

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit

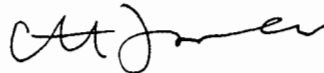
Mr. W. Jeffrey Pardue
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

DEP File No. 1010017-004-AC
Pasco County

Enclosed is the FINAL Permit Number 1010017-004-AC for the installation of natural gas burners and natural gas supply equipment at the Anclote Power Plant Units 1 and 2 located at Anclote Road, West of U.S. 19, Tarpon Springs, Pasco County. This permit is issued pursuant to Chapter 403.

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

Executed in Tallahassee, Florida.



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

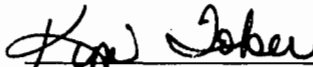
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 10-13-98 to the person(s) listed:

Mr. W. Jeffrey Pardue, FPC*
Mr. Doug Neeley, EPA
Mr. John Bunyak, NPS
Mr. Bill Thomas, DEP

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.


(Clerk)

10-13-98
(Date)

Final Determination
Florida Power Corporation Anclote Facility
Natural Gas Co-Firing Units 1 and 2
Permit No. 1010017-004-AC

An Intent to Issue Air Construction Permit to install natural gas burners and natural gas supply equipment at the Anclote Power Plant Units 1 and 2 located at Anclote Road, West of U.S. 19, Tarpon Springs, Pasco County, Florida was distributed on September 4, 1998. The Public Notice of Intent to Issue Air Construction Permit was published in the Pasco Times on September 10, 1998. Copies of the draft construction permit and related documents were available for public inspection at the Department's offices in Tallahassee and Tampa. No comments were received.

FPC representative Mike Kennedy talked to Clair Fancy of the Bureau of Air Regulation in person on September 23 regarding sulfur fuel sampling and analysis. It was agreed to address this in the Title V permit.

Therefore, the final action of the Department will be to issue the final permit in accordance with the draft permit.

BEST AVAILABLE COPY

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. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Mr. W. Jeffrey Pardue FPC 3201 34th St. South St. Pete, FL 33733		4a. Article Number Z 333 612 529	
		4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD	
		7. Date of Delivery OCT 15 1994	
5. Received By: (Print Name)		8. Addressee's Address (Only if requested and fee is paid)	
6. Signature: (Addressee or Agent) X [Signature]			
PS Form 3811, December 1994		102595-97-B-0179 Domestic Return Receipt	

Thank you for using Return Receipt Service.

Z 333 612 529

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

Sent to		Jeffrey Pardue	
Street or Number		FPC	
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		10-13-98	
		1010017-004-AC	

PS Form 3800, April 1995



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:

Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

Permit No.	1010017-004-AC
SIC No.	4911
Expires:	December 1, 1999

Authorized Representative:
W. Jeffrey Pardue
Director Environmental Services

PROJECT AND LOCATION:

Permit for the installation of natural gas burners and natural gas supply equipment at the Anclote Power Plant Units 1 and 2, located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida.

UTM: Zone 17 ; 324.4 km E ; 3118.7 km N

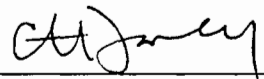
STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-214, 62-296 and 62-297. The above named Permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached Appendix made a part of this permit:

Appendix GC

Construction Permit General Conditions

for 
Howard L. Rhodes, Director
Division of Air Resources
Management

AIR CONSTRUCTION PERMIT No. 1010017-004-AC

SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION

This permit authorizes the installation and testing of natural gas burners to utility boilers unit 1 and unit 2. Unit 1 is a nominal 535(summer)/540(winter) megawatt (electric) steam generator. Unit 2 is a nominal 525(summer)/530(winter) megawatt (electric) steam generator. Both units share a common 499 foot exhaust stack. There is no air pollution control equipment on these units.

REGULATORY CLASSIFICATION

The Anclote Generating Station is classified as a major air pollutant emitting facility. Units 1 and 2 are regulated under Rule 62-296.405 F.A.C., Fossil Fuel Steam Generators with more than 250 million Btu per Hour Heat Input.

This facility is regulated under Title IV and Title V of the Clean Air Act Amendments of 1990.

This facility is classified as a major source of Hazardous Air Pollutants (HAPs).

RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. They are specifically related to this permitting action but do not supersede the conditions given in this permit. These documents are on file with the Department.

