCDEM  
Jerry Kissel, DEP SW District  
Robert Manning, HGS&S

cc: ~~J. Nelson, BAR~~ - Ed Svec  
D. Robbins, Pine Co.



ACCOUNTS PAYABLE DEPT. CX1K

P. O. BOX 14042

ST. PETERSBURG, FL 33733-4042 REMITTANCE ADVICE

(727) 820-5257

89

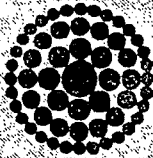
CHECK DATE 03/26/1999 VENDOR FLA DEPT OF ENVIRONMENTAL

VENDOR NO. 278473 CHECK NO. 2050915

INVOICE NO.	DATE	OUR ORDER NO.	VOUCHER	GROSS AMOUNT	DISCOUNT	NET AMOUNT
CK128264	03/23/99		9903166450	250.00	.00 TOTAL	250.00 250.00

THE ATTACHED REMITTANCE IS IN FULL SETTLEMENT OF ACCOUNT AS STATED. IF NOT CORRECT PLEASE RETURN TO ABOVE ADDRESS.

Accounts Payable Department CX1K  
P.O. Box 14042  
St. Petersburg, FL 33733-4042



Florida Power CORPORATION

DATE 03/26/1999 CHECK NO. 2050915

PAY: \$250 DOLLARS AND 00 CENTS

\$\*\*\*\*\*250.00

SunTrust / Mid-Florida

TO  
THE  
ORDER  
OF

FLA DEPT OF ENVIRONMENTAL  
PROTECTION  
2600 BLAIR STONE RD  
TALLAHASSEE FL 32399-2400

VOID after 60 days

*Patricia A. Saari*

Treasurer

# FPC - Bartow - Anclote

Initial Title V Air Operation Permit  
PROPOSED Permit No.: 1030011-002-AV

Temporary

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**Permittee:**

Florida Power Corporation  
3201 34th Street South  
St. Petersburg, Florida 33711

**PROPOSED Permit No.:** 1030011-002-AV**Facility ID No.:** 1030011**SIC Nos.:** 49, 4911**Project:** Initial Title V Air Operation Permit

This permit is for the operation of the Bartow Plant. This facility is located on Weedon Island, St. Petersburg, Pinellas County; UTM Coordinates: Zone 17, 342.4 km East and 3,082.6 km North; Latitude: 27° 52' 10" North and Longitude: 82° 35' 59" West.

STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. 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 permitting authority, in accordance with the terms and conditions of this permit.

**Referenced attachments made a part of this permit:**

Appendix U-1, List of Unregulated Emissions Units and/or Activities

Appendix I-1, List of Insignificant Emissions Units and/or Activities

APPENDIX TV-1, TITLE V CONDITIONS (version dated 12/02/97)

APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)

TABLE 297.310-1, CALIBRATION SCHEDULE (version dated 10/07/96)

Phase II Acid Rain Application/Compliance Plan received December 22, 1995

Alternate Sampling Procedure: ASP Number 97-B-01

OGC Order No. 86-1577

OGC Order No. 87-1261

**Effective Date:** January 1, 1999**Renewal Application Due Date:** July 5, 2003**Expiration Date:** December 31, 2003

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Howard L. Rhodes, Director  
Division of Air Resources  
Management

HLR/sms/es



**Section I. Facility Information.**

**Subsection A. Facility Description.**

This facility consists of three fossil fuel fired steam generators subject to Phase II Acid Rain, a pipeline heating boiler, four gas turbine peaking units, a flyash silo and relocatable diesel generators that can be located at various Florida Power Corporation power plants, as needed.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the initial Title V permit application received June 14, 1997, this facility is a major source of hazardous air pollutants (HAPs).

**Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).**

**E.U.**

**ID No.**

**Brief Description**

-001	No. 1 Unit, Fossil Fuel Fired Steam Generator with Electrostatic Precipitator
-002	No. 2 Unit, Fossil Fuel Fired Steam Generator
-003	No. 3 Unit, Fossil Fuel Fired Steam Generator
-004	Bartow-Anclote Pipeline Heating Boiler
-005	Gas Turbine Peaking Unit #P-1
-006	Gas Turbine Peaking Unit #P-2
-007	Gas Turbine Peaking Unit #P-3
-008	Gas Turbine Peaking Unit #P-4
-009	Flyash Storage Silo with Baghouse
-xxx	Relocatable Diesel Fired Generator(s)

Unregulated Emissions Units and/or Activities  
{See Appendix U-1}

**Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.**

**Subsection C. Relevant Documents.**

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Table 1-1, Summary of Air Pollutant Standards and Terms

Table 2-1, Summary of Compliance Requirements

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers

Appendix H-1, Permit History/ID Number Changes

These documents are on file with the permitting authority:

Initial Title V Permit Application received June 14, 1996

Additional Information Request dated May 20, 1997

Additional Information Response received August 25, 1997

Letter Dated June 24, 1996 Re: PSD Applicability Determination - Bartow Unit No. 1 PSD

Letter received October 17, 1997, from Mr. Gary Robbins.

Letter received November 24, 1997, from Mr. Scott Osbourn.

## **Section II. Facility-wide Conditions.**

### **The following conditions apply facility-wide:**

1. APPENDIX TV-1, TITLE V CONDITIONS, is a part of this permit.  
{Permitting note: APPENDIX TV-1, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided a copy when requested or otherwise appropriate.}
2. **Not federally enforceable. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited.** No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.  
[Rule 62-296.320(2), F.A.C.; and, Pinellas County Ordinance 97-05, Section 33, Sec. 58-178]
3. **General Particulate Emission Limiting Standards. General Visible Emissions Standard.**  
Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.  
[Rules 62-296.320(4)(b)1. & 4., F.A.C.]
4. **Prevention of Accidental Releases (Section 112(r) of CAA).** If required by 40 CFR 68, the permittee shall submit to the implementing agency:
  - a. a risk management plan (RMP) when, and if, such requirement becomes applicable; and
  - b. certification forms and/or RMPs according to the promulgated rule schedule.[40 CFR 68]
5. **Unregulated Emissions Units and/or Activities.** Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit.  
[Rule 62-213.440(1), F.A.C.]
6. **Insignificant Emissions Units and/or Activities.** Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.  
[Rules 62-213.440(1), 62-213.430(6) and 62-4.040(1)(b), F.A.C.]

**7. Not federally enforceable.** General Pollutant Emission Limiting Standards. Volatile Organic Compounds Emissions or Organic Solvents Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.

[Rule 62-296.320(1)(a), F.A.C.]

**8. Not federally enforceable.** Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include: maintenance of paved areas as needed, regular mowing of grass and care of vegetation, and limiting access to plant property by unnecessary vehicles.

[Rule 62-296.320(4)(c)2., F.A.C.; and, proposed by applicant in the initial Title V permit application received June 14, 1996.]

**9.** When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one.

[Rule 62-213.440, F.A.C.]

**10.** The permittee shall submit all compliance related notifications and reports required of this permit to the Pinellas County Department of Environmental Management (PCDEM) office:

Pinellas County Department of Environmental Management  
Air Quality Division  
300 South Garden Avenue  
Clearwater, Florida 34616  
Telephone: 813/464-4422  
Fax: 813/464-4420

**11.** Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency  
Region 4  
Air, Pesticides & Toxics Management Division  
Operating Permits Section  
61 Forsyth Street  
Atlanta, Georgia 30303  
Telephone: 404/562-9099  
Fax: 404/562-9095

### Section III. Emissions Unit(s) and Conditions.

#### Subsection A. This section addresses the following emissions units.

##### E.U.

##### ID No.    Brief Description

- 001      No. 1 Unit, Fossil Fuel Fired Steam Generator with Electrostatic Precipitator
- 002      No. 2 Unit, Fossil Fuel Fired Steam Generator
- 003      No. 3 Unit, Fossil Fuel Fired Steam Generator

Unit No. 1 is a front-fired, fossil fuel steam generator which produces 120 megawatts, electric, power. The maximum heat input rate is 1,220 million Btu per hour and the unit fires No. 6 fuel oil, No. 2 fuel oil, and on-specification used oil. Particulate matter emissions are controlled by a General Electric Services, Inc. Model 1-BAB1.2X37(9)36.0-434-4.3P electrostatic precipitator consisting of five fields in depth. A Durag Model 281 Continuous Emissions Monitor for opacity with a recorder is used for continual observation of stack opacity. Unit 1 began commercial service in 1958.

Unit No. 2 is a tangential-fired fossil fuel fired steam generator which produces 120 megawatts, electric, power. The maximum heat input rate is 1,317 million Btu per hour and the unit fires No. 6 fuel oil, No. 2 fuel oil, on-specification used oil, and propane. Emissions from Unit No. 2 are uncontrolled. Unit 2 began commercial service in 1961.

Unit No. 3 is a tangential-fired fossil fuel fired steam generator which produces 225 megawatts, electric, power. The maximum heat input rate is 2,211 million Btu per hour and the unit fires No. 6 fuel oil, natural gas, No. 2 fuel oil, on-specification used oil, and propane. Emissions from Unit No. 2 are uncontrolled. Unit 3 began commercial service in 1963.

{Permitting note(s): The emissions units are regulated under Acid Rain, Phase II; Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with more than 250 million Btu per Hour Heat Input; Rule 62-296.700, F.A.C. Reasonably Available Control Technology (RACT) Particulate Matter; and, Rule 62-296.702, F.A.C. Fossil Fuel Steam Generators.}

Maintenance for PM

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Bartow Facility  
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PROPOSED Permit No.: 1030011-002-AV

The following specific conditions apply to the emissions unit(s) listed above:

**Essential Potential to Emit (PTE) Parameters**

**A.1. Permitted Capacity.** The maximum operation heat input rates are as follows:

<u>E.U. ID No.</u>	<u>MMBtu/hr Heat Input</u>	<u>Fuel</u>
-001	1,220	new No. 6 fuel oil
	1,220	On-specification used oil
-002	1,317	new No. 6 fuel oil
	1,317	On-specification used oil
-003	2,211	new No. 6 fuel oil
	2,266	Natural gas
	2,211	On-specification used oil
	2,266	Natural gas and new No. 6 fuel oil and/or on-specification used oil with a maximum of 2,211 MMBtu/hr from the new No. 6 fuel oil and/or on-specification used oil

[Rules 62-4.160(2), 62-210.200(PTE), 62-296.405 and 62-296.702, F.A.C.]

**A.2. Emissions Unit Operating Rate Limitation After Testing.** See specific condition **A.24.**

[Rule 62-297.310(2), F.A.C.]

**A.3. Methods of Operation. Fuels.** The only fuels allowed to be burned are:

<u>E.U. ID No.</u>	<u>Fuel</u>
-001	new No. 6 fuel oil
	No. 2 fuel oil
	On-specification used oil
-002	new No. 6 fuel oil
	No. 2 fuel oil
	On-specification used oil
	Propane
-003	new No. 6 fuel oil
	Natural gas
	No. 2 fuel oil
	On-specification used oil
	Propane

Each emissions units may burn the allowed fuels either alone or in any combination. On-Specification used oil containing any quantifiable levels of PCBs can only be fired when the emissions unit is at normal operating temperatures.

[Rule 62-213.410, F.A.C.; and, 40 CFR 761.20(e)(3)]

{Permitting Note: 40 CFR 761.20, dated March 18, 1996, defines “quantifiable level” of PCBs as 2 parts per million.}

**A.4. Hours of Operation.** These emissions units may operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

**Emission Limitations and Standards**

{Permitting Note: The attached Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**A.5. Visible Emissions.** Visible emissions shall not exceed 40 percent opacity. [Rules 62-296.405(1)(a) and 62-296.702(2)(b), F.A.C.; and, OGC Order Nos. 86-1577 & 87-1261]

**A.6. Visible Emissions - Soot Blowing and Load Change.** Visible emissions resulting from boiler cleaning (soot blowing) and load change shall be permitted provided the duration of such excess emissions shall not exceed 3 hours in any 24-hour period and visible emissions shall not exceed 60 percent opacity, and providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of the excess emissions shall be minimized.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit’s rated capacity and which occurs at a rate of 0.5 percent per minute or more.

Visible emissions above 60 percent opacity shall be allowed for not more than 4, six (6) -minute periods, during the 3-hour period of excess emissions allowed under this subparagraph, for boiler cleaning and load changes, at units which have installed and are operating, or have committed to install or operate, continuous opacity monitors.

Particulate matter emissions shall not exceed an average of 0.3 lbs. per million Btu heat input during the 3-hour period of excess emissions allowed by this subparagraph.

[Rules 62-210.700(3) and 62-296.702(2)(b), F.A.C.]

**A.7. Particulate Matter.** Particulate matter emissions shall not exceed the following , as measured by applicable compliance methods:

<u>E.U. ID No.</u>	<u>lb/MMBtu heat input</u>	<u>lb/ hr</u>	<u>Tons per Year</u>
-001	0.1	122.0	534.4
-002	0.1	131.7	576.9
-003	0.1	221.1	968.6

[Rules 62-296.405(1)(b), 62-296.700(4)(b) and 62-296.702(2)(a), F.A.C.]

**A.8. Particulate Matter - Soot Blowing and Load Change.** Particulate matter emissions shall not exceed an average of the following during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.

<u>E.U. ID No.</u>	<u>lb/MMBtu heat input</u>	<u>lb/ hr</u>
-001	0.3	366.0
-002	0.3	395.1
-003	0.3	663.3

[Rules 62-210.700(3) and 62-296.700(4)(b), F.A.C.]

**A.9. Sulfur Dioxide.** When burning liquid fuel, sulfur dioxide emissions shall not exceed 2.75 pounds per million Btu heat input, as measured by applicable compliance methods.

[Rule 62-296.405(1) (c)1.j., F.A.C.]

**A.10. Sulfur Dioxide - Sulfur Content.** The new No. 6 fuel oil sulfur content shall not exceed 2.5 percent, by weight. The sulfur content of the on-specification used oil shall not exceed 2.5 percent by weight. See specific condition **A.22.**

[Rule 62-296.405(1)(e)3., F.A.C.; and, AO 52-216412, AO 52-216413 & AO 52-233149]

**A.11. "On-Specification" Used Oil.** Only "on-specification" used oil shall be fired in these units. The quantity of on-specification used oil fired in emissions units -001, -002 and -003 shall not exceed a total of 14.85 million gallons per consecutive 12-month period and 2.475 million gallons per month. "On-specification" used oil is defined as used oil that meets the 40 CFR 279 (Standards for the Management of Used Oil) specifications listed below. Used oil that does not meet all of the following specifications is considered "off-specification" oil and shall not be fired.

<u>CONSTITUENT / PROPERTY*</u>	<u>ALLOWABLE LEVEL</u>
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash Point	100 °F minimum
PCBs	less than 50 ppm**

\* As determined by approved methods specified in EPA Publication SW-846 (Test Methods for Evaluating Solid Waste, Physical/Chemical Methods).

\*\* Used oil shall not be blended to meet this requirement.

[40 CFR 279.11; 40 CFR 761.20; and, AO 52-216412, AO 52-216413 & AO 52-233149]



**A.12. "On-Specification" Used Oil.** Before accepting from each marketer the first shipment of on-specification used oil with a PCB concentration above the detectable level, the permittee shall provide each marketer with a one-time written and signed notice certifying that the permittee will burn the used oil in a qualified combustion device. The notice must state that EPA or a RCRA-delegated state agency has been given a description of the used oil management activities at the facility and that an industrial boiler or furnace will be used to burn the used oil with PCB concentrations above the detectable level. The description of the used oil management activities shall be submitted to the Administrator, Hazardous Waste Regulation Section, Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

[40 CFR 279.61 and 40 CFR 761.20(e)(3)(ii)]

**A.13. "On-Specification" Used Oil.** Each shipment or on-site generated batch of used oil shall be sampled and analyzed for the constituents listed in specific condition A.11. A claim that the used oil does not contain quantifiable levels of PCBs must be documented by analysis or other information. The first person making the claim that the used oil does not contain PCBs is responsible for furnishing the documentation. The documentation can be tests, personal or special knowledge of the source and composition of the used oil; or a certification from the person generating the used oil claiming that the used oil contains no detectable PCBs.

[40 CFR 761.20(e)(2); and, Rule 62-4.070(3), F.A.C.]

#### **Excess Emissions**

**A.14.** Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

[Rule 62-210.700(1), F.A.C.]

**A.15.** Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.

[Rule 62-210.700(2), F.A.C.]

**A.16.** Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.

[Rule 62-210.700(4), F.A.C.]

**Monitoring of Operations**

**A.17. Sulfur Dioxide.** The permittee elected to demonstrate compliance by accepting a liquid fuel sulfur limit that will be verified with a fuel analysis provided by the vendor or the permittee upon each fuel delivery. This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. See specific conditions A.10., A.21. and A.22.

[Rule 62-296.405(1)(f)1.b., F.A.C.]

**A.18. Determination of Process Variables.**

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

**Test Methods and Procedures**

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**A.19. Visible emissions.** The test method for visible emissions shall be:

a. E.U. ID Nos. -001, -002 and -003 EPA Method 9, incorporated in Chapter 62-297, F.A.C.

b. E.U. ID No. -001 Continuous opacity monitor.

[Rule 62-296.702(3)(a), F.A.C.; and, AO 52-233149]

**A.20. Particulate Matter.** The test methods for particulate emissions shall be EPA Methods 17, 5, 5B, or 5F, incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17.

[Rules 62-296.405(1)(e)2., 62-297.401 and 62-296.702(3)(b), F.A.C.]

**A.21. Sulfur Dioxide.** The test methods for sulfur dioxide emissions shall be EPA Methods 6, 6A, 6B, or 6C, incorporated by reference in Chapter 62-297, F.A.C. Fuel sampling and analysis may be used as an alternate sampling procedure if such a procedure is incorporated into the operation permit for the emissions unit. If the emissions unit obtains an alternate procedure under the provisions of Rule 62-297.620, F.A.C., the procedure shall become a condition of the emissions unit's permit. The Department will retain the authority to require EPA Method 6 or 6C if it has reason to believe that exceedences of the sulfur dioxide emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with sulfur dioxide standards. **The permittee may use the EPA test methods, referenced above, to demonstrate compliance; however, as an alternate sampling procedure authorized by permit, the permittee elected to demonstrate compliance by accepting a liquid fuel sulfur limit that will be verified with a fuel analysis provided by the vendor or the permittee upon each fuel delivery. See specific conditions A.10. and A.22.**  
[Rules 62-213.440, 62-296.405(1)(e)3. and 62-297.401, F.A.C.; and, AO 52-216412, AO 52-216413 & AO 52-233149]

**A.22.** The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or the latest edition.  
[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C.]

**A.23. Required Number of Test Runs.** For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.  
[Rule 62-297.310(1), F.A.C.]

**A.24. Operating Rate During Testing.** Testing of emissions shall be conducted while firing new No. 6 fuel oil or new No. 6 fuel oil/on-specification used oil with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.; and AO 52-216412, AO 52-216413 & AO 52-233149]

**A.25. Calculation of Emission Rate.** The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.]

**A.26. Applicable Test Procedures.**

(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

**A.27. Required Stack Sampling Facilities.** When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.]

**A.28. Frequency of Compliance Tests.** The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

**(a) General Compliance Testing.**

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid for more than 400 hours other than during startup.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

a. Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions, if there is an applicable standard;

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

c. Each NESHAP pollutant, if there is an applicable emission standard.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the PCDEM, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

**(b) Special Compliance Tests.** When the PCDEM, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct

compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the PCDEM.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions; the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; and, SIP approved]

**A.29. Frequency of Compliance Tests**. E.U. ID No.-001 was authorized by order of the Department Secretary dated December 7, 1982 (OGC File Number 82-0564) to test particulate matter emissions and visible emissions every six months with a 40 percent opacity limit. Failure of this emissions unit to meet either the particulate standard or the opacity standard in the future shall constitute grounds for revocation of this authorization and a return to more frequent testing.

[OGC Order No. 87-1261]

**A.30.** By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-297.310(7)(a)4., F.A.C.]

**A.31.** Annual and permit renewal compliance testing for particulate matter emissions is not required for these emissions units while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

**A.32.** Compliance with the "on-specification" used oil requirements will be determined as follows:

- (a) Analysis of a sample collected from each batch delivered for firing; or,
- (b) The new batch delivery is from a collection site that has an acceptable analysis already on file with the facility and the analytical results are assumed by the facility for the batch.
- (c) For quantification purposes, the highest concentration of each constituent as determined by any analysis is assumed to be the concentration of the constituent of the blended used oil.

See specific condition **A.11.**

[AO 52-216412, AO 52-216413 & AO 52-233149]

### **Record keeping and Reporting Requirements**

**A.33.** In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the PCDEM in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the PCDEM.

[Rule 62-210.700(6), F.A.C.]

**A.34.** Submit to the PCDEM a written report of emissions in excess of emission limiting standards as set forth in Rule 62-296.405(1), F.A.C., for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years.

[Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]

### **A.35. Test Reports.**

- (a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the PCDEM on the results of each such test.
- (b) The required test report shall be filed with the PCDEM as soon as practical but no later than 45 days after the last sampling run of each test is completed.
- (c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the PCDEM to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.

7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]



**A.36.** In order to document continuing compliance with specific condition **A.11.**, the permittee shall maintain the following records:

- (a) The quantity of used oil accepted, the date of acceptance, and the receiving tank ID No.
- (b) The name, address, and EPA identification number (if applicable) of all transporters and generators or processors/re-refiners of the used oil delivered to the facility.
- (c) A copy of the notice to EPA or a RCRA-delegated state agency and a copy of the one-time written notice provided to each marketer.
- (d) Results of the analyses required in specific condition **A.11.**
- (e) Documentation that the used oil contains below detectable levels of PCBs, if claimed, including the name and address of the person making the claim.
- (f) The date, time Unit No., and a statement of the status of the unit (startup, normal operating, or shutdown) when burning used oil containing detectable levels of PCBs. Records of percent full load shall be made available, if requested.
- (g) The monthly total of used oil burned at the facility (based on monthly receipts).
- (h) The total of used oil burned at the facility for the most recent consecutive 12-month period.