Application received by DEP on 2/26/98
Department's letters dated 3/26/98, and 5/19/98
FPC response letters and faxes dated 3/23/98 4/28/98, 6/5/98, and 6/23/98
FPC letter dated 9/1/98
Department's Intent to Issue dated 09/04/98 and associated documents
Department's Final Determination accompanying permit

AIR CONSTRUCTION PERMIT No. 1010017-004-AC

SECTION II. EMISSION UNITS ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to operate, and associated reports, tests, minor modifications and notifications or for permits to construct or modify an emission unit(s) should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (DEP) mailing address: 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, Mail Station 5505, and phone number (850) 488-0114.

The Permittee shall submit all compliance related notifications and reports required of this permit to the Department's Southwest District office:

Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6458

Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

U. S. Environmental Protection Agency - Region 4
Air, Pesticides & Toxics Management Division
Operating Permits Section
61 Forsyth Street
Atlanta, Georgia 32303
Telephone: 404/562-9099
Fax: 404/562-9095

2. General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in *Appendix GC* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]

3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.

4. Forms and Application Procedures: The Permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. [Rule 62-210.900, F.A.C.]

5. Expiration: This air construction permit shall expire on December 1, 1999.

SECTION III. SPECIFIC CONDITIONS

A. General Operation Requirements

1. Applicable Regulations: Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application and supplemental information referenced in Section I, Subsection C with the exception of used oil firing. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]
2. Unit 1 is authorized to fire fuel oils No. 1 through No. 6 with a maximum heat input of 4964 MMBtu per hour. Unit 2 is authorized to fire fuel oils No. 1 through No. 6 with a maximum heat input of 4850 MMBtu per hour. Pipeline quality natural gas may be fired alone or cofired with fuel oil in either boiler and shall be limited to a maximum heat input of 2300 MMBtu per hour per boiler. Unit 1 is authorized to co-fire natural gas with fuel oils No. 1 through No. 6 with a maximum heat input of 5073 MMBtu per hour. Unit 2 is authorized to co-fire natural gas with fuel oils No. 1 through No. 6 with a maximum heat input of 4957 MMBtu per hour.

The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability.

3. Anclote Power Plant Units 1 and 2 may operate continuously (i.e., 8760 hours per year).
4. Only pipeline quality natural gas or No. 1 - 6 fuel oils with an as-fired maximum sulfur content of 1.8% by weight shall be fired in Units 1 and 2.
5. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Permitting Authority as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the Permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]
6. Operating Procedures: Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. [Rule 62-4.070(3), F.A.C.]

AIR CONSTRUCTION PERMIT: No. 1010017-004-AC

SECTION III. SPECIFIC CONDITIONS

B. Emission Limits and Standards

1. The following is a summary of emission limits applicable to Units 1 and 2:

Table 1. Emission Limits

Pollutant	Standard
SO ₂	1.5% sulfur content by weight, based upon 12 month rolling average
PM/PM ₁₀	0.1 lb/MMBtu
Visible Emissions	40 percent opacity

2. Visible Emissions. Visible emissions (VE) shall not exceed 40 percent opacity. Owners or operators shall conduct a compliance test for particulate matter emissions and opacity annually. Failure to demonstrate compliance with the particulate matter standard or the opacity standard of this condition shall constitute grounds for immediate revocation of this 40% standard in which case the standard from Rule 62-296.405(1)(a) F.A.C. shall apply (20% opacity limit except for one six-minute period per hour during which opacity shall not exceed 27%). [Rule 62-296.405(1)(a), F.A.C.; and, OGC File Nos. 86-1574 and 86-1575/Orders dated December 11, 1986.]
3. Visible Emissions - Soot Blowing and Load Change. Excess emissions from existing fossil fuel steam generators resulting from boiler cleaning (soot blowing) and load change shall be permitted provided the duration of such excess emissions shall not exceed 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 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 by this subparagraph, for boiler cleaning and load changes on Units 1 and 2 which are required to operate continuous opacity monitors. [40 CFR 75 and Rule 62-210.700(3), F.A.C.]
4. Sulfur Dioxide. The sulfur content of fuel oils burned shall not exceed 1.8% by weight, as fired at the plant. The 12 month rolling average shall not exceed 1.5% by weight.
5. Particulate Matter. Particulate matter emissions shall not exceed 0.1 lb/MMBtu as measured by Method 5 or Method 17. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) or load change.

SECTION III. SPECIFIC CONDITIONS

6. To minimize acid smut, at low load operation (less than 80 MW per unit), the use of natural gas shall be at least 40 % of the heat input to the unit or 7,000 MMBtu/day, whichever is less.