These records shall be recorded in a permanent form suitable for inspection by the PCDEM upon request, and shall be retained for at least a five year period.

[40 CFR 279.65 & 66; 40 CFR 761.20(3)(b); and, Rule 62-4.070(3), F.A.C.]

**A.37.** The permittee shall include in the "Annual Operating Report for Air Pollutant Emitting Facility" a summary of the on-specification used oil analyses for the calendar year and a statement of the total quantity of on-specification used oil received and fired during the calendar year.

[Rule 62-4.070(3), F.A.C.; and, AO 52-216412, AO 52-216413 & AO 52-233149]

**A.38.** Compliance with the oil sulfur content and the sulfur dioxide emissions limitations of specific conditions **A.9.** and **A.10.** shall be documented by the permittee through submittal of quarterly reports of the Bartow Plant monthly average fuel oil sulfur content, heat content and the resulting sulfur dioxide emission rate in pounds per million Btu heat input. These quarterly reports shall be submitted to PCDEM within 30 days of the end of each calendar quarter.

[Rule 62-4.070(3), F.A.C.; and AO 52-216412, AO 52-216413 & AO 52-233149]

**A.39. Not Federally Enforceable.** Submit to the Air Section of PCDEM each calendar year on or before March 1, a completed "Annual Operating Report for Air Pollutant Emitting Facility" form for the preceding calendar year. Until further notice by the Department the permittee shall calculate particulate matter emissions by multiplying the particulate matter stack test results by the hours of operation. Other annual emissions shall be determined by multiplying the annual fuel use by the following emissions factors:

**E.U. ID No. -001**

Pollutant	No. 6 fuel oil (lb/1000 gal)
SO <sub>2</sub>	157(S)
CO	5
NO <sub>x</sub>	.67
VOC	0.76

**E.U. ID No. -002**

Pollutant	No. 6 fuel oil (lb/1000 gal)
SO <sub>2</sub>	157(S)
CO	5
NO <sub>x</sub>	.42
VOC	0.76

**E.U. ID No. -003**

Pollutant	No. 6 fuel oil (lb/1000 gal)	Natural Gas (lb/MMcf)
SO <sub>2</sub>	157(S)	0.6
CO	5	5
NO <sub>x</sub>	.42	550
VOC	0.76	1.4

[AO 52-216412, AO 52-216413 & AO 52-233149]

**Miscellaneous Requirements**

**A.40. Process Parameters.**

	E.U. ID No. -001	E.U. ID No. -002	E.U. ID No. -002
Heat Input Rate	1,220 MMBtu/hr (maximum)	1,317 MMBtu/hr (maximum)	2,266 MMBtu/hr (maximum)
Fuel	New No. 6 fuel oil with a sulfur content of 2.5%, by weight (maximum) and on-specification used oil with a sulfur content of 2.5%, by weight (maximum)	New No. 6 fuel oil with a sulfur content of 2.5%, by weight (maximum) and on-specification used oil with a sulfur content of 2.5%, by weight (maximum)	New No. 6 fuel oil with a sulfur content of 2.5%, by weight (maximum) and on-specification used oil with a sulfur content of 2.5%, by weight (maximum) (also natural gas when available)
Fuel Firing Rate	7,854 gal/hr (187 BBL/hr) new No. 6 fuel oil and/or on-specification used oil (maximum)	8,778 gal/hr (209 BBL/hr) new No. 6 fuel oil and/or on-specification used oil (maximum)	14,742 gal/hr (351 BBL/hr) new No. 6 fuel oil and/or on-specification used oil, 2.2 MMcf/hr natural gas (maximum)
Ash Content	As sampled	As sampled	As sampled
Steam Temperature	1,000°F	1,000°F	1,000°F
Steam Pressure	1,850 psi	1,850 psi	2,050 psi
Steam Flow Rate	900,000 lb/hr	919,600 lb/hr	1,423,500 lb/hr
Stack Height	300 ft	300 ft	300 ft
Boiler Manufacturer	Babcock & Wilcox	Combustion Engineering	Combustion Engineering
Burner Arrangement	Front fired	Tangential fired	Tangential fired

**Inspection and Maintenance Program.**

- (a) Scheduled during major outages: Boilers, controls, auxiliaries, burners and duct work are to be inspected and repaired as necessary. All parts are to be inspected, cleaned and replaced as necessary.
- (b) Scheduled during non-peak load periods in Spring and Fall: This schedule is affected by forced outage requirements.

(c) the following operating parameters are to be continuously monitored and maintained at appropriate levels to produce efficient fuel combustion:

1. fuel flow rate
2. fuel temperature
3. fuel pressure
4. air flow rate
5. steam flow rate
6. steam temperature
7. steam pressure

(d) Plant operators are to monitor, adjust and record the following operating parameters at least once per day to assure efficient plant operation:

1. temperatures (superheat, reheat, and fuel)
2. flows (steam, feedwater, and fuel)
3. unit load

(e) fuel oil quality is to be checked prior to delivery and a daily sample taken each day the facility is operated for a monthly composite analysis. Fuel oil analysis (by ASTM Methods) is to be analyzed for the following:

1. heat content (Btu/gal)
2. sulfur content (%S by weight)
3. density
4. API gravity

Records of inspection, maintenance, and performance parameters shall be retained a minimum of five years and shall be made available for inspection upon request.

[Rule 62-296.700 (6)(d), F.A.C.; and, AO 52-216412, AO 52-216413 & AO 52-233149]

**A.41. E.U. ID No. -001 Operation and Maintenance Plan.** The General Electric Services, Inc. Model 1-BAB1.2X37(9)36.0-434-4.3P electrostatic precipitator shall be operated and maintained in accordance with the Operation and Maintenance (O&M) Plan, dated 10/04/93 and on file with the Department. The O&M Plan documentation logs shall be maintained for a minimum of five years and made available for inspection upon request. At a minimum, the O&M Plan shall include:

1. The operating parameters of the control device
2. A timetable of routine weekly, bi-weekly, or monthly observations of the pollution control device.
3. A list of the type and quantity of the required spare parts which are stored on the premises for the pollution control device.
4. A record log which shows at a minimum when maintenance was performed, what maintenance was performed, and by whom.

[Rule 62-296.700(6), F.A.C.; and Pinellas County Ordinance 97-05, Section 22, Sec. 58-128]

**Section III. Emissions Unit(s) and Conditions.**

**Subsection D. This section addresses the following emissions unit(s).**

**E.U.**

<b><u>ID No.</u></b>	<b><u>Brief Description</u></b>
-009	Flyash Storage Silo with Baghouse

The Unit No. 1 Flyash System has a design transfer capacity of 4,000 pounds of flyash per hour to the storage silo. Emissions from the storage silo are controlled by a Flakt, Inc. Model 90-UKE-16 Arrangement II baghouse. The baghouse contains 16 filter bags, each having a cloth filtration area of 157.0 square feet. The vent fan capacity is 235.0 standard cubic feet per minute.

{Permitting notes: This emissions unit is regulated under Rule 62-210.300, F.A.C., Permits Required. The emissions unit is not subject to Rule 62-296.700, F.A.C. Reasonably Available Control Technology (RACT) Particulate Matter because the emissions unit emits less than one ton per year of particulate matter.}

**The following specific conditions apply to the emissions unit(s) listed above:**

**Essential Potential to Emit (PTE) Parameters**

**D.1. Permitted Capacity.** The maximum permitted flyash transfer rate to the storage silo shall not exceed 4,000 pounds per hour.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and, Initial Title V application received June 14, 1996]

**D.2. Emissions Unit Operating Rate Limitation After Testing.** See specific condition **D.9.**

[Rule 62-297.310(2), F.A.C.]

**D.3. Hours of Operation.** This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. Transfer of flyash to the silo shall not exceed to ~~700~~ hours per year.

[Rule 62-210.200(PTE), F.A.C.]

6

**Emission Limitations and Standards**

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**D.4. Particulate Matter.** At the request of the permittee to qualify for an exemption from the Reasonably Available Control Technology, Particulate Matter requirements of Rule 62-296.700, F.A.C., the maximum allowable emission rate of particulate matter shall not exceed 1.0 pound per hour and 0.35 ton per year.

[Initial Title V application received June 14, 1996; and, AO 52-232464]

**D.5. Visible Emissions.** Visible emissions shall not exceed five (5) percent opacity.

[Initial Title V application received June 14, 1996; and, AO 52-232464]

**Monitoring of Operations**

**D.6. Determination of Process Variables.**

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

**Test Methods and Procedures**

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**D.7. Particulate Matter.** The test methods for particulate emissions shall be EPA Method 5 incorporated by reference in Chapter 62-297, F.A.C. **The permittee has elected to accept an alternate standard of five (5) percent opacity to waive the particulate matter compliance test requirement.** See specific condition **D.5.**

[Rules 62-213.440 and 62-297.620(4), F.A.C.]

**D.8. Visible Emissions.** EPA Method 9 shall be used to determine opacity compliance pursuant to Chapter 62-297, F.A.C.  
[Rule 62-213.440, F.A.C.]

**D.9. Operating Rate During Testing.** Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.  
[Rules 62-297.310(2) & (2)(b), F.A.C.]

**D10. Calculation of Emission Rate.** The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.  
[Rule 62-297.310(3), F.A.C.]

**D.11. Applicable Test Procedures.**

**(a) Required Sampling Time.**

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
2. **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
  - c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

**(b) Minimum Sample Volume.** Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.  
[Rule 62-297.310(4), F.A.C.]

**D.12. Required Stack Sampling Facilities**. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.]

**D.13. Frequency of Compliance Tests**. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid for more than 400 hours other than during startup.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

a. Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions, if there is an applicable standard;

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

c. Each NESHAP pollutant, if there is an applicable emission standard.



5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the PCDEM, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the PCDEM, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the PCDEM.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; and, SIP approved]

### **Recordkeeping and Reporting Requirements**

#### **D.14.. Test Reports.**

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the PCDEM on the results of each such test.

(b) The required test report shall be filed with the PCDEM as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the PCDEM to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.

RECEIVED

JUN 17 1998

BUREAU OF  
AIR REGULATION

TO: Al Linero, P.E.

FROM: Jim McDonald *JM*

DATE: June 15, 1998

SUBJECT: Florida Power Corp. Fly Ash Modification

On June 12, 1998, this office received from the Florida Power Corporation a construction modification application (wo/fee) for their Oily Fly Ash Conveying & Storage System at the Bartow Plant.

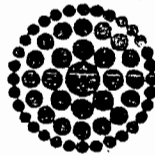
Since they do not have an issued Title V permit, I determined from a quick review of the application that a processing fee of \$250.00 should have been attached to the application. Therefore, on this date, I called Mr. Scott Osborne to request that he send to my attention the fee of \$250.00 as specified in Rule 62-4.050(4)(a)2.e., F.A.C. I also advised Mr. Osborne that I would send you a copy of the application, so when Jerry Kissel returns from San Diego on Monday (6/22/98) you and he can finalize which office should process the application.

For your information, I believe Clair Fancy gave previous "guidance" that if Tallahassee had sent out an Intent to Issue for a Title V facility, then any application submitted thereafter should be processed in Tallahassee. An Intent to Issue for a draft Title V permit for this facility was issued by Tallahassee on October 1, 1997.

Attachment: Florida Power Corporation's Application  
dated 6/12/98 & received 6/12/98

cc: Jerry Kissel (wo/attachment)  
Ed Svec (wo/attachment)  
Scott Osborne (wo/attachment)  
Gary Robbins (wo/attachment)

Accounts Payable Department C2N  
P.O. Box 14042  
St. Petersburg, FL 33733-4042



**Florida  
Power**  
CORPORATION

631

DATE 06/17/98 CHECK NO. 1983019

PAY: \$250\*DOLLARS AND 00 CENTS

\$\*\*\*\*\*250.00

SunTrust / Mid-Florida  
TO  
THE  
ORDER  
OF

FLA DEPT OF ENVIRONMENTAL  
PROTECTION  
3804 COCONUT PALM DR  
TAMPA FL 33619

Void after 60 days

*J. V. Smalwood*  
Treasurer

State of Florida  
DEPARTMENT OF ENVIRONMENTAL REGULATION



# Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

TO: \_\_\_\_\_ LOCTR: \_\_\_\_\_  
TO: \_\_\_\_\_ LOCTR: \_\_\_\_\_  
TO: \_\_\_\_\_ LOCTR: \_\_\_\_\_  
FROM: \_\_\_\_\_ DATE: \_\_\_\_\_

TO: Bill Thomas

FROM: Clair Fancy *(Signature)*

DATE: June 9, 1987

SUBJ: Florida Power Corporation (FPC)  
Bartow Unit No. 1, AC 52-~~63210~~  
36102

The construction permit issued to FPC Bartow Unit No. 1, AC 52-63210, dated March 18, 1981, allows for the burning of 100% fuel oil without requiring an ESP on line, and also allows for visible emissions upto 40% opacity. Since the unit can comply with the applicable permitted emission limitations while burning 100% fuel oil and without ESP control, the operating permit may be amended to allow such operation.

However, if FPC intends to dismantle (permanently remove) the ESP, the Department would require a construction permit be issued. This would make compliance federally enforceable. It is understood that burning of coal-oil mix fuel by Bartow Unit No. 1 will no longer be permitted.

PR/ks

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

BOB GRAHAM  
GOVERNOR

JACOB D. VARN  
SECRETARY



STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

March 20, 1981

W. S. O'Brien  
Florida Power Corporation  
3201 34th Street South  
P. O. Box 14042  
St. Petersburg, Florida 33733

Dear Mr. O'Brien:

Enclosed is Permit Number AC 52-36102, dated March 18, 1981  
to Florida Power Corporation  
issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

A handwritten signature in cursive script that reads "Steve Smallwood" followed by a small mark that looks like "fs1".

Steve Smallwood, Chief  
Bureau of Air Quality Management



STATE OF FLORIDA  
DEPARTMENT OF  
ENVIRONMENTAL REGULATION

CONSTRUCTION  
PERMIT

NO. AC 52-36102  
FLORIDA POWER CORPORATION  
BARTON UNIT No. 1

DATE OF ISSUANCE

March 10, 1981

DATE OF EXPIRATION

JANUARY 31, 1983

VICTORIA J. TSCHENKEL,  
SECRETARY

Final Determination

Florida Power Corporation

Bartow Unit No. 1

Construction Permit

Application Number:

AC 52-36102

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

March 20, 1981

## Final Determination

Florida Power Corporation's (FPC) application for a permit to modify its Bartow Unit No. 1 located on Weedon Island in Pinellas County, Florida has been reviewed by the Bureau of Air Quality Management. Public notice of the Department's Intent to Issue the construction permit was published in the St. Petersburg Times on February 9, 1981.

Copies of the preliminary determination have been made available for public inspection at the Pinellas County's Department of Environmental Management in Clearwater, the Department's Bureau of Air Quality Management in Tallahassee and the Department's Southwest District Office in Tampa.

The only comments received on the proposed construction permit were from FPC. Their comments were on (1) typing errors, (2) the visible emission limit, (3) the use of 100% fuel oil and (4) compliance test methods. The Department is in agreement with the FPC comments and have made the necessary changes to the permit.

Specifically, the comments were as follows:

- (1) FPC pointed out that the word "minimum" should be "maximum" and the SO<sub>2</sub> standard should be 2.75 lb/MMBTU instead of 2.76 lb/MMBTU (Page 2; item IIId).
- (2) FPC requested the visible emission standard be 40% opacity as allowed by Chapter 17-2, Table II, instead of 20/27% that was proposed in the Preliminary Determination. This option is provided in 17-2.05.
- (3) FPC requested that Bartow Unit 1 be allowed to burn 100% No. 6 fuel oil as well as the combination fuel, and be allowed to operate without the electrostatic precipitator when burning 100% No. 6 fuel oil. This would, in effect, allow operation in accordance with present permit conditions as if no modification had taken place.
- (4) FPC asked if the "other Department-approved methods" mentioned in specific condition 11 allows the use of test method 17 to determine particulate matter emissions and fuel analyses for sulfur in lieu of test method 6 to determine sulfur dioxide emissions. The Department agrees that the condition allows the use of these methods and, therefore, no change will be made to this specific condition.

The final action by the Department will be to issue the permit with the changes noted above.



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



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

## DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Power Corporation  
P. O. Box 14042  
St. Petersburg, Florida 33733

PERMIT/CERTIFICATION  
NO. AC 52-36102

COUNTY: Pinellas  
PROJECT: Bartow Unit No. 1

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

For (1) the installation of an electrostatic precipitator having a minimum efficiency of 97.9 percent to remove the additional particulate matter generated from burning a combination oil and coal fuel, and (2) those changes to the boiler needed to burn the combination fuel, and (3) construction of a fly ash silo and pneumatic conveyor controlled by a bag filter for Bartow Unit No. 1 located on Weedon Island in Pinellas County. The UTM coordinates of Bartow Unit No. 1 are 342.38 E and 2082.72 N.

Construction shall be in accordance with the attached permit application, plans, documents and drawing except as provided on pages 3 and 4, Specific Conditions.

### Attachments:

Application to Construct Air Pollution Sources

Florida Power Corporation letter of 2/27/81

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

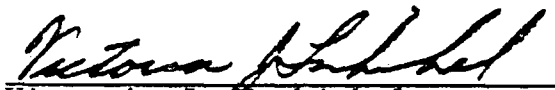
SPECIFIC CONDITIONS:

1. Combination fuel oil (oil and coal) will not be burned in the boiler unless the electrostatic precipitator is in operation. Use of the precipitator is not required when burning 100% fuel oil.
2. Maximum heat input to Bartow Unit 1 will be 1,220 million BTU/hr while burning either combination fuels or 100% No. 6 fuel oil.
3. Maximum particulate emission from Bartow Unit 1 will be 0.10 lb/MMBTU input and 122 lb/hr.
4. Sulfur in the fuel used in the boiler will be controlled so that theoretical emissions do not exceed 2.75 lb. SO<sub>2</sub>/MMBTU input and 3,355 lb/hr. at maximum heat input.
5. Visible emissions from the boiler shall not exceed 40% opacity provided FPC elects to make quarterly particulate matter compliance tests until less frequent test requirements are approved by the Secretary in accordance with 17-2.05 Table IIE(b).
6. Maximum hours of operation will be 8,760 hours per year.
7. Particulate emissions from the bag filter controlling the fly ash silo and conveying system shall not exceed 0.02 grains/DSCF or 5 percent opacity.
8. Reasonable precautions to prevent fugitive particulate emissions during construction such as coating of roads and construction sites used by contractors will be taken by FPC.
9. Construction and schedule shall reasonably conform to the plans submitted in the application.
10. The applicant shall report any delays in construction and completion.
11. Before the construction permit expires, Bartow Unit 1 will be tested for particulate matter, sulfur dioxide and visible emissions during normal operations near 1,220 MMBTU/hr heat input while burning combination fuel and 100% fuel oil. The electrostatic precipitator will not be used during the compliance test with 100% fuel oil. Test methods will be EPA reference methods 1,2,3,4,5,6, and 9 as described in 40 CFR 60, Appendix A or other Department approved methods. Testing will include the effect of soot blowing. Minimum sample volume and time will be that given in New Source Performance Standards (NSPS) in 40 CFR 60.46 for fossil-fuel steam generators. The bag filter serving the silos will be sampled for particulate matter if the visible emission test results are in excess of 5% opacity.

PERMIT NO.: AC 52-36102  
APPLICANT: Florida Power Corporation

Specific Conditions (Con't)

12. The applicant will demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit to the Southwest District Office prior to 90 days before the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or until issuance of an operating permit.

  
Victoria J. Tschinkel,  
Secretary

Expiration Date: January 31, 1983

Issued this 18 day of March, 1981

\_\_\_\_\_ Pages Attached.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

  
Signature

## Memorandum

DARM-PER/GEN-25

RECEIVED

JUN 10 1995

TO: District Air Program Administrators  
County Air Program Administrators  
Bureau of Air Regulation Engineers

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

DATE: June 8, 1995

SUBJECT: Guidance on the Replacement or Addition of Air Pollution  
Control Equipment on Existing Sources

This memo is to provide guidance to district, local program, and headquarters staff on the permitting action required when a source owner replaces or adds an air pollution control device to an existing source.

If the pollution control equipment is for a unit with uncontrolled emissions of less than 100 tons per year, and the equipment is "off the shelf", then no permitting action is required.

If the pollution control equipment is custom designed for any source, or is "off the shelf" to control a unit with uncontrolled emissions greater than or equal to 100 tons per year, the source owner will need to apply for an amendment to the permit. The request would need to be signed and sealed by a P.E. The Department or local program, if it finds the replacement air pollution equipment to be satisfactory, shall issue a letter amendment to the operation permit. No public notice shall be required for such an action.

HLR/chf/cd



Lawton Chiles  
Governor

# Florida Department of Environmental Protection

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619  
813-744-6100

Virginia B. Wetherell  
Secretary

## NOTICE OF PERMIT ISSUANCE

RECEIVED

SEP 01 1993

Environmental Svcs  
Department

### CERTIFIED MAIL

Mr. W. Jeffrey Pardue  
Manager, Environmental Programs  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733 /

DER File No.: A052-232464  
County: Pinellas

Enclosed is Permit Number A052-232464 to operate Bartow Plant Unit No. 1 Fly Ash System, issued pursuant to Section 403.087, Florida Statutes and Florida Administrative Code Rules 17-200 through 297 & 17-4.

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 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 required 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 allotted 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 in which to file a petition 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.

## Best Available Copy

- (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;
- (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.

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 Sections 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 17-730.300, Florida Administrative Code, 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 Standard

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.





Lawton Chiles  
Governor

# Florida Department of Environmental Protection

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619  
813-744-6100

Virginia B. Wetherell  
Secretary

PERMITTEE:

Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733 /

PERMIT/CERTIFICATION

Permit No: A052-232464  
County: Pinellas  
Expiration Date: 8-26-98  
Project: Bartow Plant Unit  
No. 1 Fly Ash System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-200 through 299 & 17-4. 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:

For the operation of Bartow Plant Unit No. 1 Fly Ash System. The design fly ash transfer capacity of the system to the storage silo is 4,000 pounds/hour. Emissions from the storage silo are controlled by a Flakt, Inc. Model 90-UKE-16 Arrangement II baghouse having a set of 16 filter bags. Each filter bag has a cloth filtration area of 157.0 square feet. The storage silo operates with a vent fan capacity of 235.0 scfm.

Location: Weedon Island, St. Petersburg, Pinellas County

UTM: 17-342.3 E 3082.7 N NEDS NO: 0011 Point ID: 09

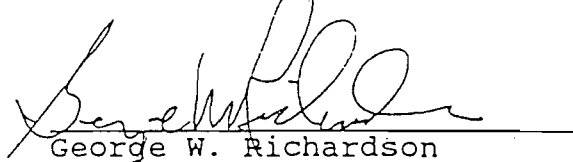
Replaces Permit No.: A052-149203

Mr. W. Jeffrey Pardue  
St. Petersburg, FL 33733

Page Three

Executed in Tampa, Florida

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION



George W. Richardson  
Air Permitting Engineer  
Southwest District

3804 Coconut Palm Drive  
Tampa, FL 33619-8318  
(813) 744-6100, Ext. 420

813 744-6083 FAX

cc: Albert W. Morneault, P.E., Florida Power Corporation  
Pinellas County Department of Environmental Management

Attachment:

CERTIFICATE OF SERVICE

The undersigned duly designated Deputy Department Clerk hereby certifies that this NOTICE OF PERMIT ISSUANCE and all copies were mailed before the close of business on AUG 30 1993 to the listed persons.

FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to Section 120.52(10), Florida Statutes, with the designated Deputy Department Clerk, receipt of which is hereby acknowledged.



Clerk

AUG 30 1993  
Date

PERMITTEE:  
Florida Power Corporation

Permit No.: A052-232464  
Project: Bartow Plant Unit  
No. 1 Fly Ash System

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.

2. At the request of Florida Power Corporation the maximum allowable emission rate of particulate matter from the fly ash system shall not exceed 1.0 pounds/hour and 0.35 tons/year in order to qualify for the particulate RACT exemption as specified in Rule 17-296.700(2)(c), F.A.C.

3. Due to the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department, pursuant to the authority granted under Rule 17-297.620(4), F.A.C., hereby establishes a visible emission limitation not to exceed an opacity of 5% in lieu of a particulate stack test.

4. The fly ash system storage silo shall be tested for visible emissions annually within 60 days prior to March 16. The test report shall be submitted within 45 days after the test is completed to the Air Section of the Department's Southwest District Office and the Pinellas County Department of Environmental Management, Air Quality Division (Rules 17-297.340(1)(a) and 17-297.450(2), F.A.C.).

5. Compliance with the visible emissions limitation of Specific Condition No. 3 shall be determined using DER Method 9 contained in Rule 17-297, F.A.C. The visible emissions compliance tests shall be conducted by a certified observer and be a minimum of 30 minutes in duration. The fly ash transfer rate to the storage silo during the compliance test shall be specified in the test report. The minimum requirements for source sampling and reporting shall be in accordance with Rule 17-297, F.A.C.

6. Testing of emissions must be conducted within 90-100% of the maximum permitted fly ash system transfer capacity to the storage silo of 4,000 pounds/hour. A compliance test submitted at an operating rate less than 90% of maximum permitted rate will automatically constitute an amended permit at the lesser rate until another test showing compliance at a higher rate, not to exceed 4,000 pounds/hour, is submitted. Failure to submit the fly ash transfer rate to the storage silo and actual operating conditions may invalidate the test (Rule 17-4.070(3), F.A.C.).

7. Florida Power Corporation shall notify the Pinellas County Department of Environmental Management, Air Quality Division at least 15 days prior to the date on which each formal compliance test is to begin (Rule 17-297.340(1)(i), F.A.C.).

8. Bartow Plant Unit No. 1 Fly Ash System is permitted to operate continuously, 8,760 hours/year.

PERMITTEE:  
Florida Power Corporation

Permit No.: A052-232464  
Project: Bartow Plant Unit  
No. 1 Fly Ash System

9. Should the Department or the Pinellas County Department of Environmental Management, Air Quality Division have reason to believe the particulate emission standard is not being met, the Department may require that compliance with the particulate emission standard be demonstrated by testing in accordance with Rule 17-297, F.A.C (Rule 17-297.620(4), F.A.C.).

10. The maximum permitted fly ash transfer capacity to the storage silo shall not exceed 4,000 pounds/hour (permit application dated 6/3/93).

11. Submit to the Air Section of the Department's Southwest District Office and the Pinellas County Department of Environmental Management, Air Quality Division each calendar year on or before March 1, completed DER Form 17-213.900(4), "Annual Operating Report for Air Pollutant Emitting Facility," for the preceding year (Rule 17-210.370(2), F.A.C.).

12. Florida Power Corporation shall follow the Operation & Maintenance (O&M) Plan submitted with the renewal application received June 4, 1993 for Bartow Plant Unit No. 1 Fly Ash System, in accordance with Pinellas County Ordinance 89-70, Section 3, Part 2.230(1)&(2), adopted January 2, 1990. The submitted O&M Plan is made a part of this permit. The O&M Plan documentation logs shall be maintained for a minimum of two years. At a minimum the O&M Plan shall include:

- A. The operating parameters of the pollution control device.
- B. Time table for the routine maintenance of the pollution control device as specified by the manufacturer.
- C. Time table for routine weekly, bi-weekly, or monthly observations of the pollution control device.
- D. A list of the type and quantity of the required spare parts for the pollution control device which are stored on the premises.
- E. A record log which will indicate, at a minimum:
  1. When maintenance was performed.
  2. What maintenance was performed.
  3. Who performed the maintenance.

13. All reasonable precautions shall be taken to prevent and control the generation of unconfined emissions of particulate matter in accordance with Rule 17-296.310(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition of wrecking, or industrial related activities such as loading, unloading, storing and handling.

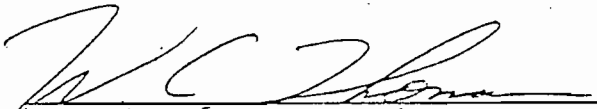
PERMITTEE:  
Florida Power Corporation

Permit No.: A052-232464  
Project: Bartow Plant Unit  
No. 1 Fly Ash System

14. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 17-200 through 17-299, or any other requirements under federal, state or local law (Rule 17-210.300, F.A.C.).

15. Three applications for the renewal of this operating permit shall be submitted to the Air Section of the Department's Southwest District Office and one copy of the application shall be submitted to the Pinellas County Department of Environmental Management, Air Quality Division at least 60 days prior to the expiration date of this permit (Rule 17-4.090(1), F.A.C.).

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
For Dr. Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District

3804 Coconut Palm Drive  
Tampa, FL 33619-8318  
(813) 744-6100

## PERMIT - GENERAL CONDITIONS:

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, 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

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

3. As provided in subsections 403.037(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; or 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, are 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:

## Spare Parts

The following is a list of major items stocked for critical pieces of equipment. There are many small parts such as switches, small valves, gaskets, fasteners, seals, instrumentation etc., that are too numerous to list. Quantities of spare parts vary with time of the year, determination of need as equipment ages and economic reorder quantities (ie: pricing in quantities).

Fly Ash Compressors (most major replacement parts are stocked)

- Coolant in 5 gallon containers
- Seal Oil
- Air dryer filters
- Orifices
- Pressure regulator
- Separator element
- Scavenge screen
- Moisture trap

Ash Transmitters/Silo/Vent Fan/Unloader/Conveyor

- Transmitter isolation and safety relief valves
- Rotary feeder worm gears, shafts and bearings
- Conveyor belt 109 foot section
- Conveyor drive pulley and roller
- Dustless unloader bearings, bearing housing, drive socket
- Silo filter bags - approximately 80 kept on hand

## Maintenance Plan

The maintenance intervals shown below are in accordance with manufacturer's recommendations. It should be noted that manufacturers do not specify exact intervals, but give guidance depending on site-specific variables.

	<u>Mthly</u>	<u>Qrtly</u>	<u>4 mos</u>	<u>6 mos</u>	<u>Annual</u>
<b>Flyash Compressors</b>					
- Drain oil from separator/refill				X	
- Clean separator				X	
- Replace element inside separator				X	
- Change oil and air filters				X	
- Clean scavenger orifice screen				X	
- Check bolts and condensate trap				X	
-Grease bearings and electrical checks on motors*					
<b>Receiver Tank</b>					
-Clean inside		X			
-Replace door gasket		X			
<b>Air Supply System</b>					
-Dig transport lines	X				
-Change in-line filters/air dryers	X				
-Check drain lines/clean as necessary	X				
<b>Flyash Storage Silo</b>					
-Filter bags (16) inspect and or replace			X		
-Bearings on conveyor - grease		X			
-Bearings on unloader - grease		X			
-Bearings on all motors - grease*					
-Rotary valve bearings - grease					X

\*Varies per manufacturer



Bartow Flyash System  
Operation and Maintenance Plan  
Permit Number A052-232464



### Operating Parameters and Operational Checks

Flyash Air Compressors supply air as the conveying medium for flyash transport to the silo and air for instrumentation. The compressors are Ingersoll-Rand Model SSR-1000 rotary screw type. The air supply system design pressure is 100 psi with air consumption of 92 scfm average and 117 scfm peak.

Design flyash transport capacity is a maximum of 4,000 lb/hr.

The silo operates with a vent fan capacity of 235 scfm. The silo operates at approximately 4"WG vacuum. The silo exhausts to a set of 16 FLAKT/Flex Kleen 90-UKE-16 filter bags. Each filter bag has a cloth area of 157 sq. ft. designed for pressures of + or - 17"WG.

The rotary feeder, dustless unloader and belt conveyor have a design capacity of 5 tons per hour. Water is supplied to the dustless unloader at 40 psig.

Operational checks made every shift are shown below.

#### Flyash Compressors/Air Supply


- Check oil levels and check for oil leaks
- Check for proper discharge pressures (120-140 psig)
- Check for air dryer and filter operation @ pressure drop less than 10 psi
- Check that backup compressor and dryer are ready for service
- Check for proper pressure from receiver tank to system (80 to 100 psi)
- Check for receiver tank air leaks

#### Flyash Storage Silo

- Check for continuous operation of silo vent fan and shaker
- Check controls for rotary and dustless unloaders and belt conveyor
- Check for leaks around silo and ash transport lines
- Clean area after operation of system

If you should have any questions or require additional information, please do not hesitate to contact me at (813)866-5158.

Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

Attachment

cc: George Richardson, Southwest District DEP  
Gary Robbins, Pinellas County  
Al Morneault, P.E., FPC

ODDLY  
ENOUGH,

# Department of Environmental Protection

## DIVISION OF AIR RESOURCES MANAGEMENT

### APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

**RECEIVED**  
JUN 12 1998  
Department of Environmental Protection  
SOUTHWEST DISTRICT

#### I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

#### Identification of Facility Addressed in This Application

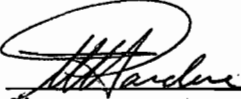
Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: <div style="text-align: right;">Florida Power Corporation</div>	
2. Site Name: <div style="text-align: center;">Bartow Plant</div>	
3. Facility Identification Number:      1030011      [ ] Unknown	
4. Facility Location: Street Address or Other Locator: Weedon Island City: St. Petersburg      County: Pinellas      Zip Code: 32462	
5. Relocatable Facility? [ ] Yes      [ X ] No	6. Existing Permitted Facility? [ X ] Yes      [ ] No

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	June 18, 1998
2. Permit Number:	1030011-005-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

**Owner/Authorized Representative or Responsible Official**

1. Name and Title of Owner/Authorized Representative or Responsible Official: W. Jeffrey Pardue, C.E.P., Director, Environmental Services Dept.
2. Owner/Authorized Representative or Responsible Official Mailing Address:  Organization/Firm: Florida Power Corporation Street Address: P.O. Box 14042 City: St. Petersburg State: FL Zip Code: 33711
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (813 ) 866 - 4387 Fax: (813 ) 866 - 4926
4. Owner/Authorized Representative or Responsible Official Statement:  <i>I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>   Signature _____ Date <u>6/12/98</u>

\* Attach letter of authorization if not currently on file.



**Purpose of Application and Category**

Check one (except as otherwise indicated):

**Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.**

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.
- Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: \_\_\_\_\_

- Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: \_\_\_\_\_

Operation permit to be revised: \_\_\_\_\_

- Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: \_\_\_\_\_

- Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

\_\_\_\_\_

**Category II: All Air Operation Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.**

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): \_\_\_\_\_

- Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

**Category III: All Air Construction Permit Applications for All Facilities and Emissions Units**

This Application for Air Permit is submitted to obtain:

- Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: A052-232464

- Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): \_\_\_\_\_

- Air construction permit for one or more existing, but unpermitted, emissions units.

**Application Processing Fee**

Check one:

Attached - Amount: \$ \_\_\_\_\_

Not Applicable.

**Construction/Modification Information**

<p>1. Description of Proposed Project or Alterations:</p> <p>The current fly ash conveying system is proposed to be modified to make the conveying system safer and more effective, as well as to make it easier to dispose of fly ash accumulated onsite. The current system drops fly ash to an open conveyor where it is then transported and dropped to an open pile on the ground. The ash is then later loaded from the pile to trucks for transport to a landfill. Piping the fly ash material directly to transportable containers for trucking to offsite disposal is a better procedure to reduce human exposure and minimize material handling.</p> <p>The proposed design is a closed system (refer to Attachment BA-EU6-X1). Fly ash will be conveyed directly from the ESP hoppers to a closed transportable containment vessel. The vessel will be vented back into the boiler.</p>
<p>2. Projected or Actual Date of Commencement of Construction:</p> <p>Construction will commence upon Department approval.</p>
<p>3. Projected Date of Completion of Construction:</p> <p>Completion within 30 days or less of commencement date.</p>

**Professional Engineer Certification**

<p>1. Professional Engineer Name: Jennifer L. Tillman Registration Number: 52125</p>
<p>2. Professional Engineer Mailing Address:</p> <p>Organization/Firm: Florida Power Corporation Street Address: 3201 34th St., S. City: St. Petersburg State: FL Zip Code: 33711</p>
<p>3. Professional Engineer Telephone Numbers: Telephone: (813) 866 - 5022 Fax: (813) 866 -4926</p>



4. Professional Engineer Statement:

*I, the undersigned, hereby certify, except as particularly noted herein\*, that:*

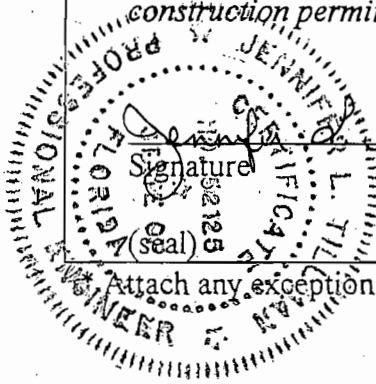
*(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and*

*(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.*

*If the purpose of this application is to obtain a Title V source air operation permit (check here [ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.*

*If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [ X ] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.*

*If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.*



*Jennifer L. Tillman* \_\_\_\_\_  
Signature Date

6/9/98

Attach any exception to certification statement.

**Application Contact**

1. Name and Title of Application Contact:	
Scott H. Osbourn, Senior Environmental Engineer	
2. Application Contact Mailing Address:	
Organization/Firm:	Florida Power Corporation
Street Address:	3201 34th St., S.
City:	St. Petersburg State: FL
	Zip Code: 33711
3. Application Contact Telephone Numbers:	
Telephone: (813) 866 - 5158	Fax: (813) 866 - 4926

**Application Comment**

## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

1. Facility UTM Coordinates: Zone: 17                      East (km): 342.4                      North (km): 3082.6			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 27 / 52 / 10                      Longitude: (DD/MM/SS): 82 / 35 / 59			
3. Governmental Facility Code:  0	4. Facility Status Code:  A	5. Facility Major Group SIC Code:  49	6. Facility SIC(s):
7. Facility Comment (limit to 500 characters):  The Bartow Facility consists of 3 fossil fuel steam gen, 1 pipeline heating blr, 1 fly ash sys, & 4 GT peaking units. The steam gen are fired with No.6 fuel oil, on-spec. used oil, & natural gas (Unit No.3) (distillate fuel oil is used as an ignitor; Unit No.2,3 use propane for flame stabilization). Peaking units are fired with No.2 fuel oil. Pipeline blr is fired with natural gas, propane or No.2 fuel oil. Three diesel gen, 820 kw each, can be relocated to this plant or 6 other FPC plants.			

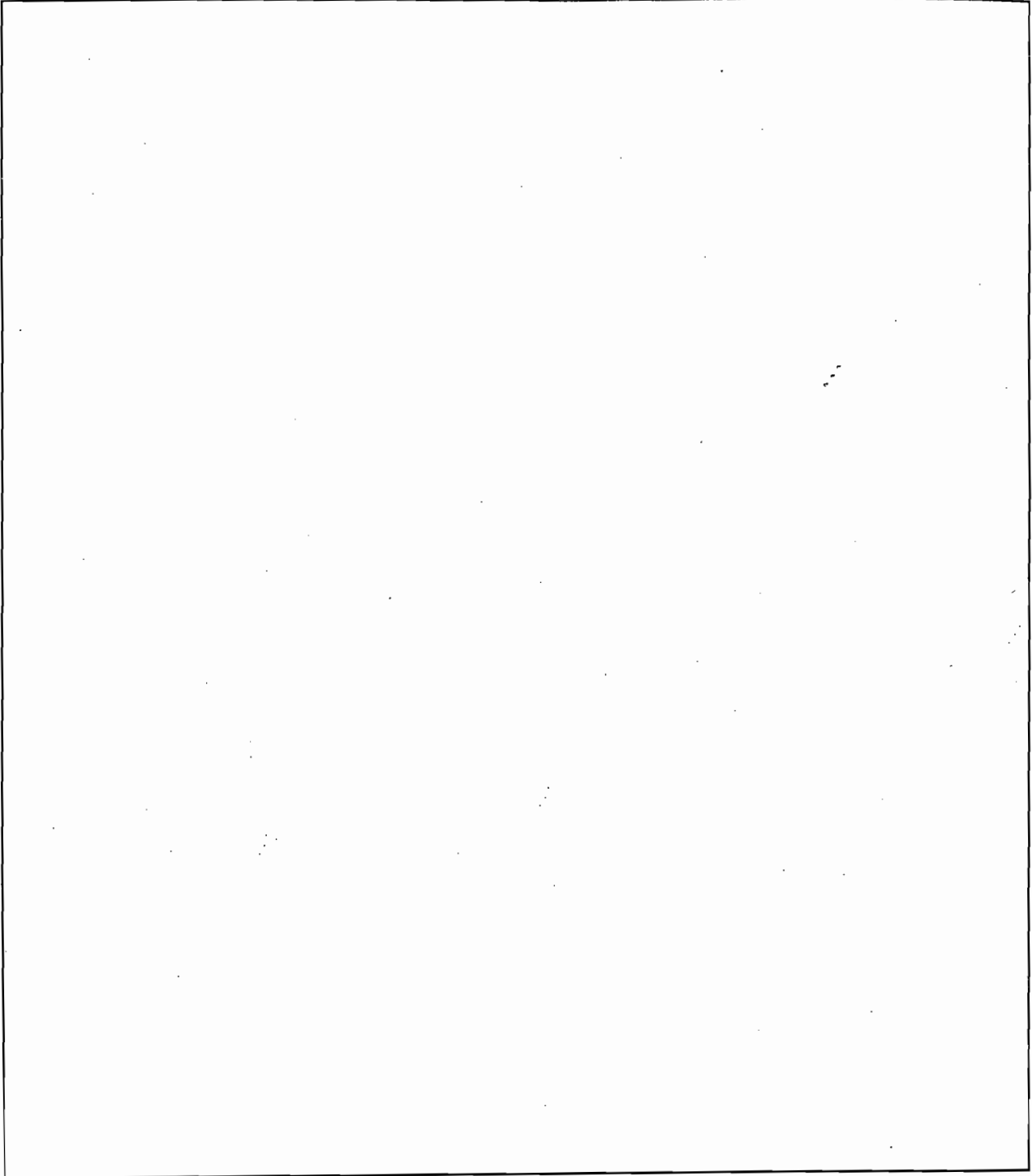
#### Facility Contact

1. Name and Title of Facility Contact: David T. Buell, Plant Manager
2. Facility Contact Mailing Address: Organization/Firm: Florida Power Corporation Street Address: P.O. Box 14042 City: St. Petersburg                      State: FL                      Zip Code: 33733
3. Facility Contact Telephone Numbers: Telephone: (813) 827-6102      Fax: (813) 827-6100



**B. FACILITY REGULATIONS**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment BA-FE-B

## C. FACILITY POLLUTANTS

### Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
SO2 Sulfur Dioxide	A
PM Particulate Matter - Total	A
PM10 Particulate Matter - PM10	A
NOx Nitrogen Oxides	A
CO Carbon Monoxide	A
VOC Volatile Organic Compounds	A
SAM Sulfuric Acid Mist	A
H133 Nickel Compounds	A
HAPS Total Hazardous Air Pollutants	A

## D. FACILITY POLLUTANT DETAIL INFORMATION

### Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

### Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		



**E. FACILITY SUPPLEMENTAL INFORMATION**

**Supplemental Requirements for All Applications**

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: <u>BA-FE-1</u> <input type="checkbox"/> Not Applicable <span style="float:right"><input type="checkbox"/> Waiver Requested</span>
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: <u>BA-FE-2</u> <input type="checkbox"/> Not Applicable <span style="float:right"><input type="checkbox"/> Waiver Requested</span>
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID(s): <u>BA-FE-3</u> <input type="checkbox"/> Not Applicable <span style="float:right"><input type="checkbox"/> Waiver Requested</span>
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input checked="" type="checkbox"/> Attached, Document ID: <u>BA-FE-4</u> <input type="checkbox"/> Not Applicable <span style="float:right"><input type="checkbox"/> Waiver Requested</span>
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: <u>BA-FE-5</u> <input type="checkbox"/> Not Applicable <span style="float:right"><input type="checkbox"/> Waiver Requested</span>
6. Supplemental Information for Construction Permit Application: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