C. Excess Emissions

1. Excess emissions resulting from malfunction shall be permitted provided that best operational practices 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 DEP Southwest District Office for longer duration. 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.]
2. 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.]
3. Excess Emissions Report: If excess emissions occur due to malfunction, the owner or operator shall notify DEP's Southwest District office within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Excess emissions shall be reported in accordance with 40 CFR 60.7. [Rules 62-4.130 and 62-210.700(6), F.A.C.]

SECTION III. SPECIFIC CONDITIONS

D. Compliance Determination

1. Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate for natural gas firing, but not later than 180 days from the initial operation date on natural gas, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60, Appendix A (1998 version), and adopted by reference in Chapter 62-297, F.A.C.

Initial (I) compliance tests for VE and particulate emissions shall be performed on Units 1 and 2 while cofiring the maximum capacity of natural gas (approximately 40% to 44% of total heat input) and No. 6 Fuel oil. Annual (A) compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.340, F.A.C., on Units 1 and 2 as indicated. The following reference methods shall be used:

- DEP Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources (I, A).
- EPA Method 17 or Method 5. The minimum sample volume shall be 30 dry standard cubic feet.

For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. EPA Method 3A shall be used with the oxygen based F-factor and emission rates (lb/MMBtu) shall be computed according to EPA Method 19. Acetone wash shall be used with EPA Method 5 or 17. Stack testing shall be conducted using the fuel (and additive injection levels) which is representative of worst case for particulate emissions rate (i.e. using the fuel or fuel blend representative of that which has been fired during the past federal fiscal year which results in the highest potential emissions rate). (I, A) [Rules 62-213.440, 62-296.405(1)(e)2., and 62-297.401, F.A.C.]

Note: No other methods may be used for compliance testing unless prior DEP approval is received in writing. The DEP may request a special compliance test pursuant to Rule 62-297.340(2), F.A.C., when, after investigation (such as complaints, increased visible emissions, or questionable maintenance of control equipment), there is reason to believe that any applicable emission standard is being violated. The DEP's Southwest District office shall be notified, in writing, at least 30 days prior to the initial and annual compliance test(s)

2. Testing of emissions shall be conducted with each boiler operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the permit. If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. In this case, subsequent operation is limited by adjusting the heat input limit to 110 percent of the value reached during the test until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity.
3. EPA Method 6C may be used to determine compliance with the SO₂ emission limit. The following fuel sampling and analysis protocol may be used as an alternate sampling procedure authorized by this permit to demonstrate compliance with the sulfur dioxide standard: Determine and record the fuel sulfur content, percent by weight, for fuel oil delivered to the facility using either ASTM D2622-924, ASTM D4294-90, or both ASTM D4057-88 and ASTM D129-95 (or latest editions).

SECTION III. SPECIFIC CONDITIONS

Co-firing natural gas with fuel oil having more than 1.8% sulfur content by weight as-fired is prohibited. [Rules 62-213.440(1), 62-4.070(3), 62-296.405(1)(e)3., 62-296.405(1)(f)1.b., 62-297.440, F.A.C., and FPC's letter dated 9/1/98].

4. An initial test for CO is required while co-firing No. 6 fuel oil and natural gas at the design maximum capacity for gas operation (approximately 40% to 44% of total heat input) and within 90-100% of the permitted overall heat input rate for each unit. The initial CO test results shall be the average of three valid one-hour runs using EPA method 10. A second test for CO shall be conducted firing only No. 6 fuel oil within 90-100% of the overall heat input rate for comparison. This test is not required annually.
5. All fuel oil delivered to the facility shall be analyzed using ASTM D240-76 (or equivalent) to record the gross heating value (HHV). Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.
6. Compliance with the liquid fuel sulfur limit shall be verified by a fuel analysis provided by the vendor or performed by FPC upon each fuel delivery with the following exception: in cases where No. 6 fuel oil is received with a sulfur content exceeding 1.5% by weight, and blending is required to obtain a fuel mix equal to the applicable percent sulfur limit, an analysis of a fuel sample representative of fuel from the fuel storage tanks shall be performed by FPC prior to firing oil at the plant. Reports of percent sulfur content of these analyses shall be maintained at the power plant facility.