7. List of Proposed Exempt Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. List of Equipment/Activities Regulated under Title VI: <input checked="" type="checkbox"/> Attached, Document ID: <u>BA-FE-8</u> <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input type="checkbox"/> Not Applicable
9. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

<p>11. Identification of Additional Applicable Requirements:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>12. Compliance Assurance Monitoring Plan:</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>BA-FE-12</u></p> <p><input type="checkbox"/> Not Applicable</p>
<p>13. Risk Management Plan Verification:</p> <p><input type="checkbox"/> Plan Submitted to Implementing Agency - Verification Attached Document ID: _____</p> <p><input checked="" type="checkbox"/> Plan to be Submitted to Implementing Agency by Required Date</p> <p><input type="checkbox"/> Not Applicable</p>
<p>14. Compliance Report and Plan</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input type="checkbox"/> Not Applicable</p>
<p>15. Compliance Statement (Hard-copy Required)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>BA-FE-15</u></p> <p><input type="checkbox"/> Not Applicable</p>

**ATTACHMENT BA-FE-B**  
**FACILITY REGULATIONS**

## ATTACHMENT BA-FE-B

## Applicable Requirements Listing - Power Plants

FACILITY: FPC Bartow Power Plant

## FDEP Rules:

## General Permits:

62-4.030

62-4.040(1)(a) - Exemptions from permitting

62-4.040(1)(b) - Exemptions from permitting

62-4.100

62-4.130

## Asbestos NESHAP:

62-204.800(8)(b)8.(State Only) - Asbestos Removal

62-204.800(8)(d) (State Only) - General Provisions (Asbestos)

## Stationary Sources-General:

62-210.300(2)

## Exemptions - Plant Specific:

- 62-210.300(3)(a)4. - comfort heating < 1 mmBtu/hr
- 62-210.300(3)(a)5. - mobile sources
- 62-210.300(3)(a)7. - non-industrial vacuum cleaning
- 62-210.300(3)(a)8. - refrigeration equipment
- 62-210.300(3)(a)9. - vacuum pumps for labs
- 62-210.300(3)(a)10. - steam cleaning equipment
- 62-210.300(3)(a)11. - sanders < 5 ft<sup>2</sup>
- 62-210.300(3)(a)12. - space heating equip.; (non-boilers)
- 62-210.300(3)(a)14. - bakery ovens
- 62-210.300(3)(a)15. - lab equipment
- 62-210.300(3)(a)16. - brazing, soldering or welding
- 62-210.300(3)(a)17. - laundry dryers
- 62-210.300(3)(a)20. - emergency generators < 32,000 gal/yr
- 62-210.300(3)(a)21. - general purpose engines < 32,000 gal.yr
- 62-210.300(3)(a)22. - fire and safety equipment
- 62-210.300(3)(a)23. - surface coating > 5% VOC; 6 gal/month
- 62-210.300(3)(a)24. - surface coating < 5% VOC
- 62-210.300(3)(b) - Temporary Exemptions
- 62-210.370(3) - AOR's
- 62-210.900(5) - AOR Form

## Title V Permits:

- 62-213.205(1)(a) - Fees
- 62-213.205(1)(b)
- 62-213.205(1)(c)
- 62-213.205(1)(e)
- 62-213.205(1)(f)
- 62-213.205(1)(g)
- 62-213.205(1)(i)
- 62-213.205(1)(j)
- 62-213.400 - Permits/Revisions
- 62-213.410 - Changes without permit revisions
- 62-213.420.(1)(b)2. - Permits-allows continued operation
- 62-213.420.(1)(b)3. - Permits-additional information
- 62-213.460 - Permit Shield
- 62-213.900(1) - Fee Form

## Open Burning:

- 62-256.300 - Prohibitions
- 62-256.500 - Land Clearing
- 62-256.700 - Open burning Allowed

## Asbestos Removal:

- 62-257.301 - Notification and Fee
- 62-257.400 - Fee Schedule
- 62-257.900 - Form

## Stationary Sources-Emission Standards:

- 62-296.320(2) (State Only) - Odor
- 62-296.320(3)(b)(State Only) - Emergency Open Burning
- 62-296.320(4)(b) - General VE Standard
- 62-296.320(4)(c) - Unconfined Emissions of Particulate Matter

## Stationary Sources-Emission Monitoring

- 62-297.310(7)(a)10. - Exemption of annual VE for 210.300(3)(a) sources/Gen. Per.

## Federal Regulations:

## Asbestos Removal:

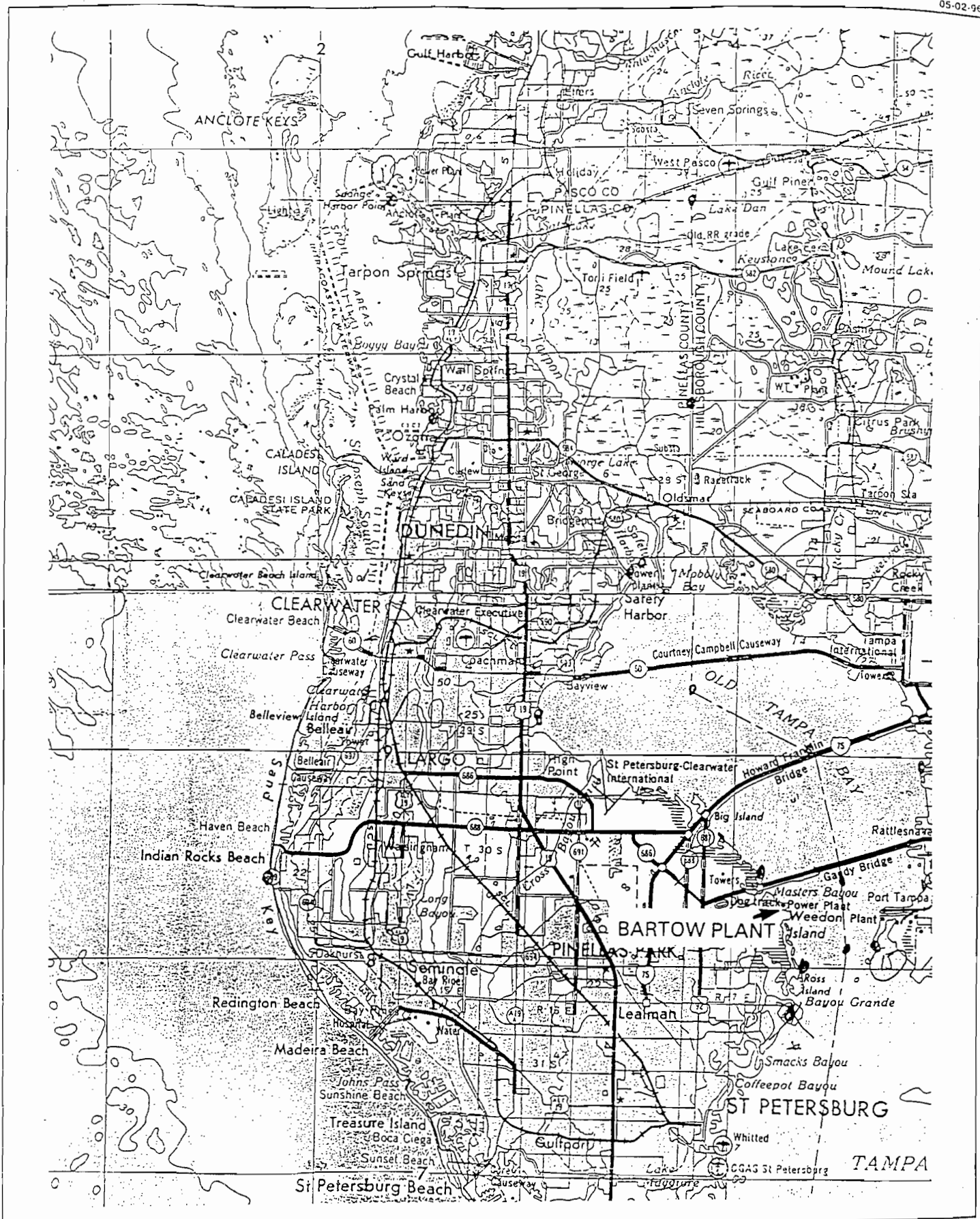
- 40 CFR 61.05 - Prohibited Activities
- 40 CFR 61.12(b) - Compliance with work practice standard
- 40 CFR 61.14 - Monitoring Requirements (if required)
- 40 CFR 61.19 - Circumvention

40 CRF 61.145  
40 CFR 61.148

- Demolition and Renovation
- Standard for Insulating Material

**ATTACHMENT BA-FE-1**

**AREA MAP**



Attachment BA-FE-1  
 Florida Power Corporation, Bartow Plant

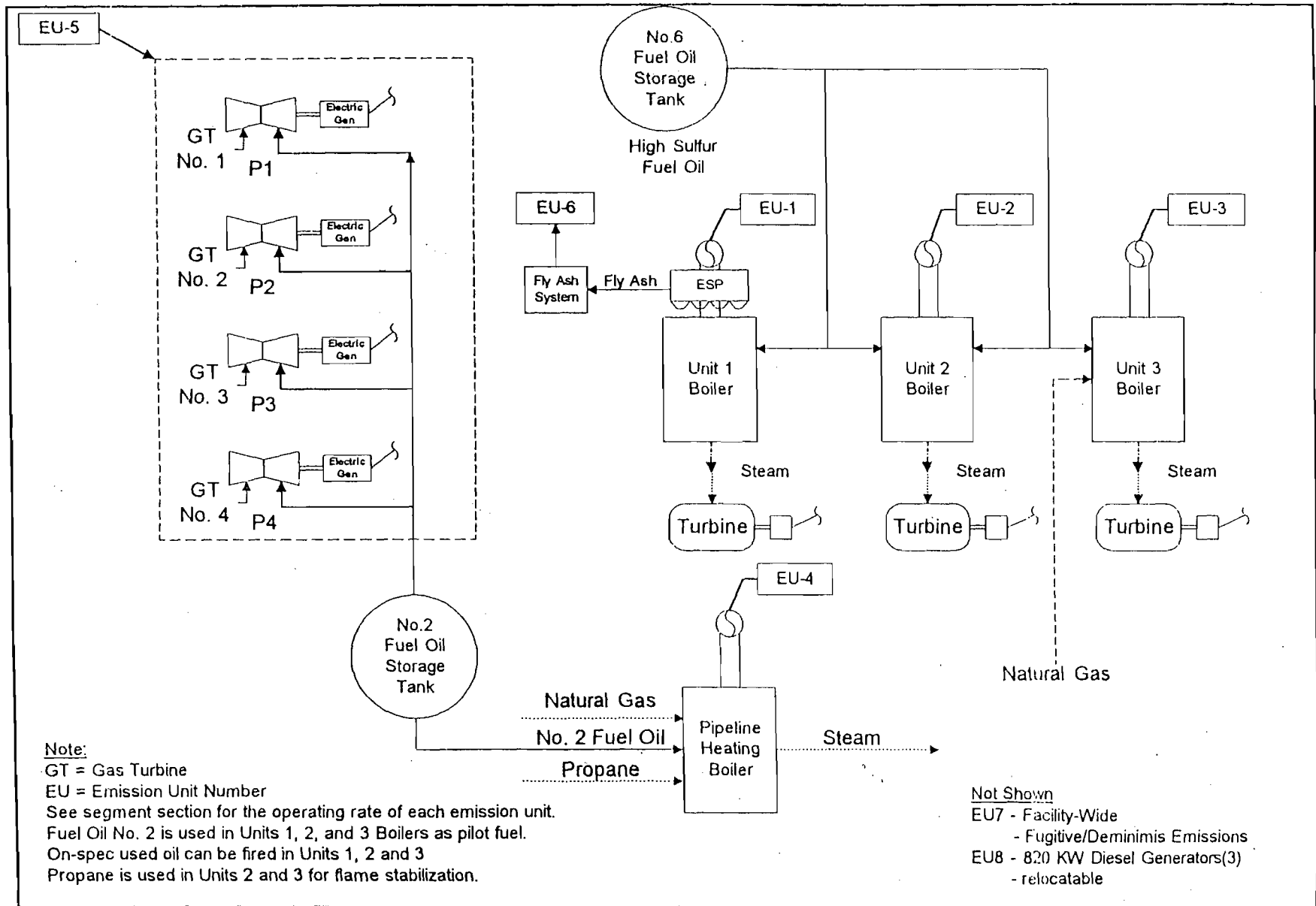


**ATTACHMENT BA-FE-2**

**FACILITY PLOT PLAN**



**ATTACHMENT BA-FE-3**  
**PROCESS FLOW DIAGRAM**



<b>Process Flow Legend</b> 	<b>Florida Power Corporation, Bartow Plant</b> <b>Process Flow Diagram</b>	<b>Emission Unit:</b> Overall Plant	
		<b>Process Area:</b> Overall Plant	
		<b>Filename:</b> FPCBA.VSD	
		<b>Latest Revision Date:</b> 6/1/96 11:43 AM	

**ATTACHMENT BA-FE-4**

**PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE  
MATTER**

**ATTACHMENT BA-FE-4**  
**PRECAUTIONS TO PREVENT EMISSIONS**  
**OF UNCONFINED PARTICULATE MATTER**

The facility has negligible amounts of unconfined particulate matter as a result of the operation of the facility. Potential examples of particulate matter include:

- Fugitive dust from paved and unpaved roads, and
- Fugitive particulates from the use of bagged chemical products.

Operational measures are undertaken at the facility which also minimize particulate emissions, in accordance with 62-296.310(3), F.A.C.:

- Maintenance of paved areas as needed,
- Regular mowing of grass and care of vegetation, and
- Limiting access to plant property by unnecessary vehicles.

**ATTACHMENT BA-FE-5**  
**FUGITIVE EMISSIONS IDENTIFICATION**

ATTACHMENT BA-FE-5  
FUGITIVE EMISSIONS IDENTIFICATION

Many fugitive emissions at the plant site have been classified as "trivial activities" (as presented in EPA's memorandum, "White Paper for Streamlined Development of Part 70 Permit Applications," July 10, 1995). As a result, these activities are not included as part of this permit application. For example, emissions from general plant maintenance and upkeep activities at the facility would be considered fugitive emissions, but have been judged to be trivial since these activities are not conducted as part of a manufacturing process, not related to the source's primary business activity, and do not otherwise trigger a permit modification.

Fugitive emissions that may result from the operation of activities that are not trivial at the facility are addressed in Emission Unit No. 7. This emission unit contains information on fugitive emissions that occur on a facility-wide basis. A summary of potential fugitive/*de minimis* emission sources at the facility is presented in the following sections.

Criteria and Precursor Air Pollutants

FPC has not identified fugitive emission of sulfur dioxide, nitrogen oxides, carbon monoxide, or lead compounds which would exceed the thresholds defined in the permit application instructions.

Volatile Organic Compounds (VOCs)

Fugitive/*de minimis* emissions of VOCs include those resulting from the use of cleaners and solvents for maintenance and operation. VOCs are also emitted by the various fuel oil storage tanks on the plant property, and generator and turbine lube oil vents.

Fugitive HAPs Emissions

The following hazardous air pollutants are or may be present on the facility property and are potential sources of fugitive HAPs emissions:

- asbestos
- benzene
- chlorine
- hydrazine
- hydrochloric acid
- mercury compounds
- methyl ethyl ketone
- toluene
- xylene



**Asbestos** - Present in gasket material, pipe insulation, and various other locations. The facility complies with the federal NESHAPS (40 CFR 61 Subpart M) and state rules (62-257, F.A.C.) governing the abatement of asbestos-containing materials. No releases of asbestos are expected for the facility.

**Benzene** - Present in unleaded gasoline. The facility maintains a storage tank for unleaded gasoline. These emissions have been calculated to be significantly less than 1 TPY.

**Chlorine** - Used for water treatment at the facility.

**Hydrazine** - Hydrazine solution may be used for the treatment of boiler water.

**Hydrochloric Acid** - The facility may utilize hydrochloric acid in the chemistry laboratory for use in analytical procedures.

**Mercury Compounds** - The facility uses mercury-containing compounds in the chemistry laboratory for use in analytical procedures and flow-measuring equipment.

**Methyl Ethyl Ketone, Toluene, Xylene** - The facility uses paint thinners and solvents (which may contain MEK, toluene, or xylene) for use in plant maintenance activities. These containers are kept closed and are stored in weather-tight buildings. These emissions as a whole are addressed in the VOC section (preceding page).

#### Regulated Toxic or Flammable Substances

The following regulated toxic or flammable substances are or may be present at the FPC facility:

- ammonia (aqueous, concentration 20 percent or greater)
- chlorine
- hydrazine
- hydrochloric acid
- nitric acid
- acetylene

**Ammonia** - Used for boiler water treatment.

**Chlorine, Hydrazine, Hydrochloric Acid** - Considered on the preceding page.

**Nitric Acid** - Nitric acid may be used in the chemistry laboratory for use in analytical procedures.

**Acetylene** - Present on the facility property in 250-lb cylinders which are used for plant maintenance (welding and cutting).

**ATTACHMENT BA-FE-8**

**LIST OF EQUIPMENT/ACTIVITIES REGULATED UNDER TITLE VI**

ATTACHMENT BA-FE-8  
LIST OF EQUIPMENT/ACTIVITIES - TITLE VI

The Bartow Plant currently has two air conditioning units on the plant facility, which meet the 50-pound threshold established by the Department.

<u>Model Name</u>	<u>Unit Number</u>	<u>Serial Number</u>	<u>Amount (lb)</u>
CAR	A01-Chiller S.	740015	150
CAR	A02-Chiller N.	4283PA8448	150

ATTACHMENT BA-FE-12

COMPLIANCE ASSURANCE MONITORING PLAN

ATTACHMENT BA-FE-12

Compliance Assurance Monitoring Plan to be submitted to implementing agency by required date.

**ATTACHMENT BA-FE-15**  
**COMPLIANCE STATEMENT**

ATTACHMENT BA-FE-15  
COMPLIANCE STATEMENT

I, the undersigned, am the responsible official as defined in Chapter 62-213, F.A.C., of the Title V source for which this report is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made and data contained in this report are true, accurate, and complete.



\_\_\_\_\_  
Signature, Responsible Official

6/12/78  
Date

W. Jeffrey Pardue, C.E.P., Director, Environmental Services Department



### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

#### A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

##### Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[ X ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[ X ] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters):  Bartow No. 1 - Fly Ash System		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown 009		
3. Emissions Unit Status Code: c	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters):  The emission unit ID No. given here (009), corresponds to the fly ash system as it is currently configured.  This section addresses the <u>proposed</u> fly ash system configuration. The current system is described in Attachment BA-EU6-X2.		

**Emissions Unit Control Equipment**

**A.**

1. Description (limit to 200 characters):  This is a closed system that is vented back into the boiler (refer to Attachment BA-EU6-X1).
2. Control Device or Method Code:

**B.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units Only)**

**Emissions Unit Details**

1. Initial Startup Date:	Upon Department approval	
2. Long-term Reserve Shutdown Date:		
3. Package Unit:	Refer to Attachment BA-EU6-X1	
Manufacturer:		Model Number:
4. Generator Nameplate Rating:		MW
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:	203.5 ton/yr *	
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):	<p>* Maximum rate is based on maximum fuel flow (187 bbl/hr), fuel density (8.65 lb/gal), fuel avg % ash (0.076) and 90% of ash recovered by ESP.</p> $\frac{(187 \text{ bbl})}{(\text{hr})} \cdot \frac{(42 \text{ gal})}{(\text{bbl})} \cdot \frac{(8.65 \text{ lb})}{(\text{gal})} \cdot \frac{(0.076)}{(100)} \cdot \frac{(.90)}{1} \cdot \frac{(8760 \text{ hr})}{(\text{yr})} \cdot \frac{(\text{ton})}{(2000 \text{ lb})} = 203.5 \text{ ton/yr}$	

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

**D. EMISSIONS UNIT REGULATIONS**  
**(Regulated Emissions Units Only)**

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment BA-EU6-D	In addition, the following apply:
	62-210.360(4)
	62-213.430(1)
	62-213.410(2)

**E. EMISSION POINT (STACK/VENT) INFORMATION**  
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:	
2. Emission Point Type Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):  <p>This is a closed system. The containment vessel is vented into the boiler (Refer to Attachment BA-EU6-X1).</p>	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: <p>N/A</p>	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input checked="" type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	feet
7. Exit Diameter:	feet
8. Exit Temperature:	°F

9. Actual Volumetric Flow Rate:	acfm
10. Percent Water Vapor :	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone:                      East (km):                      North (km):	
14. Emission Point Comment (limit to 200 characters):  Refer to Item 3 on page 23.	



**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
(Regulated and Unregulated Emissions Units)Segment Description and Rate: Segment  1  of  1 

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  Mineral products - Bulk materials, storage bins.	
2. Source Classification Code (SCC): 3-05-102-99	
3. SCC Units: Tons processed	
4. Maximum Hourly Rate: 0.02	5. Maximum Annual Rate: 203.5
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

Segment Description and Rate: Segment \_\_\_\_\_ of \_\_\_\_\_

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
 (Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted:	PM		
2. Total Percent Efficiency of Control:	Closed system	%	
3. Potential Emissions:	lb/hour	tons/year	
4. Synthetically Limited?	[ x ] Yes      [ ] No		
5. Range of Estimated Fugitive/Other Emissions:	_____ to _____ tons/year		
6. Emission Factor:	Reference:		
7. Emissions Method Code:	[ ] 0	[ ] 1	[ ] 2      [ ] 3      [ ] 4      [ ] 5
8. Calculation of Emissions (limit to 600 characters):			
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	Qualifies for RACT exemption with emission limit.		

Allowable Emissions (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		
<p style="padding-left: 40px;">Permit limit, RACT exemption; Rule 17-296.700(2)(C), F.A.C.</p>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)

Visible Emissions Limitation: Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity:		<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hour
4. Method of Compliance:			
5. Visible Emissions Comment (limit to 200 characters):			

Visible Emissions Limitation: Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity:		<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hour
4. Method of Compliance:			
5. Visible Emissions Comment (limit to 200 characters):			

**J. CONTINUOUS MONITOR INFORMATION**  
(Regulated Emissions Units Only)

Continuous Monitoring System: Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System: Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

**1. Increment Consuming for Particulate Matter or Sulfur Dioxide?**

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.



2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input type="checkbox"/> ] C	<input type="checkbox"/> ] E	<input type="checkbox"/> ] Unknown
SO2	<input type="checkbox"/> ] C	<input type="checkbox"/> ] E	<input type="checkbox"/> ] Unknown
NO2	<input type="checkbox"/> ] C	<input type="checkbox"/> ] E	<input type="checkbox"/> ] Unknown
4. Baseline Emissions:			
PM	lb/hour	tons/year	
SO2	lb/hour	tons/year	
NO2		tons/year	
5. PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

**Supplemental Requirements for All Applications**

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID <u>BA-EU6-X1</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____  <input type="checkbox"/> Previously submitted, Date: _____  <input type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <u>BA-EU6-X2</u> (Description of current fly ash system)
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Application (Hard-copy Required)  <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____  <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____  <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____  <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____  <input type="checkbox"/> Not Applicable

ATTACHMENT BA-EU6-X1

DESCRIPTION OF PROPOSED FLY ASH SYSTEM

11C-735-094-006

2"

11C-735-094-006

2"


VENT INTO BOILER 2"

2" ASH INLET QUICK DISCONNECT

2" QUICK DISCONNECT

CLOSED/SEALED ROLL-OFF CONTAINMENT FOR OFF SITE DISPOSAL AT APPROVED WASTE DISPOSAL SITE

NOTE: 1. CLOSED SYSTEM 2. DRAWING REPLACES FLAKT, INC. DRAWING #AC-11C-735-094-007

1		ISSUED TO REPLACE FLAKT DWG. #AC-11C-735-094-007		MJC	JNC	5-28-98	NTS
NO.	DESCRIPTION	DRAWN	CHKD	APPR.	DATE		
REVISIONS							
 <b>FLORIDA POWER CORPORATION</b>		ENERGY SUPPLY					
		BARTOW PLANT- UNIT 1					
		DISPOSAL STORAGE OF FLY ASH					
MJC	RMN	JNC	5-28-98	NTS			
DRAWN	CHKD.	APRVD.	DATE	SCALE			
S	1	BA1-M82-B				1	
DISC.	SHEET	DWG.			REV.		

FILE: BA1M82B.DWG

ATTACHMENT BA-EU6-X2

DESCRIPTION OF CURRENT FLY ASH SYSTEM

**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

**B. GENERAL EMISSIONS UNIT INFORMATION**  
(Regulated and Unregulated Emissions Units)Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Bartow No.1-Fly Ash System		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown 009		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [x] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters):		



Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):  Fabric Filter - Low Temperature
2. Control Device or Method Code: 18

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

Emis Pnt Desc:

---

**C. EMISSIONS UNIT DETAIL INFORMATION**  
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit:		
Manufacturer: Flakt/Flex Kleen, Inc.	Model Number: 90-VKE-16	
4. Generator Nameplate Rating:		MW
5. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	4,000	lb/hr
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
<b>Design fly ash transfer capacity</b>		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
24	hours/day	7
		days/week
52	weeks/yr	8,760
		hours/yr

**D. EMISSIONS UNIT REGULATIONS**  
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment BA-EU6-D

**E. EMISSION POINT (STACK/VENT) INFORMATION  
(Regulated Emissions Units Only)**

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU6	
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Emissions exhaust through a single stack	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not Applicable	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	25 feet
7. Exit Diameter:	0.9 feet
8. Exit Temperature:	77 °F

9. Actual Volumetric Flow Rate:	5 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone: 17	East (km): 342.4      North (km): 3082.6
14. Emission Point Comment (limit to 200 characters):	

**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
 (Regulated and Unregulated Emissions Units)

**Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>Mineral Products - Bulk materials, storage bins</b>	
2. Source Classification Code (SCC):  <b>3-05-102-99</b>	
3. SCC Units:  <b>Tons Processed</b>	
4. Maximum Hourly Rate:  <b>2</b>	5. Maximum Annual Rate:  <b>17,520</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	



Segment Description and Rate: Segment \_\_\_\_\_ of \_\_\_\_\_

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

**G. EMISSIONS UNIT POLLUTANTS**  
 (Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018		EL

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM</b>	
2. Total Percent Efficiency of Control:	<b>99 %</b>
3. Potential Emissions:	<b>1 lb/hour                      0.35 tons/year</b>
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr	
6. Emission Factor: <b>1 lb/hr</b>  Reference: <b>Vendor</b>	
7. Emissions Method Code:  <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):  <b>Permit condition</b>	
9. Pollutant Potential/Estimated Emissions-Comment (limit to 200 characters):  <b>Qualifies for RACT exemption with emission limit.</b>	

Emissions Unit Information Section 6 of 8  
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 1 lb/hr		
4. Equivalent Allowable Emissions:	1 lb/hour	0.35 tons/year
5. Method of Compliance (limit to 60 characters): Opacity limit, 5% or less		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Permit limit, RACT exemption, Rule 17-296.700(2)(c), F.A.C.; VE accepted by Rule 62-297.620(4).		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION**  
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 1

1.	Visible Emissions Subtype: <b>VE05</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: <b>5</b> %      Exceptional Conditions:      % Maximum Period of Excess Opacity Allowed:      min/hour
4.	Method of Compliance: <b>Annual compliance test - EPA Method 9</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>VE test duration 30 minutes. Rule 62-297.620(4), F.A.C. VE test conducted when hoppers are full and unit is soot-blowing.</b>

Visible Emissions Limitations: Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions:      %      Exceptional Conditions:      % Maximum Period of Excess Opacity Allowed:      min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

**J. CONTINUOUS MONITOR INFORMATION**  
 (Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

## 2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:		
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4.	Baseline Emissions:		
PM	lb/hour		tons/year
SO <sub>2</sub>	0 lb/hour		0 tons/year
NO <sub>2</sub>			0 tons/year
5.	PSD Comment (limit to 200 characters):		



**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**  
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>BA-EU6-L1</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
2.	Fuel Analysis or Specification	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
3.	Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: <u>BA-EU6-L3</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
4.	Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
5.	Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Not Applicable
		<input checked="" type="checkbox"/> Previously Submitted, Date: <u>22 Feb 1996</u>	
6.	Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7.	Operation and Maintenance Plan	<input checked="" type="checkbox"/> Attached, Document ID: <u>BA-EU6-L7</u>	<input type="checkbox"/> Not Applicable
8.	Supplemental Information for Construction Permit Application	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
9.	Other Information Required by Rule or Statute	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input checked="" type="checkbox"/> Attached, Document ID: <u>BA-EU6-L12</u> <input type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required)  <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____  <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____  <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____  <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____  <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT BA-EU6-D  
EMISSION UNIT REGULATIONS

ATTACHMENT BA-EU6-D

EMISSION UNIT REGULATIONS

Master Applicable Requirements Listing - Power Plants (5/13/96)

EMISSION UNIT: EU6: Unit 1 Fly Ash System- FPC Bartow Plant

FDEP Rules:

Stationary Sources-General:

- 62-210.650 - Circumvention
- 62-210.700(1)
- 62-210.700(4) - Maintenance
- 62-210.700(6)

Stationary Sources-Emission Standards/RACT:

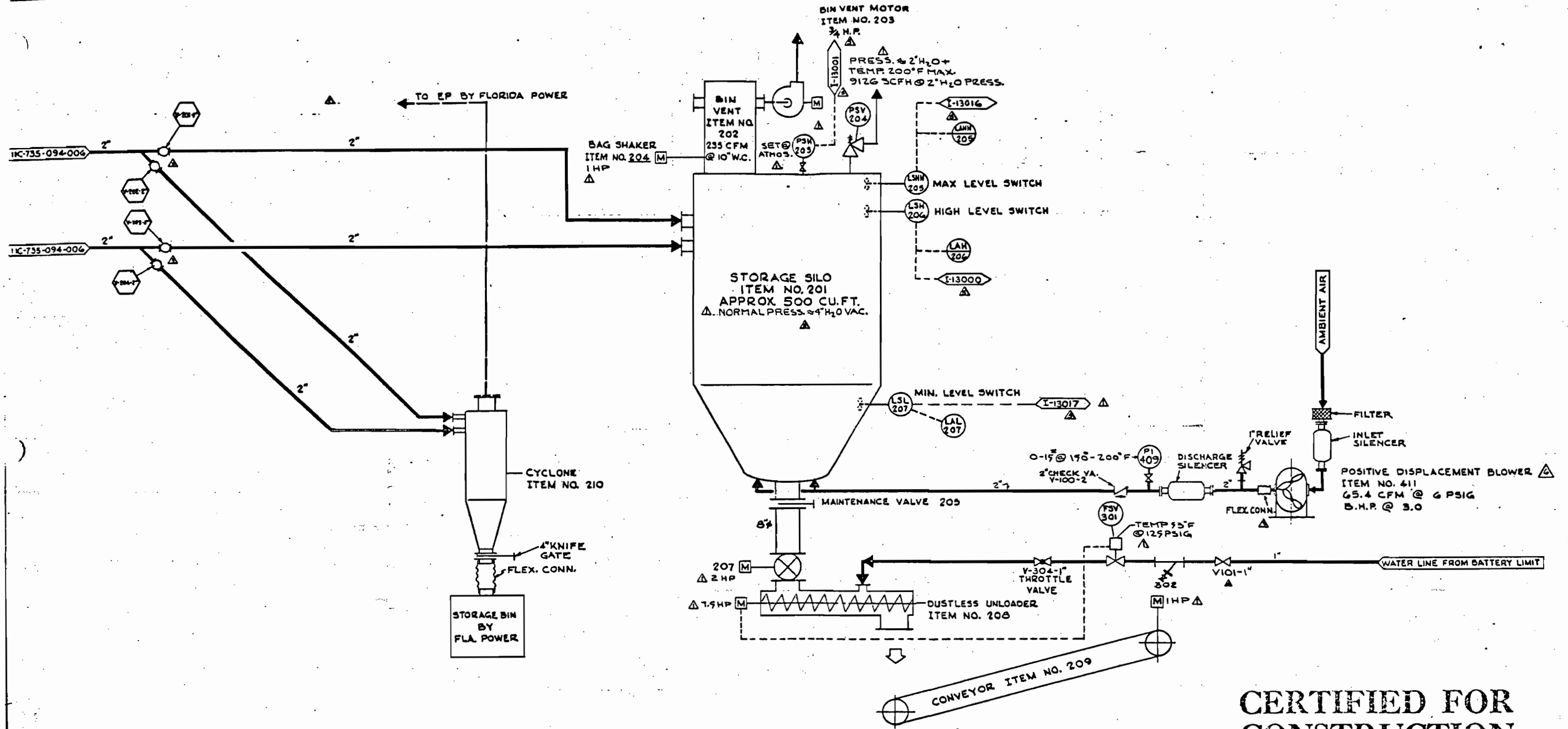
- 62-296.320(4)(a)(State Only)- Process Weight- (Unit has specific Limit for RACT)
- 62-296.320(4)(b)(State Only)- General VE

Stationary Sources-Emission Monitoring:

- 62-297.310(2)(b) - Operating Rate
- 62-297.310(4)(a)2. - Applicable Test Procedures; Sampling time
- 62-297.310(5) - Determination of Process Variables
- 62-297.310(7)(a)3. - Permit Renewal Test Required
- 62-297.310(7)(a)4.
- 62-297.310(7)(a)9. - FDEP Notification - 15 days
- 62-297.310(8) - Test Reports
- 62-297.620(4) - 5% Opacity in lieu of PM test

ATTACHMENT BA-EU6-L1

PROCESS FLOW DIAGRAM

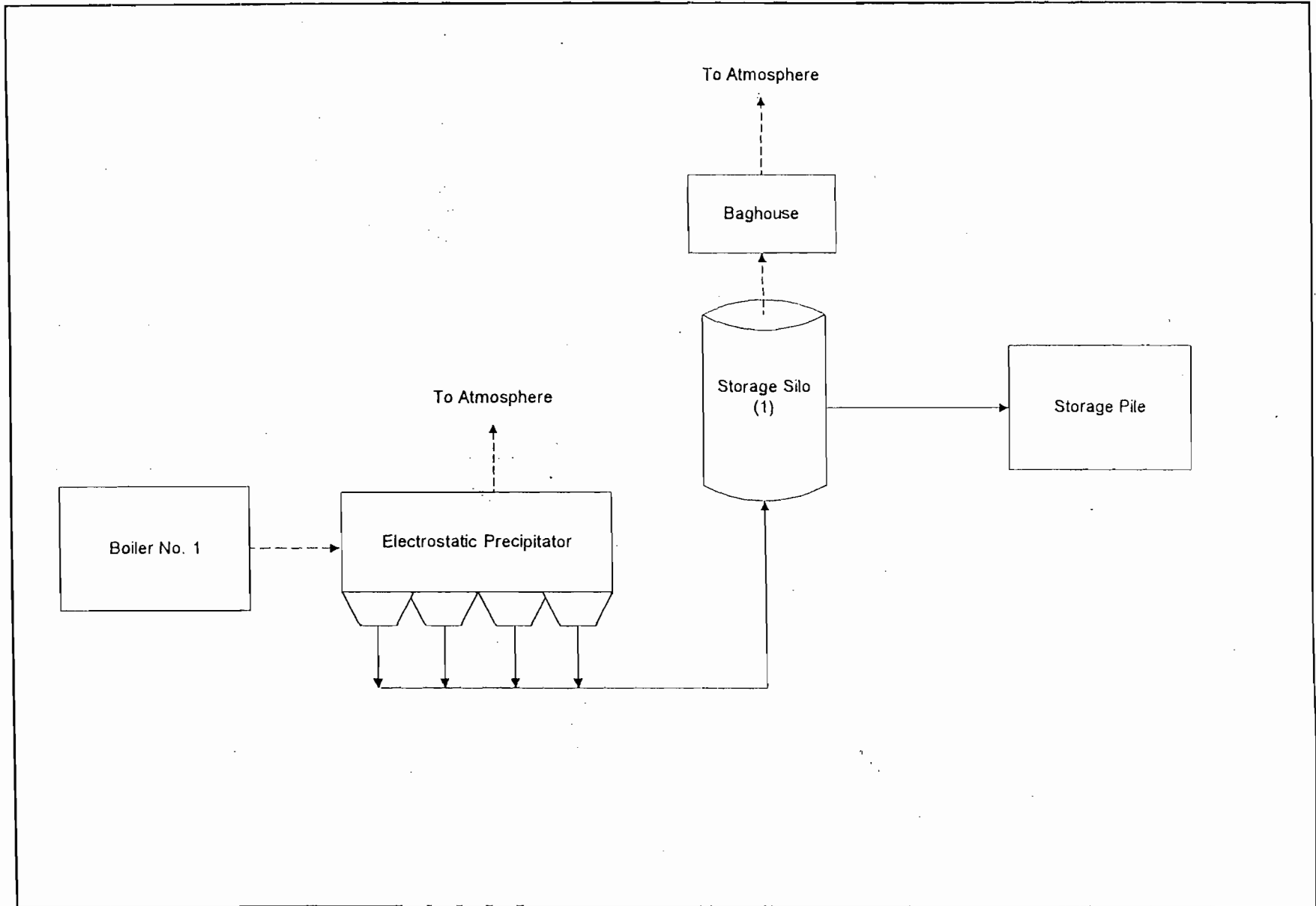


**CERTIFIED FOR CONSTRUCTION**

**NOTE:** TO DEPAC CONTROL INTERLOCK SYSTEM

REV	REVISIONS	DATE	BY	CHKD
6	BLOWER ITEM 411 WAS 410	11/18/81	JJ	JJ
5	ADDED INTERLOCK REL. AND CHANGE N.A. FROM 1.5 TO 2.0	11/18/81	JJ	JJ
4	CHANGED 1" INLET GATE	11/18/81	JJ	JJ
3	DELETED WAT. FILTER FOR REVISED BLOWER SYSTEM REDUCED SIO VOLUME FROM 500 CU. FT. ALSO DELETED AUTO VALVE AND DIVERTER VALVES	11/18/81	JJ	JJ
2	ISSUED FOR CONSTRUCTION	11/18/81	JJ	JJ
1	AS NOTED	11/18/81	JJ	JJ
0	FOR APPROVAL	11/18/81	JJ	JJ

ITEM	QUANTITY	DESCRIPTION	DWG NO OR DIM	MATERIAL	WEIGHT
<b>Flakt, Inc.</b>					
<b>FLAKT, INC.</b>					
FLAKT, INC. REF NO	C-181-735.094	DATE	7/23/81	FLORIDA POWER CORPORATION	
CUSTOMER REFERENCE	RO, B-41174	DRAWN	E.L.	COM PROJECT-BARTOW STA-UNIT NO.	
SCALE		CHKD	JJ	FLAKT DEPAC™ SYSTEM	
REFERENCE DWG		DWG NO		DIPING & INSTRUMENTATION DIAGRAM	
NEXT ASSEMBLY		SUB NO		AC-11C-735-094-007	6



Process Flow Legend	
	Steam Flow
	Gas Flow
	Solid / Liquid Flow

Florida Power Corporation,  
Bartow Plant  
Process Flow Diagram

Emission Unit: Boiler No. 1 Fly Ash System
Process Area: Overall Plant
Filename: FPCBA.VSD
Latest Revision Date: 6/4/96 02:05 PM



**KBN**

Engineering and Applied Sciences, Inc.

ATTACHMENT BA-EU6-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT



ATTACHMENT BA-EU6-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Bartow Unit 1 Fly Ash System Silo

The silo is located in an area south of the plant in a control discharge area for fly ash.

The emissions from the silo is controlled by a Flakt/Flex Kleen, Inc. Model 90 uke-16-cloth filtration bag house. This system has the following parameters:

Area of filtration:	157 sq. ft.
Number of bags:	16
Fan capacity:	235 cu. ft.
Pressure across bags:	17 in H <sub>2</sub> O
Removal Efficiency:	99.9%
System Capacity:	4,000 lb/hr

**ATTACHMENT BA-EU6-L7**

**OPERATION AND MAINTENANCE PLAN**

**[See Attachment BA-EU6-L12, Air Operating Permit No. AO52-232464,  
Specific Condition No. 12 and Amendments]**

ATTACHMENT BA-EU6-L12

IDENTIFICATION OF ADDITIONAL APPLICABLE REQUIREMENTS

### ADDITIONAL APPLICABLE REQUIREMENTS

Applicable Requirements as defined in Rule 62-210.200(29) not identified in Section D of this emission unit section are included in this attachment of the application. Any air operation permit issued by the Department (or local program designee) and included in this attachment is provided for information purposes. The specific conditions of the operating permit are not Applicable Requirements as defined in Rule 62-210.200(29) unless implementing a specific Applicable Requirement of the Department's rules (e.g., emission limitations).



Florida Department of  
Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619  
813-744-6100

Virginia B. Wetherell  
Secretary

NOTICE OF PERMIT AMENDMENT

RECEIVED

JAN 21 1994

Environmental Svcs  
Department

CERTIFIED MAIL

Mr. W. Jeffrey Pardue  
Manager, Environmental Programs  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733 /

Dear Mr. Pardue:

Re: Pinellas County - AP  
Bartow Plant Unit No. 1 Fly Ash System  
Permit Amendment  
AO52-232464

The Department is in receipt of a request dated 9/14/93 from Mr. Scott H. Osbourn, Senior Environmental Engineer, Florida Power Corporation, to amend the above referenced air operation permit which was issued on 8/30/93. The permit has been amended as follows:

DESCRIPTION, Changed to read as follows:

For the operation of Bartow Plant Unit No. 1 Fly Ash System. The design fly ash transfer capacity of the system to the storage silo is 4,000 pounds/hour. Emissions from the storage silo are controlled by a Flakt/Flex Kleen, Inc., Model 90-UKE-16 baghouse having a set of 16 filter bags. Each filter bag has a cloth filtration area of 157.0 square feet. The storage silo operates with a fan vent capacity of 235.0 scfm.

SPECIFIC CONDITION NO. 4, Changed to read as follows:

4. The fly ash system storage silo shall be tested for visible emissions annually within 60 days prior to May 01. The compliance test report shall be submitted within 45 days after completion of the test to the Air Section of the Department's Southwest District Office and the Pinellas County Department of Environmental Management, Air Quality Division (Rules 17-297.340(1)(a) and 17-297.450(2), F.A.C.).

REVISED O & M PLAN:

The revised O & M Plan submitted on 9/14/93 for this source is being incorporated into the permit, replacing the existing O & M Plan.

A person whose substantial interests are affected by this permit amendment may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 within 14 days of receipt of this permit amendment.

Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative proceeding (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's 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 subsequent 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.

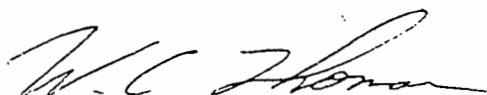
If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit amendment. Persons whose substantial interests will be affected by any decision of the Department with regard to the permit amendment have a 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 permit amendment, in the Office of General Counsel at the above address of the Department. Failure to petition within the allotted time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes, and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

This permit amendment is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for an 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, Florida Administrative Code.

Upon timely filling of a petition or a request for an extension of time this permit amendment will not be effective until further Order of the Department. When the Order (Permit Amendment) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellant 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.

This amendment letter must be attached to and becomes a part of permit number A052-232464. If you have any questions, please contact George Richardson in the Air Permitting Section at (813)744-6100, Ext. 420.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
For Dr. Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District

3804 Coconut Palm Drive  
Tampa, FL 33619-8318  
(813)744-6100

cc: Pinellas County Department of Environmental Management  
Albert W. Morneault, P.E., Florida Power Corporation  
Scott H. Osbourn, Florida Power Corporation

CERTIFICATE OF SERVICE

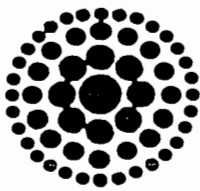
The undersigned duly designated Deputy Department Clerk hereby certifies that this Notice of Permit Amendment and all copies were mailed by certified mail before the close of business on JAN 18 1994 to the listed persons.