The owner or operator shall maintain records of the as-fired fuel oil heating value, density or specific gravity, and the percent sulfur content. Fuel sulfur content, percent by weight, for liquid fuels shall be determined by either ASTM D2622-94, ASTM D4294-90 (95), ASTM D1552-95, ASTM D1266-91, or both ASTM D4057-88 and ASTM D129-95 (or latest editions) to analyze a representative sample of the fuel oil.

[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C., and applicant agreement with DEP on September 1, 1998.

E. Notification, Reporting and Recordkeeping

1. All measurements, records, and other data required to be maintained by FPC shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These records shall be made available to DEP representatives upon request.
2. Compliance Test Reports: A test report indicating the results of the required compliance tests shall be filed with the DEP Southwest District Office as soon as practical, but no later than 45 days after the last sampling run is completed. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.

AIR CONSTRUCTION PERMIT: No. 1010017-004-AC

SECTION III. SPECIFIC CONDITIONS

F. Monitoring Requirements

1. The Permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxides, sulfur dioxide emissions and opacity from Units 1 and 2. The continuous emission monitoring systems must comply with the certification and quality assurance, and other applicable requirements from 40 CFR 75. Periods of startup, shutdown, malfunction, and fuel switching shall be monitored, recorded, and reported as excess emissions when emission levels exceed the standards in Table 1 following the format of 40 CFR 60.7 (1998 version).
2. The following monitoring schedule for No. 1 - 6 fuel oil shall be followed: For all shipments of fuel oil received at the Anclote Power Plant Station, an analysis which reports the sulfur and ash content and heat content (HHV) of the fuel shall be provided by the fuel vendor or other sources which follow the appropriate fuel test methods listed in Specific Condition D1. The analysis record shall specify the origin of the fuel sample, the methods by which the analyses were conducted, the person conducting the sampling and analysis, and date of sampling and analysis.
4. Determination of Process Variables:
 - (a) The Permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
 - (b) Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh 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]

G. Rule Requirements

1. The emission unit shall be operated in compliance with all applicable requirements of Rules 62-4, 204, 210, 212, 214, 296, and 297 except as otherwise specified herein. All notifications and reports specified in this section shall be submitted to the DEP's Southwest District office.
2. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (Rule 62-210.300(1), F.A.C.).
3. Except as otherwise specified herein, the emission unit shall be operated in compliance with all applicable provisions of Rule 62-210.700, F.A.C.: Excess Emissions; Chapter 62-297, F.A.C.: Stationary Sources - Emissions Monitoring; and, Rule 62-4.130, F.A.C.: Plant Operation - Problems.

AIR CONSTRUCTION PERMIT: No. 1010017-004-AC

SECTION III. SPECIFIC CONDITIONS

4. Quarterly excess emission reports, in accordance with 40 CFR 60.7 (7) (c) (1998 version), shall be submitted to the DEP's Southwest District office.
5. Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the Permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports shall be sent to the DEP's Southwest District office by March 1st of each year.
6. Stack sampling facilities shall be available in accordance with Rule 62-297.310(6), F.A.C.
7. The Permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (Rule 62-4.090, F.A.C.).

H. Modifications

1. The Permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.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 or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and 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 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.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment 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.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- (a) Have access to and copy and records that must be kept under the conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
- Reasonable time may depend on the nature of the concern being investigated.
- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- (a) A description of and cause of non-compliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

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.

- G.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 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.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.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (a) Determination of Best Available Control Technology ()
 - (b) Determination of Prevention of Significant Deterioration (); and
 - (c) Compliance with New Source Performance Standards ().
- G.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 or 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; and
 - 6. The results of such analyses.
- G.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 corrected promptly.

Florida Department of
Environmental Protection

Memorandum

TO: Howard L. Rhodes

FROM: Clair Fancy

DATE: October 13, 1998

SUBJECT: Florida Power Corporation, Anclote Facility, 1010017-004-AC

*I signed
Howard out of state*

Attached for approval and signature is a construction permit to co-fire natural gas with fuel oil at the Anclote Power Plant. The facility was required to do a public notice. No comments were received. I recommend your approval and signature.



Florida
Department of
Environmental Protection

Lawton Chiles
Governor

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

Virginia Wetherell
Secretary

F A X T R A N S M I T T A L S H E E T

DATE: 13 Oct 1998
TO: Mike Kennedy
PHONE: 727-826-4218

FAX: 727-826-4216

FROM: Clair Fancy
Division of Air Resources Management

PHONE: 850-488-0114
FAX: 850.922.6979

RE: _____

CC: _____

Total number of pages including cover sheet: 2

Message

Front page of permit as requested

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

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

Printed on recycled paper



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:

Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

Permit No.	1010017-004-AC
SIC No.	4911
Expires:	December 1, 1999

Authorized Representative:
W. Jeffrey Pardue
Director Environmental Services

PROJECT AND LOCATION:

Permit for the installation of natural gas burners and natural gas supply equipment at the Anclote Power Plant Units 1 and 2, located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida.

UTM: Zone 17 ; 324.4 km E ; 3118.7 km N

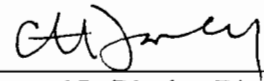
STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-214, 62-296 and 62-297. The above named Permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached Appendix made a part of this permit:

Appendix GC

Construction Permit General Conditions


Howard L. Rhodes, Director
Division of Air Resources
Management



September 21, 1998

Mr. Al Linero, P.E.
Division of Air Resource Management
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

Re: FPC Anclote Facility, Natural Gas Co-Firing Project
DEP Permit No. 1010017-004-AC

Enclosed please find the notarized proof of publication received from the Pasco Times for the Florida Department of Environmental Protection *Notice of Intent to Issue Construction Permit* referenced to the above request. The notice was published on September 10, 1998.

It is our understanding that a final permit could be issued by the Department as early as October 12, 1998, assuming no adverse comments were received.

If you should have any questions concerning this correspondence, please do not hesitate to contact me at (727) 826-4258.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Osbourn", is written over a horizontal line.

Scott H. Osbourn
Senior Environmental Engineer

cc: Bill Thomas, DEP SW District (w/attach)

Attachment

BEST AVAILABLE COPY

982600346

STATE OF FLORIDA }
COUNTY OF PASCO }

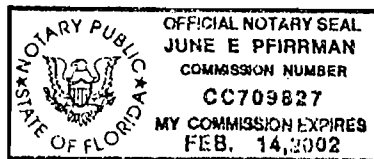
S.S.

pasco times
Published Daily
Port Richey, Pasco County, Florida

Before the undersigned authority personally appeared M. Hipple
who on oath says that he is Legal Clerk
of the Pasco Times - South Edition
a daily newspaper published at Port Richey, in Pasco County, Florida: that the
attached copy of advertisement, being a Legal Notice
in the matter RE: Public Notice of Intent
 in the Court
was published in said newspaper in the issues of September 10, 1998

Affiant further says the said Pasco Times is a newspaper
published at Port Richey, in said Pasco County, Florida, and that the said newspa-
per has heretofore been continuously published in said Pasco County, Florida,
each day and has been entered as second class mail matter at the post office in
New Port Richey, in said Pasco 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 corpora-
tion any discount, rebate, commission or refund for the purpose of securing
this advertisement for publication in the said newspaper.

Sworn to and subscribed before
me this 17th day of
September, A.D. 1998
June E. Purrman
Notary Public



My commission expires

19

PERSONALLY KNOWN OR
PRODUCED IDENTIFICATION _____
TYPE OF IDENTIFICATION PRODUCED _____

LEGAL NOTICE

PUBLIC NOTICE OF INTENT TO ISSUE CONSTRUCTION PERMIT
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DRAFT Permit No.: 1010017-004-AC

Florida Power Corporation
Anclote Power Plant Units 1 and 2
Pasco County

The Department of Environmental Protection (Department) gives notice of its intent to issue a construction permit to Florida Power Corporation for a project to install natural gas co-firing capability at the Anclote Power Plant Units 1 and 2 located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida. A Best Available Control Technology (BACT) determination was not required pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21 Prevention of Significant Deterioration (PSD). The applicant's name and address are Florida Power Corporation, 3201 34th Street South, St. Petersburg, Florida 33733.

Florida Power Corporation (FPC) applied for a construction permit to modify Units 1 and 2 to accommodate the firing of natural gas thus enabling either or both units to co-fire gas and No. 6 fuel oil. Based on information submitted by FPC, the project will substantially reduce emissions of acid smut (about related to load changes following low load operation). Additionally, FPC has provided reasonable assurance that the project will not substantially change the use of the units by making them more economical to operate and thus increasing annual emissions. The company has certified and the Department has accepted that the project is primarily for the purpose of controlling emissions.