FILING AND ACKNOWLEDGEMENT

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

  
Clerk

JAN 18 1994  
Date



**Florida  
Power**  
CORPORATION

bcc: B. J. Covey  
C. M. Forte  
G. E. Marks

File: BARA.1.1(3)

September 14, 1993

Dr. Richard Garrity  
Florida Department of Environmental Protection  
Southwest District  
3804 Coconut Palm Dr.  
Tampa, Florida 33619

Dear Dr. Garrity:

Re: Renewal of Air Permit for Florida Power Corporation Bartow Unit 1 Fly Ash System  
(Permit No. AO52-232464)

On September 1, 1993, Florida Power Corporation (FPC) received from the Department a renewed air permit for the above-referenced facility. This letter serves to transmit FPC's comments on the air operating permit renewal.

On page 1 of 4, the DEP made several changes in the description of the fly ash and storage silo system. Apparently, these changes are reflective of additional information submitted on these systems by FPC in fulfillment of the DEP's RACT O&M requirement. The second paragraph currently reads as follows: "Emissions from the storage silo are controlled by a Flakt, Inc. Model 90-UKE-16 Arrangement II baghouse having a set of 16 filter bags." This sentence should be revised to read: "Emissions from the storage silo are controlled by a Flakt/Flex Kleen, Inc. Model 90-UKE-16 baghouse having a set of 16 filter bags."

Specific Condition 4 currently states that the fly ash system storage silo shall be tested for visible emissions annually within 60 days *prior* to March 16. FPC requests that the wording be changed to state "within 60 days *of* March 16."

Finally, FPC has attached a revised O&M plan for inclusion in the permit. The only changes made were to revise the permit number in the title heading of the O&M Plan and to clean up the tabular format on the maintenance frequency section.



If you should have any questions or require additional information, please do not hesitate to contact me at (813)866-5158.

Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

Attachment

cc: George Richardson, Southwest District DEP  
Gary Robbins, Pinellas County  
Al Morneault, P.E., FPC



Bartow Flyash System  
Operation and Maintenance Plan  
Permit Number A052-232464

Operating Parameters and Operational Checks

Flyash Air Compressors supply air as the conveying medium for flyash transport to the silo and air for instrumentation. The compressors are Ingersoll-Rand Model SSR-1000 rotary screw type. The air supply system design pressure is 100 psi with air consumption of 92 scfm average and 117 scfm peak.

Design flyash transport capacity is a maximum of 4,000 lb/hr.

The silo operates with a vent fan capacity of 235 scfm. The silo operates at approximately 4"WG vacuum. The silo exhausts to a set of 16 FLAKT/Flex Kleen 90-UKE-16 filter bags. Each filter bag has a cloth area of 157 sq. ft. designed for pressures of + or - 17"WG.

The rotary feeder, dustless unloader and belt conveyor have a design capacity of 5 tons per hour. Water is supplied to the dustless unloader at 40 psig.

Operational checks made every shift are shown below.

Flyash Compressors/Air Supply

- Check oil levels and check for oil leaks
- Check for proper discharge pressures (120-140 psig)
- Check for air dryer and filter operation @ pressure drop less than 10 psi
- Check that backup compressor and dryer are ready for service
- Check for proper pressure from receiver tank to system (80 to 100 psi)
- Check for receiver tank air leaks

Flyash Storage Silo

- Check for continuous operation of silo vent fan and shaker
- Check controls for rotary and dustless unloaders and belt conveyor
- Check for leaks around silo and ash transport lines
- Clean area after operation of system

## Maintenance Plan

The maintenance intervals shown below are in accordance with manufacturer's recommendations. It should be noted that manufacturers do not specify exact intervals, but give guidance depending on site-specific variables.

	<u>Mthly</u>	<u>Qrtly</u>	<u>4 mos</u>	<u>6 mos</u>	<u>Annual</u>
<b>Flyash Compressors</b>					
- Drain oil from separator/refill				X	
- Clean separator				X	
- Replace element inside separator				X	
- Change oil and air filters				X	
- Clean scavenger orifice screen				X	
- Check bolts and condensate trap				X	
-Grease bearings and electrical checks on motors*				X	
<b>Receiver Tank</b>					
-Clean inside		X			
-Replace door gasket		X			
<b>Air Supply System</b>					
-Dig transport lines	X				
-Change in-line filters/air dryers	X				
-Check drain lines/clean as necessary	X				
<b>Flyash Storage Silo</b>					
-Filter bags (16) inspect and or replace			X		
-Bearings on conveyor - grease		X			
-Bearings on unloader - grease		X			
-Bearings on all motors - grease*					
-Rotary valve bearings - grease					X

\*Varies per manufacturer

## Spare Parts

The following is a list of major items stocked for critical pieces of equipment. There are many small parts such as switches, small valves, gaskets, fasteners, seals, instrumentation etc., that are too numerous to list. Quantities of spare parts vary with time of the year, determination of need as equipment ages and economic reorder quantities (ie: pricing in quantities).

Fly Ash Compressors (most major replacement parts are stocked)

- Coolant in 5 gallon containers
- Seal Oil
- Air dryer filters
- Orifices
- Pressure regulator
- Separator element
- Scavenge screen
- Moisture trap

Ash Transmitters/Silo/Vent Fan/Unloader/Conveyor

- Transmitter isolation and safety relief valves
- Rotary feeder worm gears, shafts and bearings
- Conveyor belt 109 foot section
- Conveyor drive pulley and roller
- Dustless unloader bearings, bearing housing, drive socket
- Silo filter bags - approximately 80 kept on hand



Lawton Chiles  
Governor

# Florida Department of Environmental Protection

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619  
813-744-6100

Virginia B. Wetherell  
Secretary

## NOTICE OF PERMIT ISSUANCE

RECEIVED

SEP 01 1993

Environmental Svcs  
Department

### CERTIFIED MAIL

Mr. W. Jeffrey Pardue  
Manager, Environmental Programs  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733 /

DER File No.: A052-232464  
County: Pinellas

Enclosed is Permit Number A052-232464 to operate Bartow Plant Unit No. 1 Fly Ash System, issued pursuant to Section 403.087, Florida Statutes and Florida Administrative Code Rules 17-200 through 297 & 17-4.

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 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 required 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 allotted 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 in which to file a petition 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.

Mr. W. Jeffrey Pardue  
St. Petersburg, FL 33733

Page Three

Executed in Tampa, Florida

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
George W. Richardson  
Air Permitting Engineer  
Southwest District

3804 Coconut Palm Drive  
Tampa, FL 33619-8318  
(813)744-6100, Ext. 420

813 744-6083 FAX

cc: Albert W. Morneault, P.E., Florida Power Corporation  
Pinellas County Department of Environmental Management

Attachment:

CERTIFICATE OF SERVICE

The undersigned duly designated Deputy Department Clerk hereby certifies that this NOTICE OF PERMIT ISSUANCE and all copies were mailed before the close of business on AUG 30 1993 to the listed persons.

FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to Section 120.52(10), Florida Statutes, with the designated Deputy Department Clerk, receipt of which is hereby acknowledged.

  
Clerk

AUG 30 1993  
Date



Lawton Chiles  
Governor

# Florida Department of Environmental Protection

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619  
813-744-6100

Virginia B. Wetherell  
Secretary

PERMITTEE:

Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733 /

PERMIT/CERTIFICATION

Permit No: A052-232464  
County: Pinellas  
Expiration Date: 8-26-98  
Project: Bartow Plant Unit  
No. 1 Fly Ash System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-200 through 299 & 17-4. 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:

For the operation of Bartow Plant Unit No. 1 Fly Ash System. The design fly ash transfer capacity of the system to the storage silo is 4,000 pounds/hour. Emissions from the storage silo are controlled by a Flakt, Inc. Model 90-UKE-16 Arrangement II baghouse having a set of 16 filter bags. Each filter bag has a cloth filtration area of 157.0 square feet. The storage silo operates with a vent fan capacity of 235.0 scfm.

Location: Weedon Island, St. Petersburg, Pinellas County

UTM: 17-342.3 E 3082.7 N NEDS NO: 0011 Point ID: 09

Replaces Permit No.: A052-149203



PERMITTEE:  
Florida Power Corporation

Permit No.: AO52-232464  
Project: Bartow Plant Unit  
No. 1 Fly Ash System

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.
2. At the request of Florida Power Corporation the maximum allowable emission rate of particulate matter from the fly ash system shall not exceed 1.0 pounds/hour and 0.35 tons/year in order to qualify for the particulate RACT exemption as specified in Rule 17-296.700(2)(c), F.A.C.
3. Due to the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department, pursuant to the authority granted under Rule 17-297.620(4), F.A.C., hereby establishes a visible emission limitation not to exceed an opacity of 5% in lieu of a particulate stack test.
4. The fly ash system storage silo shall be tested for visible emissions annually within 60 days prior to March 16. The test report shall be submitted within 45 days after the test is completed to the Air Section of the Department's Southwest District Office and the Pinellas County Department of Environmental Management, Air Quality Division (Rules 17-297.340(1)(a) and 17-297.450(2), F.A.C.).
5. Compliance with the visible emissions limitation of Specific Condition No. 3 shall be determined using DER Method 9 contained in Rule 17-297, F.A.C. The visible emissions compliance tests shall be conducted by a certified observer and be a minimum of 30 minutes in duration. The fly ash transfer rate to the storage silo during the compliance test shall be specified in the test report. The minimum requirements for source sampling and reporting shall be in accordance with Rule 17-297, F.A.C.
6. Testing of emissions must be conducted within 90-100% of the maximum permitted fly ash system transfer capacity to the storage silo of 4,000 pounds/hour. A compliance test submitted at an operating rate less than 90% of maximum permitted rate will automatically constitute an amended permit at the lesser rate until another test showing compliance at a higher rate, not to exceed 4,000 pounds/hour, is submitted. Failure to submit the fly ash transfer rate to the storage silo and actual operating conditions may invalidate the test (Rule 17-4.070(3), F.A.C.).
7. Florida Power Corporation shall notify the Pinellas County Department of Environmental Management, Air Quality Division at least 15 days prior to the date on which each formal compliance test is to begin (Rule 17-297.340(1)(i), F.A.C.).
8. Bartow Plant Unit No. 1 Fly Ash System is permitted to operate continuously, 8,760 hours/year.

PERMITTEE:  
Florida Power Corporation

Permit No.: AO52-232464  
Project: Bartow Plant Unit  
No. 1 Fly Ash System

9. Should the Department or the Pinellas County Department of Environmental Management, Air Quality Division have reason to believe the particulate emission standard is not being met, the Department may require that compliance with the particulate emission standard be demonstrated by testing in accordance with Rule 17-297, F.A.C (Rule 17-297.620(4), F.A.C.).
10. The maximum permitted fly ash transfer capacity to the storage silo shall not exceed 4,000 pounds/hour (permit application dated 6/3/93).
11. Submit to the Air Section of the Department's Southwest District Office and the Pinellas County Department of Environmental Management, Air Quality Division each calendar year on or before March 1, completed DER Form 17-213.900(4), "Annual Operating Report for Air Pollutant Emitting Facility," for the preceding year (Rule 17-210.370(2), F.A.C.).
12. Florida Power Corporation shall follow the Operation & Maintenance (O&M) Plan submitted with the renewal application received June 4, 1993 for Bartow Plant Unit No. 1 Fly Ash System, in accordance with Pinellas County Ordinance 89-70, Section 3, Part 2.230(1)&(2), adopted January 2, 1990. The submitted O&M Plan is made a part of this permit. The O&M Plan documentation logs shall be maintained for a minimum of two years. At a minimum the O&M Plan shall include:
- A. The operating parameters of the pollution control device.
  - B. Time table for the routine maintenance of the pollution control device as specified by the manufacturer.
  - C. Time table for routine weekly, bi-weekly, or monthly observations of the pollution control device.
  - D. A list of the type and quantity of the required spare parts for the pollution control device which are stored on the premises.
  - E. A record log which will indicate, at a minimum:
    - 1. When maintenance was performed.
    - 2. What maintenance was performed.
    - 3. Who performed the maintenance.
13. All reasonable precautions shall be taken to prevent and control the generation of unconfined emissions of particulate matter in accordance with Rule 17-296.310(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition of wrecking, or industrial related activities such as loading, unloading, storing and handling.

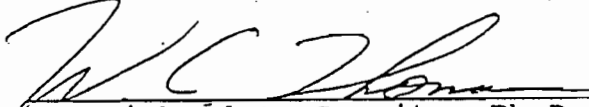
PERMITTEE:  
Florida Power Corporation

Permit No.: AO52-232464  
Project: Bartow Plant Unit  
No. 1 Fly Ash System

14. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 17-200 through 17-299, or any other requirements under federal, state or local law (Rule 17-210.300, F.A.C.).

15. Three applications for the renewal of this operating permit shall be submitted to the Air Section of the Department's Southwest District Office and one copy of the application shall be submitted to the Pinellas County Department of Environmental Management, Air Quality Division at least 60 days prior to the expiration date of this permit (Rule 17-4.090(1), F.A.C.).

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
For Dr. Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District

3804 Coconut Palm Drive  
Tampa, FL 33619-8318  
(813) 744-6100

**BEST AVAILABLE COPY**

**PERMIT - GENERAL CONDITIONS:**

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, 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

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

3. As provided in subsections 403.087(6) and 403.722(5), 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.

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, are 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:

## Best Available Copy

- (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;
- (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.

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 Sections 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 17-730.300, Florida Administrative Code, 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 Standard

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.

Date: 11/18/96 12:12:59 PM  
From: Alvaro Linero TAL  
Subject: FPC Bartow Peaking Units  
To: Gerald Kissel TPA  
CC: Bill Thomas TPA  
CC: Clair Fancy TAL  
CC: Kim Tober TAL

Gerry. We received an application to modify the AO's for the P1-P4 Peaking units at the Bartow Plant. Gas will be provided on an interruptible basis to these units which are currently permitted to fire No. 2 fuel oil.

According to the application there will be no increase in emissions. If this is correct, do you want to process it? If not, we will handle it, but will take somewhat longer since we have never processed any permits for these guys (that I know of).

Looks straightforward as a clean fuel project if it does not also increase the hours of operation. In that case, it looks like a good project. What do you think?

~~\_\_\_\_\_~~ Call Kim if you want to know the details about ARMS. Otherwise call me on anything else. Thanks.

11/21

Gerry,

Per our conversation on Thursday Nov. 21, I have enclosed 3 copies of the FPC Bartow application & a copy of the check. The check needs to be cash listed thru your office (Betty?) & it needs to be logged in ARMS.

Any questions re: the check, please call Patty Adams, re: the application, call Al.

Thanks,

Kim Tober

Date: 11/18/96 12:12:59 PM  
From: Alvaro Linero TAL  
Subject: FPC Bartow Peaking Units  
To: Gerald Kissel TPA  
CC: Bill Thomas TPA  
CC: Clair Fancy TAL  
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Looks straightforward as a clean fuel project if it does not also increase the hours of operation. In that case, it looks like a good project. What do you think?

For now, we have logged it in and started the clock. Call Kim if you want to know the details about ARMS. Otherwise call me on anything else. Thanks.





November 15, 1996

**RECEIVED**

NOV 18 1996

BUREAU OF  
AIR REGULATION

Mr. Clair Fancy  
Florida Department of Environmental Protection  
2600 Blair Stone Rd.  
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Re: Air Construction Permit Application for Combustion Turbine Natural Gas Conversion  
at FPC's Bartow Plant (DEP Permit Nos. AO52-253215, -253216, -253217, -253218)

This letter serves to transmit Florida Power Corporation's (FPC) application for an air construction permit to install natural gas-firing capability for combustion turbines at the above-referenced site. Please find enclosed four copies of the application, as well as a check in the amount of \$250.00 for the processing of this application.

FPC has the opportunity to use, on an interruptible basis, natural gas as a supplemental fuel in peaking units P1-P4 at Bartow Plant. Because the natural gas will be supplied on an interruptible basis, the currently permitted No. 2 fuel oil will continue to be the primary fuel for these units.

If you should have any questions or require additional information, please do not hesitate to contact me at (813) 866-5158.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott H. Osbourn", is written over a horizontal line.

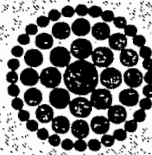
Scott H. Osbourn  
Senior Environmental Engineer

Enclosure

cc: Jerry Kissel, DEP SW District  
Gary Robbins, Pinellas Co. DEM  
Ken Kosky, P.E., KBN



Accounts Payable Department C2N  
P.O. Box 14042  
St. Petersburg, FL 33733-4042



**Florida  
Power**  
CORPORATION

631

DATE 10/16/96 CHECK NO. 1845423

PAY: \$250\*DOLLARS AND 00 CENTS

\$\*\*\*\*\*250.00

SunBank / Mid-Florida

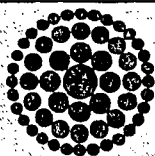
TO  
THE  
ORDER  
OF

STATE OF FLORIDA  
DEPARTMENT OF ENVIRON PROT  
2600 BLAIR STONE ROAD  
TALLAHASSEE FL 32399-2400

Void after 60 days

*J. V. Smallwood*  
Treasurer

Accounts Payable Department C2N  
P.O. Box 14042  
St. Petersburg, FL 33733-4042



**Florida  
Power**  
CORPORATION

631

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Treasurer

# **FPC/ Bartow Plant**

**Air Construction Permit Application for  
Natural Gas Conversion at Combustion  
Turbines P1, P2, P3 and P4**

# Department of Environmental Protection

**RECEIVED**

NOV 18 1996

## DIVISION OF AIR RESOURCES MANAGEMENT

BUREAU OF  
AIR REGULATION

### APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

#### I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

#### Identification of Facility Addressed in This Application


Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: <b>Florida Power Corporation</b>	
2. Site Name: <b>Bartow Plant</b>	
3. Facility Identification Number: <b>1030011</b> <span style="float: right;"><input type="checkbox"/> Unknown</span>	
4. Facility Location Information: Street Address or Other Locator: <b>Weedon Island</b> City: <b>St.Petersburg</b> County: <b>Pinellas</b> Zip Code: <b>32462</b>	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

**Owner/Authorized Representative or Responsible Official**

1. Name and Title of Owner/Authorized Representative or Responsible Official: <b>W. Jeffrey Pardue, C.E.P., Director, Env Services Dept</b>
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: <b>Florida Power Corporation</b> Street Address: <b>3201 34th Street South</b> City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33711</b>
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: <b>(813) 866-4387</b> Fax: <b>(813) 866-4926</b>
4. Owner/Authorized Representative or Responsible Official Statement:  <i>I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>   _____ Signature  _____ Date <i>11/13/96</i>

\* Attach letter of authorization if not currently on file.

**Scope of Application**

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID	Description of Emissions Unit	Permit Type
Unit #    Unit ID		
1R	*            Combustion Turbine (CT) Units 1,2,3,4	ACM2

See individual Emissions Unit (EU) sections for more detailed descriptions.  
Multiple EU IDs indicated with an asterisk (\*). Regulated EU indicated with an "R".



**Purpose of Application and Category**

Check one (except as otherwise indicated):

**Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.**

This Application for Air Permit is submitted to obtain:

Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: \_\_\_\_\_

Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: \_\_\_\_\_

Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: \_\_\_\_\_

Operation permit to be renewed: \_\_\_\_\_

Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: \_\_\_\_\_

Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

\_\_\_\_\_

**Category II: All Air Construction Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.**

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): \_\_\_\_\_  
\_\_\_\_\_

- Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_  
\_\_\_\_\_

**Category III: All Air Construction Permit Applications for All Facilities and Emissions Units.**

This Application for Air Permit is submitted to obtain:

- Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: \_\_\_\_\_

AO52-253215, AO52-253216, AO52-253217, AO52-25318

- Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): \_\_\_\_\_  
\_\_\_\_\_

- Air construction permit for one or more existing, but unpermitted, emissions units.

**Application Processing Fee**

Check one:

Attached - Amount: \$ \$ 250.00

Not Applicable.

**Construction/Modification Information**

1. Description of Proposed Project or Alterations:  <b>This application is for the installation of natural gas firing for combustion turbine units P1, P2, P3, and P4. Currently, these units fire No. 2 fuel oil only.</b>
2. Projected or Actual Date of Commencement of Construction :  <b>1 Jan 1997</b>
3. Projected Date of Completion of Construction :  <b>1 May 1997</b>

**Professional Engineer Certification**

1. Professional Engineer Name: <b>Kennard F. Kosky</b> Registration Number: <b>14996</b>
2. Professional Engineer Mailing Address: Organization/Firm: <b>KBN Eng and Applied Sciences</b> Street Address: <b>6241 NW 23rd Street, Suite 500</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32653-1500</b>
3. Professional Engineer Telephone Numbers: Telephone: <b>(352) 336-5600</b> Fax: <b>(352) 336-6603</b>

4. Professional Engineer's Statement:

*I, the undersigned, hereby certify, except as particularly noted herein\*, that:*

*(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and*

*(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.*

*If the purpose of this application is to obtain a Title V source air operation permit (check here [ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.*

*If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.*

*If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.*

*Wend F. Kemp*

Signature  
(seal)

*KS*

*10/22/96*

Date

\* Attach any exception to certification statement.

**Application Contact**

1. Name and Title of Application Contact: <b>Scott Osbourn, Senior Environmental Engineer</b>
2. Application Contact Mailing Address:  Organization/Firm: <b>Florida Power Corporation</b> Street Address: <b>3201 34th Street South</b> City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33711</b>
3. Application Contact Telephone Numbers:  Telephone: <b>(813) 866-5158</b> Fax: <b>(813) 866-4926</b>

**Application Comment**

<p><b>This application is submitted for a construction permit to include natural gas firing at the Bartow turbine site. There will be no increase in either lb/hr or ton/yr emission rates. (See Attachment TVAI-1)</b></p>
---

**ATTACHMENT TVAL-1**  
**APPLICATION COMMENT**

### ATTACHMENT TVAI-1

This application is for the Bartow Facility. The application's structure is as follows:

Emission Unit 1 - Gas Turbines	
General	4 peaking units
Emission Points	1 stack per turbine
Segments	No. 2 fuel oil Natural Gas
Pollutants	SO <sub>2</sub>
VE Emissions	VE limits applicable
CEM	None
PSD	Existing Baseline Sources

## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

1. Facility UTM Coordinates: Zone: <b>17</b> East (km): <b>342.4</b> North (km): <b>3082.6</b>			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): <b>27 / 52 / 10</b> Longitude: (DD/MM/SS): <b>82 / 35 / 59</b>			
3. Governmental Facility Code: <b>0</b>	4. Facility Status Code: <b>A</b>	5. Facility Major Group SIC Code: <b>49</b>	6. Facility SIC(s): <b>4911</b>
7. Facility Comment (limit to 500 characters): <b>The Bartow Facility consists of 3 fossil fuel steam electric generating units, 1 pipeline heating boiler, 1 fly ash system, &amp; 4 Combustion Turbine (CT) peaking units. The peaking units are fired with No. 2 fuel oil. This application is for the installation of natural gas firing in combustion turbines P1, P2, P3 and P4.</b>			

#### Facility Contact

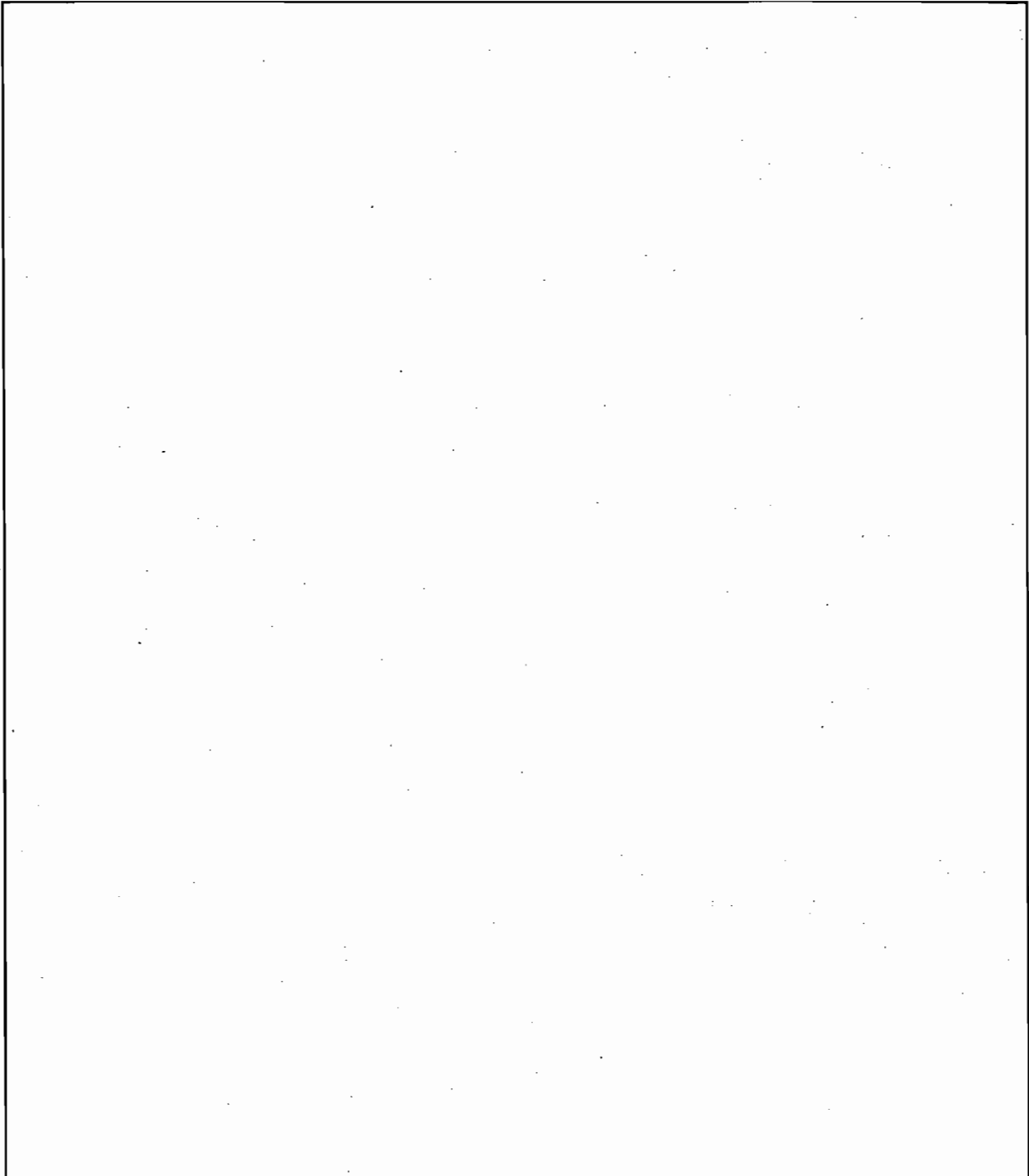
1. Name and Title of Facility Contact: <b>B.M. Cumbie, Plant Manager</b>
2. Facility Contact Mailing Address: Organization/Firm: <b>Florida Power Corporation</b> Street Address: <b>P.O. Box 14042</b> City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33733</b>
3. Facility Contact Telephone Numbers: Telephone: <b>(813) 827-6110</b> Fax: <b>(813) 827-6102</b>





**B. FACILITY REGULATIONS**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

**See Attachment BA-FE-B**

## C. FACILITY POLLUTANTS

### Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
SO <sub>2</sub> Sulfur Dioxide	A
PM Particulate Matter - Total	A
PM <sub>10</sub> Particulate Matter - PM <sub>10</sub>	A
NO <sub>x</sub> Nitrogen Oxides	A
CO Carbon Monoxide	A
VOC Volatile Organic Compounds	A
SAM Sulfuric Acid Mist	A

**D. FACILITY POLLUTANT DETAIL INFORMATION**

**Facility Pollutant Detail Information:**

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

**Facility Pollutant Detail Information:**

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

## E. FACILITY SUPPLEMENTAL INFORMATION

### Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: <u>BA-FE-1</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: <u>BA-FE-2</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID(s): <u>BA-FE-3</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
6. Supplemental Information for Construction Permit Application: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

### Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
9. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

<p>11. Identification of Additional Applicable Requirements:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>12. Compliance Assurance Monitoring Plan:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>13. Risk Management Plan Verification:</p> <p><input type="checkbox"/> Plan Submitted to Implementing Agency - Verification Attached Document ID: _____</p> <p><input type="checkbox"/> Plan to be Submitted to Implementing Agency by Required Date</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>14. Compliance Report and Plan</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>15. Compliance Statement (Hard-copy Required)</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>

**ATTACHMENT BA-FE-B**

**FACILITY REGULATIONS**

(The following requirements are consistent with the requirements identified in the Title V application.)



## ATTACHMENT BA-FE-B

### Applicable Requirements Listing - Power Plants

FACILITY: FPC Bartow Power Plant

#### FDEP Rules:

##### General Permits:

- 62-4.030
- 62-4.040(1)(a) - Exemptions from permitting
- 62-4.040(1)(b) - Exemptions from permitting
- 62-4.100
- 62-4.130

##### Asbestos NESHAP:

- 62-204.800(8)(b)8. (State Only) - Asbestos Removal
- 62-204.800(8)(d) (State Only) - General Provisions (Asbestos)

##### Stationary Sources-General:

62-210.300(2)

##### Exemptions - Plant Specific:

- 62-210.300(3)(a)4. - comfort heating < 1 mmBtu/hr
- 62-210.300(3)(a)5. - mobile sources
- 62-210.300(3)(a)7. - non-industrial vacuum cleaning
- 62-210.300(3)(a)8. - refrigeration equipment
- 62-210.300(3)(a)9. - vacuum pumps for labs
- 62-210.300(3)(a)10. - steam cleaning equipment
- 62-210.300(3)(a)11. - sanders < 5 ft<sup>2</sup>
- 62-210.300(3)(a)12. - space heating equip.; (non-boilers)
- 62-210.300(3)(a)14. - bakery ovens
- 62-210.300(3)(a)15. - lab equipment
- 62-210.300(3)(a)16. - brazing, soldering or welding
- 62-210.300(3)(a)17. - laundry dryers
- 62-210.300(3)(a)20. - emergency generators < 32,000 gal/yr
- 62-210.300(3)(a)21. - general purpose engines < 32,000 gal.yr
- 62-210.300(3)(a)22. - fire and safety equipment
- 62-210.300(3)(a)23. - surface coating > 5% VOC; 6 gal/month
- 62-210.300(3)(a)24. - surface coating < 5% VOC
- 62-210.300(3)(b) - Temporary Exemptions
- 62-210.370(3) - AOR's
- 62-210.900(5) - AOR Form

Title V Permits:

- 62-213.205(1)(a) - Fees
- 62-213.205(1)(b)
- 62-213.205(1)(c)
- 62-213.205(1)(e)
- 62-213.205(1)(f)
- 62-213.205(1)(g)
- 62-213.205(1)(i)
- 62-213.205(1)(j)
- 62-213.400 - Permits/Revisions
- 62-213.410 - Changes without permit revisions
- 62-213.420.(1)(b)2. - Permits-allows continued operation
- 62-213.420.(1)(b)3. - Permits-additional information
- 62-213.460 - Permit Shield
- 62-213.900(1) - Fee Form

Open Burning:

- 62-256.300 - Prohibitions
- 62-256.500 - Land Clearing
- 62-256.700 - Open burning Allowed

Asbestos Removal:

- 62-257.301 - Notification and Fee
- 62-257.400 - Fee Schedule
- 62-257.900 - Form

Stationary Sources-Emission Standards:

- 62-296.320(2) (State Only) - Odor
- 62-296.320(3)(b)(State Only) - Emergency Open Burning
- 62-296.320(4)(b) - General VE Standard
- 62-296.320(4)(c) - Unconfined Emissions of Particulate Matter

Stationary Sources-Emission Monitoring

- 62-297.310(7)(a)10. - Exemption of annual VE for 210.300(3)(a) sources/Gen. Per.

Federal Regulations:

Asbestos Removal:

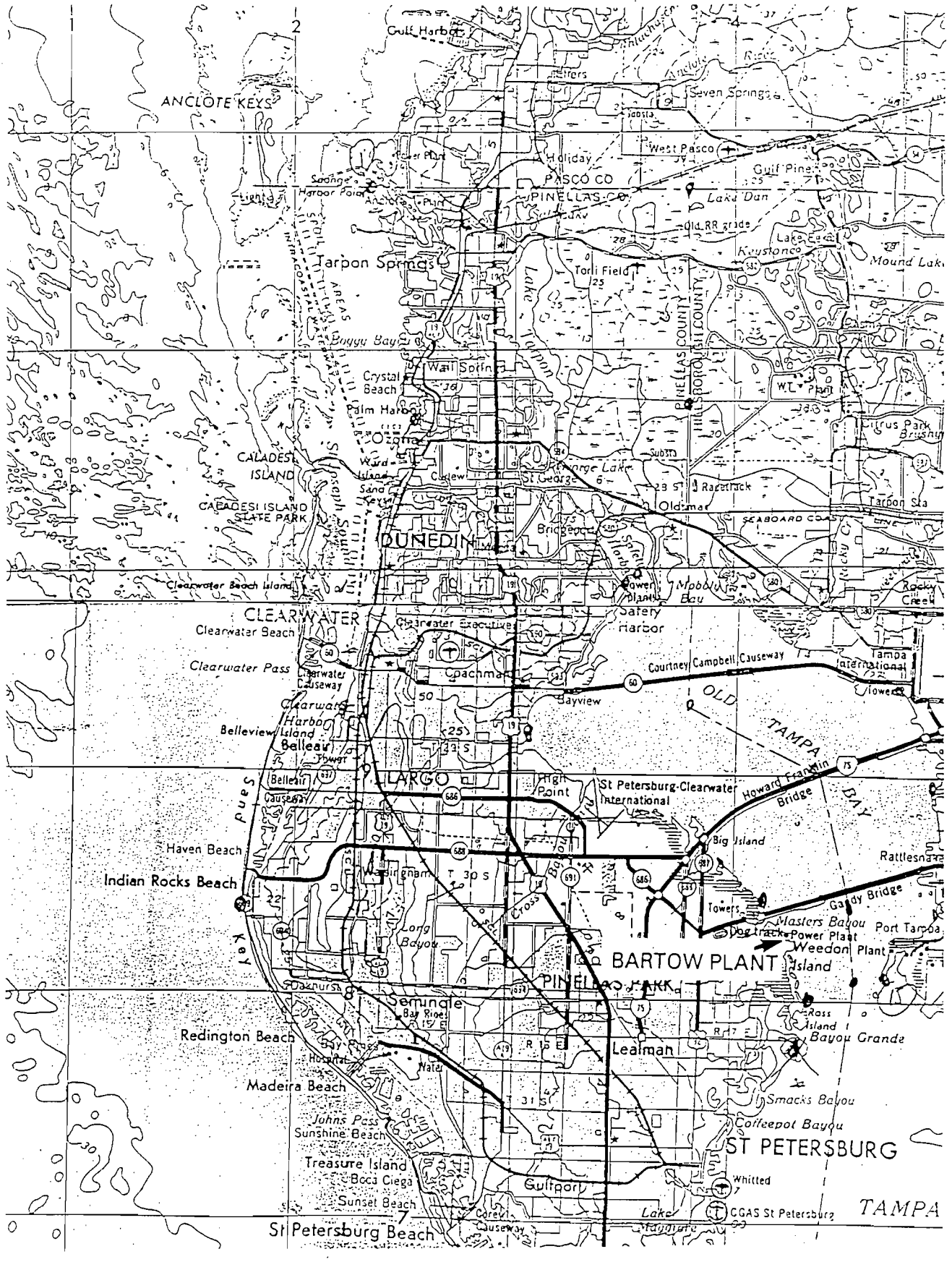
- 40 CFR 61.05 - Prohibited Activities
- 40 CFR 61.12(b) - Compliance with work practice standard
- 40 CFR 61.14 - Monitoring Requirements (if required)
- 40 CFR 61.19 - Circumvention

40 CFR 61.145  
40 CFR 61.148

- Demolition and Renovation
- Standard for Insulating Material

**ATTACHMENT BA-FE-1**

**AREA MAP**



Attachment BA-FE-1  
 Florida Power Corporation, Bartow Plant



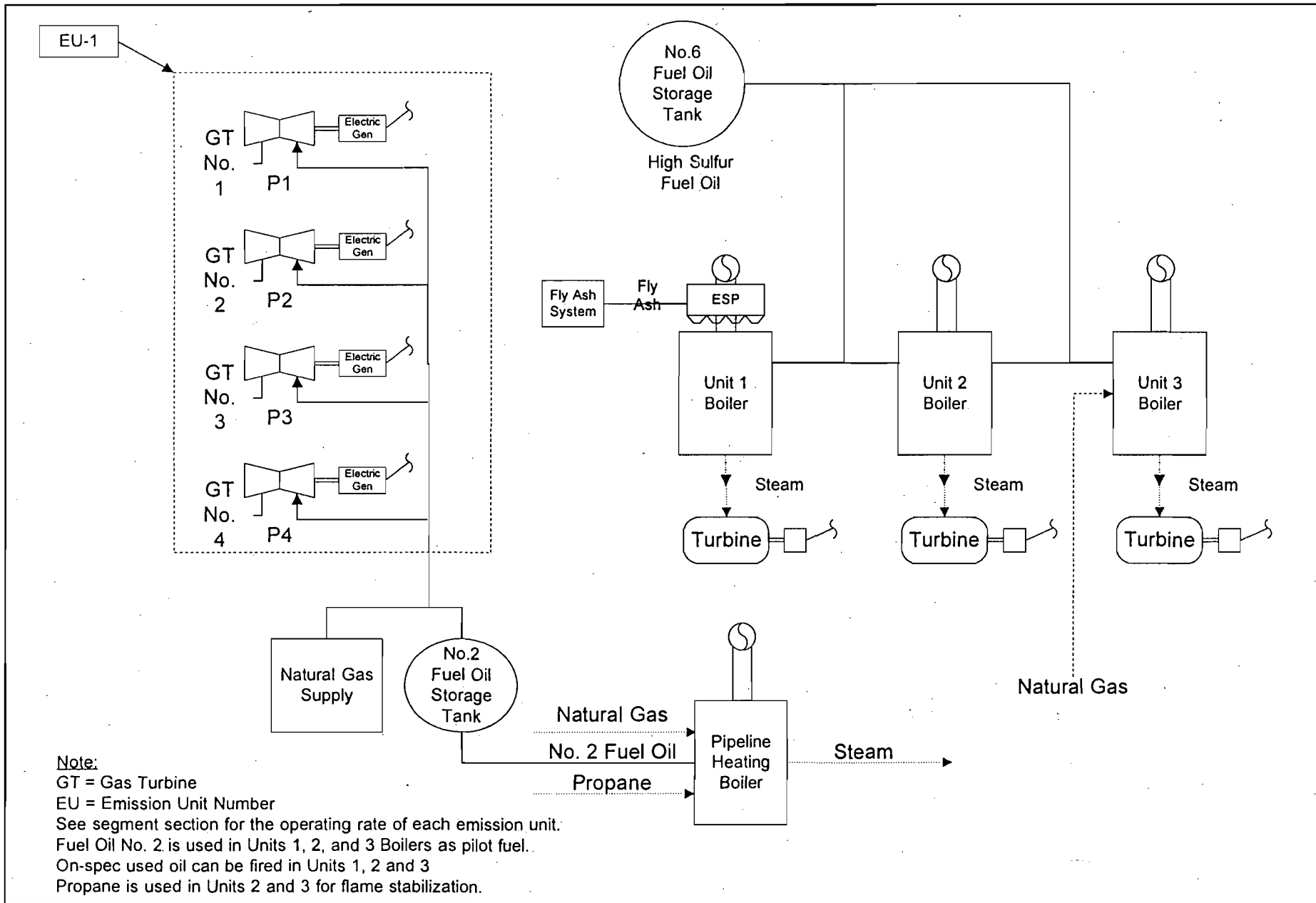
**ATTACHMENT BA-FE-2**

**FACILITY PLOT PLAN**

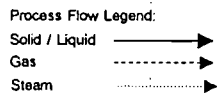


**ATTACHMENT BA-FE-3**  
**PROCESS FLOW DIAGRAM**





Florida Power Corporation  
 Bartow, Florida  
 Emission Unit Process Flow  
 Diagram



Emission Unit: Overall Plant  
 Process Area: Overall Plant  
 Filename: FPCBAGS1.VSD  
 Latest Revision Date: 10/30/96



**KBN**

Engineering and  
 Applied Sciences, Inc.

**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>Combustion Turbine Units P1, P2, P3 and P4</b>		
2. Emissions Unit Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown *		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: <b>49</b>
6. Emissions Unit Comment (limit to 500 characters): <b>(Units P1, P2, P3 and P4 - corresponding ARMS No. 005,006,007,008) The combustion turbines currently burn No. 2 fuel oil. This application is for installation of natural gas firing.</b>		

**Emissions Unit Control Equipment Information**

**A.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**B.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units Only)**

**Emissions Unit Details**

1. Initial Startup Date:	14 Jun 1972	
2. Long-term Reserve Shutdown Date:		
3. Package Unit:		
Manufacturer:	General Electric	Model Number: MS 7000
4. Generator Nameplate Rating:	56 MW	
5. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate:	714	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
	Maximum heat input based on permit limit at 59°F firing No. 2 fuel oil. Max heat input rate function of ambient temperature.	

**Emissions Unit Operating Schedule**

1. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/yr	8,760 hours/yr

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

**Not Applicable**

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment BA-E01-D

**E. EMISSION POINT (STACK/VENT) INFORMATION  
(Regulated Emissions Units Only)**

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: EU1	
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): <b>CT gases exhaust through a single stack per turbine unit. Four units for emission unit.</b>	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: <b>Not Applicable</b>	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	<b>45</b> feet
7. Exit Diameter:	<b>17.9</b> feet
8. Exit Temperature:	<b>930</b> °F



9. Actual Volumetric Flow Rate:	1,043,297 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone: 17	East (km): 392.4      North (km): 3082.6
14. Emission Point Comment (limit to 200 characters):	
	<b>Per unit. Stack exit is rectangular, 20.67 ft. x 12.17 ft. Exit temperature and flow rate for ambient temperature of 59°F.</b>

**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
**(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>No. 2 fuel oil</b>	
2. Source Classification Code (SCC):  <b>2-01-001-01</b>	
3. SCC Units:  <b>Thousand Gallons Burned</b>	
4. Maximum Hourly Rate:  <b>5.174</b>	5. Maximum Annual Rate:  <b>45,323</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:  <b>0.5</b>	8. Maximum Percent Ash:  <b>0.1</b>
9. Million Btu per SCC Unit:  <b>138</b>	
10. Segment Comment (limit to 200 characters):  <b>Max. hrly and annual rates for one turbine. Max. hrly rate based on a heat input limit of 714 MMBtu/hr (@ 59 °F) and fuel HV of 138,000 Btu/gal (HHV). Max. annual rate based on 8,760 hr/yr.</b>	

**Segment Description and Rate:** Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): <b>Natural gas</b>	
2. Source Classification Code (SCC): <b>2-01-002-01</b>	
3. SCC Units: <b>Million cubic feet</b>	
4. Maximum Hourly Rate: <b>0.714</b>	5. Maximum Annual Rate: <b>6,255</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: <b>0</b>	8. Maximum Percent Ash: <b>0</b>
9. Million Btu per SCC Unit: <b>1,000</b>	
10. Segment Comment (limit to 200 characters): <b>Max. hrly and annual rates for one turbine. Max. hrly rate based on heat input limit of 714 MMBtu/hr (@ 59 °F) and fuel HV of 1,000 Btu/cf (LHV). Max. annual rate based on 8,760 hr/yr.</b>	

**G. EMISSIONS UNIT POLLUTANTS  
(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2			EL
PM			NS
PM10			NS
NOx			NS
CO			NS
VOC			NS
SAM			NS

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>SO2</b>		
2. Total Percent Efficiency of Control:		<b>0 %</b>
3. Potential Emissions:	<b>360.57 lb/hour</b>	<b>1,579.3 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr		
6. Emission Factor:		<b>0.5 %Sulfur</b>
Reference: <b>Permit limit, AP-42</b>		
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):  <p><b>The potential emissions were based on No. 2 fuel oil. The SO2 emissions from natural gas are as follows: SO2 (lb/hr) = 2.04 , SO2 (ton/yr) = 8.94. Assumes 1 gr sulfur/100cf (Max. sulfur content from fuel analysis). Potential hourly emissions for natural gas are based on data supplied by GE @ 59 °F. Potential annual emissions for natural gas are based on 8,760 hr/yr. (See Attachment BA-EU1-H8).</b></p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <p><b>Max. Hrly emissions based on heat input of 714 MMBtu/hr @ 59 degF and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b></p>		

Emissions Unit Information Section 1 of 1  
**Allowable Emissions (Pollutant identified on front page)**

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.5 percent sulfur</b>		
4. Equivalent Allowable Emissions:	<b>360.57</b> lb/hour	<b>1,579.3</b> tons/year
5. Method of Compliance (limit to 60 characters): <b>Fuel oil analysis during compliance test</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>The equivalent allowable emissions represent the maximum hourly and annual SO2 emissions expected from fuel oil firing. Actual and potential emissions while firing natural gas will be lower.</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>NOx</b>	
2. Total Percent Efficiency of Control:	<b>0 %</b>
3. Potential Emissions:	<b>498.4 lb/hour                      2,182.9 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr	
6. Emission Factor:	<b>0.698 lb/MMBtu</b>  Reference: AP-42, Table 3.1-1
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):  <b>The potential emissions were based on No. 2 fuel oil. The NOx emissions from natural gas are as follows: NOx (lb/hr) = 265, NOx (tons/yr) = 1,161. Potential hourly emissions for natural gas are based on data supplied by GE @ 59 °F. Potential annual emissions for natural gas are based on 8,760 hr/yr. (See Attachment BA-EU1-H8)</b>	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Max. hourly emissions based on heat input limit of 714 MMBtu/hr @ 59 °F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b>	

Emissions Unit Information Section  1  of  1   
 Allowable Emissions (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM</b>		
2. Total Percent Efficiency of Control:		<b>0 %</b>
3. Potential Emissions:	<b>43.6 lb/hour</b>	<b>191.8 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr		
6. Emission Factor:		<b>0.061 lb/MMBtu</b>
Reference: AP-42, Table 3.1-1		
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):  <p><b>The potential emissions were based on No. 2 fuel oil. The PM emissions from natural gas are as follows: PM (lb/hr) = 5.0, PM (ton/yr) = 21.9. Potential hourly emissions for natural gas are based on data supplied by GE @ 59 °F. Potential annual emissions for natural gas are based on 8,760 hr/yr. (See Attachment BA-EU1-H8)</b></p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <p><b>Max. hrly emissions based on heat input limit of 714 MMBtu/hr @ 59 °F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b></p>		

Emissions Unit Information Section 1 of 1  
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM10</b>	
2. Total Percent Efficiency of Control:	<b>0 %</b>
3. Potential Emissions:	<b>20.9 lb/hour                      91.6 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/yr	
6. Emission Factor: <b>0.48 PM</b>  Reference: <b>AP-42, Table 3.1-1</b>	
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):  <p><b>The potential emissions were based on No. 2 fuel oil. The PM10 emissions for natural gas are as follows: PM10 (lb/hr) = 5.0, PM10 (ton/yr) = 21.9. Potential hourly emissions for natural gas are based on data supplied by GE @ 59 °F. Potential annual emissions for natural gas are based on 8,760 hr/yr. (See Attachment BA-EU1-H8)</b></p>	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <p><b>Max. hrly emissions based on heat input of 714 MMBtu/hr @ 59 °F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b></p>	

Emissions Unit Information Section 1 of 1  
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>CO</b>		
2. Total Percent Efficiency of Control:		<b>0 %</b>
3. Potential Emissions:	<b>34.3 lb/hour</b>	<b>150.1 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[ <input type="checkbox"/> ] 1    [ <input type="checkbox"/> ] 2    [ <input type="checkbox"/> ] 3    _____ to _____ tons/yr		
6. Emission Factor:		<b>0.048 lb/MMBtu</b>
Reference: AP-42, Table 3.1-1		
7. Emissions Method Code:		
<input checked="" type="checkbox"/> 0    [ <input type="checkbox"/> ] 1    [ <input type="checkbox"/> ] 2    [ <input type="checkbox"/> ] 3    [ <input type="checkbox"/> ] 4    [ <input type="checkbox"/> ] 5		
8. Calculation of Emissions (limit to 600 characters):		
<p><b>The potential emissions were based on No. 2 fuel oil. The CO emissions from natural gas are as follows: CO (lb/hr) = 18.0, CO (ton/yr) = 78.8. Potential hourly emissions for natural gas are based on data supplied by GE @ 59 °F. Potential annual emissions for natural gas are based on 8,760 hr/yr. (See Attachment BA-EU1-H8).</b></p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
<p><b>Max. hrly emissions based on heat input of 714 MMBtu/hr @ 59 °F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b></p>		

Emissions Unit Information Section 1 of 1  
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: <b>VOC</b>	
2. Total Percent Efficiency of Control:	<b>0 %</b>
3. Potential Emissions:	<b>12.1 lb/hour                      53.2 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr	
6. Emission Factor: <b>0.017 lb/mmBtu</b>  Reference: <b>AP-42, Table 3.1-1</b>	
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):  <b>The potential emissions were based on No. 2 fuel oil. The VOC emissions from natural gas are as follows: VOC (lb/hr) = 1.8, VOC (ton/yr) = 7.8. Potential hourly emissions for natural gas are based on data supplied by GE @ 59 °F. Potential annual emissions for natural gas are based on 8,760 hr/yr. (See Attachment BA-EU1-H8).</b>	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Max. hrly emissions based on heat input of 714 MMBtu/hr @ 59 °F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b>	

Emissions Unit Information Section 1 of 1  
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>SAM</b>		
2. Total Percent Efficiency of Control:		<b>0 %</b>
3. Potential Emissions:	lb/hour	tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr		
6. Emission Factor:		
Reference:		
7. Emissions Method Code:		
<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):		
<p><b>The potential emissions were based on No. 2 fuel oil. The VOC emissions from natural gas are as follows: SAM (lb/hr) = 0.31; SAM (ton/yr) = 1.36. Potential hourly emissions for natural gas are based on data supplied by GE @ 59° F. Potential annual emissions for natural gas are based on 8,760 hr/yr. (See Attachment BA-EU1-H8).</b></p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
<p><b>Max. hrly emissions based on heat input of 714 MMBtu/hr @ 59° F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b></p>		

Emissions Unit Information Section 1 of 1  
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

**Visible Emissions Limitations:** Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: <b>VE20</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: <b>20</b> %      Exceptional Conditions:      % Maximum Period of Excess Opacity Allowed:      min/hour
4.	Method of Compliance: <b>EPA Method 9, annual compliance test</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>[Rule 62-296.310(2)(a)] The visible emission limit above is for No. 2 fuel oil. For natural gas, visible emission limit will be 10% at full load and 20% at less than full load.</b>

**Visible Emissions Limitations:** Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: <b>VE</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions:      %      Exceptional Conditions: <b>100</b> % Maximum Period of Excess Opacity Allowed: <b>60</b> min/hour
4.	Method of Compliance: <b>Best operation practice</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>Rule 62-210.700(1); excess emissions from startup, shutdown and malfunction, not to exceed 2 hr in 24 hr</b>

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

**Continuous Monitoring System** Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: _____ Model Number: _____ Serial Number: _____	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**Continuous Monitoring System** Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: _____ Model Number: _____ Serial Number: _____	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
	SO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
	NO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO <sub>2</sub>	lb/hour		tons/year
	NO <sub>2</sub>			tons/year
5.	PSD Comment (limit to 200 characters):			
	<b>Baseline emissions not known.</b>			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

**Supplemental Requirements for All Applications**

1.	Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>BA-EU1-L1</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
2.	Fuel Analysis or Specification	<input checked="" type="checkbox"/> Attached, Document ID: <u>BA-EU1-L2</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
3.	Detailed Description of Control Equipment	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
4.	Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
5.	Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input type="checkbox"/> Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	<input checked="" type="checkbox"/> Attached, Document ID: <u>BA-EU1-L6</u>	<input type="checkbox"/> Not Applicable
7.	Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8.	Supplemental Information for Construction Permit Application	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
9.	Other Information Required by Rule or Statute	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable



**ATTACHMENT BA-EU1-D**

**EMISSION UNIT REGULATIONS**

(The following requirements are consistent with the requirements identified in the Title V application.)

## ATTACHMENT BA-EU1-D

### EMISSION UNIT REGULATIONS

#### Master Applicable Requirements Listing - Power Plants (5/13/96)

EMISSION UNIT: EU5: Peaking Units Gas Turbines 1-4- FPC Bartow Plant

#### FDEP Rules:

##### Stationary Sources-General:

- 62-210.700(1) - All EUs
- 62-210.700(4) - All EUs; maintenance
- 62-210.700(6) - All EUs;

##### Stationary Sources-Emission Standards/RACT:

- 62-296.320(4)(b)(State Only) - General VE
- 62-296.700(3) - Specific RACT Limiting Standards\*
- 62-296.700(4) - Maximum Allowable Emission Rates
- 62-296.700(5) - Circumvention
- 62-296.700(6)(e) - Records and Inspection

##### Stationary Sources-Emission Monitoring:

- 62-297.310(2)(a) - All Units (Operating Rate; reserved for CTs)
- 62-297.310(4)(a)2. - All Units (Applicable Test Procedures; Sampling time)
- 62-297.310(5) - All Units (Determination of Process Variables)
- 62-297.310(7)(a)1. - Renewal
- 62-297.310(7)(a)3. - Permit Renewal Test Required
- 62-297.310(7)(a)4.a. - Annual Test
- 62-297.310(7)(a)8 - CT exemption if < 400 hrs/yr; VE test once every 5 years
- 62-297.310(7)(a)9 - FDEP Notification - 15 days
- 62-297.310(8) - Test Reports

\* It is the applicant position that the use of very low sulfur fuel oil meets the requirements of this rule.

**ATTACHMENT BA-EU1-H8**  
**CALCULATION OF EMISSIONS**

Table BA-EU1-H8. Design Information and Stack Parameters for Bartow, Simple Cycle-  
GE MS7000 Natural Gas, Peak Load @ 59 F

Data	Natural Gas 59 F			
	Unit P1	Unit P2	Unit P3	Unit P4
<b>General</b>				
Power (kW)	56,000.0	56,000.0	56,000.0	56,000.0
Estimated Heat Rate (Btu/kwh, LHV)	11,900.0	11,900.0	11,900.0	11,900.0
Heat Input (MMBtu/hr, LHV)	714.0	714.0	714.0	714.0
Hours of Operation	8,760	8,760.0	8,760.0	8,760.0
<b>CT Exhaust Flow</b>				
Mass Flow (lb/hr)	1,780,000	1,780,000.0	1,780,000.0	1,780,000.0
Temperature (oF)	928	928.0	928.0	928.0
Moisture (% Vol.)	12.00	12.0	12.0	12.0
Oxygen (% Vol.)	14.63	14.6	14.6	14.6
Molecular Weight	28.1	28.1	28.1	28.1
Natural Gas Consumption (lb/hr)= Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu + Fuel Heat Content, LHV (Btu/lb) (cf/hr)= Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu + Fuel Heat Content, LHV (Btu/cf)				
Heat Input (MMBtu/hr, LHV)	714.0	714.0	714.0	714.0
Heat Content (Btu/lb, LHV)	20,751	20,751.0	20,751.0	20,751.0
Natural Gas (lb/hr)	34,408	34,408.0	34,408.0	34,408.0
Heat Content, LHV (Btu/cf)	1,000	1,000.0	1,000.0	1,000.0
Natural Gas (cf/hr)	714,000	714,000.0	714,000.0	714,000.0
(million cf/yr)	6,254.6	6,254.6	6,254.6	6,254.6
Volume Flow (acfm)= [(Mass Flow (lb/hr) x 1,545 x (Temp. (°F)+ 460°F)] + [Molecular weight x 2116.8] + 60 min/hr				
Mass Flow (lb/hr)	1,780,000	1,780,000.0	1,780,000.0	1,780,000.0
Temperature (°F)	928	928.0	928.0	928.0
Molecular Weight	28.07	28.1	28.1	28.1
Volume Flow (acfm)	1,070,692	1,070,691.8	1,070,691.8	1,070,691.8
<b>CT Stack Data</b>				
Stack Height (ft)	45.0	45.0	45.0	45.0
Diameter (ft)	17.9	17.9	17.9	17.9
Velocity (ft/sec)= Volume flow (acfm) from CT + [((diameter) <sup>2</sup> + 4) x 3.14159] + 60 sec/min				
Volume Flow (acfm) from CT	1,070,692	1,070,691.8	1,070,691.8	1,070,691.8
Diameter (ft)	17.9	17.9	17.9	17.9
Velocity (ft/sec)	70.9	70.9	70.9	70.9
[Velocity (ft/sec) w/o 5% flow margin]	67.5	67.5	67.5	67.5

Note: Universal gas constant= 1,545 ft-lb(force)/°R; atmospheric pressure= 2,116.8 lb(force)/ft<sup>2</sup>

Source: GE, 1995.

Table BA-EU1-H8b. Maximum Emissions for Criteria Pollutants for Bartow, Simple Cycle-GE MS7000 Natural Gas, Peak Load @ 59 F

Pollutant	Unit P1	Unit P2	Unit P3	Unit P4
Hours of Operation	8,760	8,760	8,760	8760
Particulate (lb/hr)= Emission rate (lb/hr) from manufacturer				
Basis (including H2SO4), lb/hr	5.0	5.0	5.0	5.0
lb/hr	5.0	5.0	5.0	5.0
TPY- 1 Unit	21.9	21.9	21.9	21.9
- 4 Units	87.6	87.6	87.6	87.6
Sulfur Dioxide (lb/hr)= Natural gas (cf/hr) x sulfur content(gr/100 cf) x 1 lb/7000 gr x (lb SO2/lb S) + 100				
Natural Gas (cf/hr)	714,000	714,000	714,000	714,000
Basis, gr/100 cf	1.0	1.0	1.0	1.0
lb SO2/lb S (64/32)	2.0	2.0	2.0	2.0
lb/hr	2.04	2.04	2.04	2.04
TPY- 1 Unit	8.94	8.94	8.94	8.94
- 4 Units	35.7	35.7	35.7	35.7
Nitrogen Oxides (lb/hr)= Based on Manufacturer				
Basis, ppmvd @15% O2 (1)	102	102	102	102
Volume Flow (acfm)	1,070,692	1,070,692	1,070,692	1,070,692
Temperature (°F)	928	928	928	928
lb/hr	265	265	265	265
TPY- 1 Unit	1,160.7	1,160.7	1,160.7	1,160.7
- 4 Units	4642.8	4642.8	4642.8	4642.8
Carbon Monoxide (lb/hr)= Based on Manufacturer				
Basis, ppmvd (1)	10	10	10	10
Volume Flow (acfm)	1,070,692	1,070,692	1,070,692	1,070,692
Temperature (°F)	928	928	928	928
lb/hr	18.0	18.0	18.0	18.0
TPY- 1 Unit	78.8	78.8	78.8	78.8
- 4 Units	315.4	315.4	315.4	315.4
VOCs (lb/hr)= VOC(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr + [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvw (1)	2.0	2.0	2.0	2.0
Moisture (%)	12.00	12.00	12.00	12.00
Volume Flow (acfm)	1,070,692	1,070,692	1,070,692	1,070,692
Temperature (°F)	928	928	928	928
lb/hr	1.8	1.8	1.8	1.8
TPY- 1 Unit	7.8	7.8	7.8	7.8
- 4 Units	31.3	31.3	31.3	31.3
Sulfuric Acid Mist (lb/hr) = Fuel consumption (lb/hr) x sulfur content (%) x (Conversion (fraction) of S to H2SO4) x lb H2S				
Fuel consumption (lb/hr)	34,408	34,408	34,408	34,408
Sulfur Content (gr/100 cf)	1.0	1.0	1.0	1.0
Sulfur content (%) (a)	0.00294	0.00294	0.00294	0.00294
lb H2SO4/lb S (98/32)	3.1	3.1	3.1	3.1
CT Exhaust- % S Conversion to H2SO4	10.0	10.0	10.0	10.0
lb/hr	0.31	0.3	0.3	0.31
TPY - 1 Unit	1.36	1.36	1.36	1.36
- 4 Units	5.4	5.4	5.4	5.43

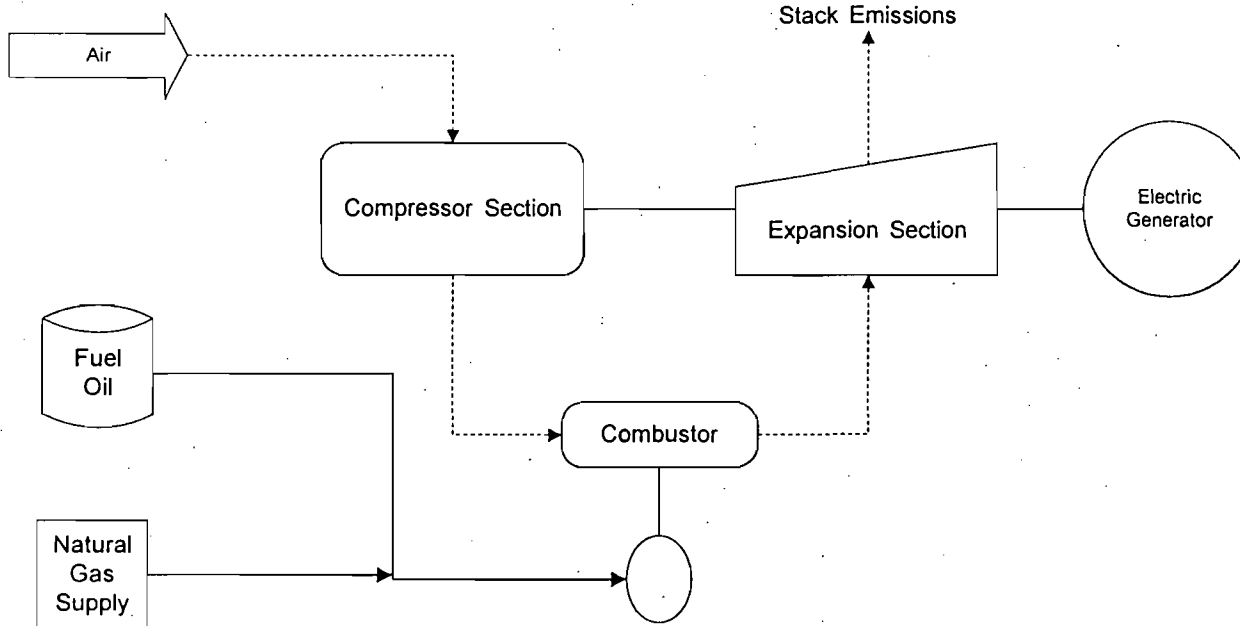
Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: (1) GE, 1995

Moisture (%)	12	12	12	12
Oxygen (%)	14.63	14.63	14.63	14.63
Moisture (%)	12	12	12	12
Fuel density (lb/scf)	0.0486	0.0486	0.0486	0.0486

**ATTACHMENT BA-EU1-L1**

**PROCESS FLOW DIAGRAM**



**Note:**

GT = Gas Turbine  
 EU = Emission Unit Number  
 See segment section for the operating rate of each emission unit

Florida Power Corporation  
 Bartow, Florida  
 Emission Unit Process Flow  
 Diagram

Process Flow Legend:	
Solid / Liquid	—————>
Gas	- - - - ->
Steam	.....>

Emission Unit: Emission Unit No 1  
 Process Area: Gas Turbines 1, 2, 3  
 Filename: FPCBAGS2.VSD  
 Latest Revision Date: 10/30/96

**KBN** Engineering and Applied Sciences, Inc.

**ATTACHMENT BA-EU1-L2**  
**FUEL ANALYSIS OR SPECIFICATION**



## Attachment BAEUI-L2

### Fuel Analysis

### Natural Gas Analysis

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
Relative density	0.58 (compared to air)	
heat content	950 - 1124 Btu/cu ft.	
% sulfur	0.43 grains/CCF <sup>1</sup>	1 grain/100 CF
% nitrogen	0.8% by volume	
% ash	negligible	

Note: The values listed are "typical" values based upon information supplied to FPC by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data from laboratory analysis

Attachment BA.EU1-L2

Fuel Analysis

No. 2 Fuel Oil

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	30 <sup>1</sup>	-
Relative density	7.1 lb/gal <sup>2</sup>	
Heat content	18,400 Btu / lb (LHV)	
% sulfur	0.12 <sup>2</sup>	0.5 <sup>3</sup>
% nitrogen	0.025 - 0.030	
% ash	negligible	0.01 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) FPC's fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the FPC fuel procurement specification

<sup>2</sup> Data from laboratory analysis

<sup>3</sup> Data from current air permit.

**ATTACHMENT BA-EU1-L6**

**PROCEDURES FOR STARTUP AND SHUTDOWN**

## ATTACHMENT BA-EUI-L6 PROCEDURES FOR STARTUP/SHUTDOWN

Startup for the gas turbine begins with an electric control system using a switch to initiate the unit startup cycle. The unit generator is synchronized with the grid that can be "on line" (electrical power production) within 5 minutes from startup.

The gas turbine has no emission controls. If excess emissions are encountered during startup or shutdown, the nature and cause of any malfunction is identified, along with the corrective action taken or preventative measures adopted. Corrective actions may include switching the unit from automatic (remote) to local control. Best Operating Practices are adhered to and all efforts to minimize both the level and duration of excess emissions are undertaken.

Shutdown is performed by reducing the unit load (electrical production ) to a minimum level, opening the breaker (which disconnects the unit generator from the system electrical grid), shutting off the fuel, and coasting to a stop.