The company has also agreed to take a lower sulfur limit on the fuel oil co-fired with natural gas. This will provide additional assurance that emissions will not increase. With these facts, as detailed in the Department's determination, this project is exempt from PSD requirements and has been determined to be a pollution control project (PCP) pursuant to Rule 62-212.400(2)(a)2, F.A.C. and 40 CFR 52.21.

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for a public meeting concerning the proposed permit issuance action for a period of 30 days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed 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 notice of intent, whichever occurs first. 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 upon 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 action; (c) A statement of how and when the 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.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m. Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 5
Tallahassee, Florida 32301
Telephone: (850) 488-0114
Fax: (850) 922-6979



RECEIVED

SEP 04 1998

BUREAU OF
AIR REGULATION

August 31, 1998

Mr. Clair Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Re: FPC's Anclote Plant Natural Gas Co-Firing Project
Pollution Control Project Exemption

This letter serves to provide the additional information requested during our telephone conversation of August 31, 1998. Specifically, you had requested that Florida Power Corporation (FPC) submit data for the Anclote Plant relating to annual average fuel oil sulfur levels and annual capacity factors for the years 1993 through 1997. The data summarized below was obtained from the Annual Operating Reports for the years requested.

Annual average fuel sulfur levels are as follows: 1993 - 1.56%; 1994 - 1.34%; 1995 - 1.49%; 1996 - 1.36%; 1997 - 1.08%. Although the allowable fuel oil sulfur level at Anclote Plant is 2.5%, FPC has historically burned fuel oils with a sulfur content of 2.0% or less. Recently, the fuel oil sulfur levels have been much lower in order that FPC could qualify for SO₂ bonus allowances under EPA's Acid Rain program (see attached letter). The levels for 1996 and 1997 were lower than normal because there was uncertainty regarding which year EPA would use as the baseline for determining eligibility. Now that FPC has qualified for the allowances, there is no continuing requirement.

Annual capacity factor is determined by dividing total heat input (or fuel use) for each year by the total potential heat input or fuel use, assuming the units could operate at full load for 8,760 hours per year. The figures are as follows: 1993 - 40%; 1994 - 33%; 1995 - 33%; 1996 - 39%; 1997 - 44%.

If you should have any questions concerning the above, please do not hesitate to contact me at (727) 826-4258.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Osbourn", written over a horizontal line.

Scott H. Osbourn
Senior Environmental Engineer

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

RECEIVED

AUG 07 1998

Environmental Policy
Department

AUG 3 1998

OFFICE OF
AIR AND RADIATION

Mr. W. Jeffrey Pardue
Florida Power Corporation
P.O. Box 14042
MAC H2G
St. Petersburg, FL 33733

Re: Determination of Eligibility under §73.19 For Anclote Units 1 & 2

Dear Mr. Pardue:

EPA's review of data in the National Allowance Data Base (NADB) and Supplemental Data File (SDF) confirms that Anclote units 1 and 2 meet the requirements for eligibility both under existing §73.19(a) and under the revised §73.19(a) that EPA intends to promulgate as a final rule in the 1998 allocation revision rulemaking. Under either version of §73.19(a) a unit's 1997 SO₂ emission rate can be used to determine eligibility.

To determine 1997 SO₂ emission rate, EPA used quality assured data submitted in accordance with 40 CFR Part 75. For Anclote 1, continuous emissions monitoring showed a heat input of 21,786,765 mmBtu and emissions of 11,695 tons of SO₂. The calculated emission rate was 1.0736 lb/mmBtu. For Anclote 2, monitoring showed a heat input of 24,467,624 mmBtu and emissions of 14,294 tons of SO₂. The calculated emission rate is 1.1684 lb/mmBtu. Both units' calculated emission rate of SO₂ is less than 1.2 lb/mmBtu, so the units are eligible to receive allowance allocations under §73.19, which implements section 405(i)(2) of the Act. An attachment is provided which documents the emission rate calculations.

In summary, EPA has determined that Anclote units 1 and 2 are eligible to receive allowances under §73.19. If you have questions about the calculations or the provision, please contact Kathy Barylski of my staff at (202) 564-9074.

Sincerely,

Brian J. McLean, Director
Acid Rain Division



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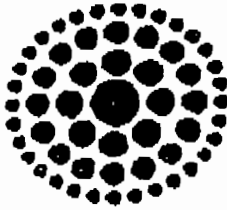
Calculation of SO₂ Emission Rate

The formula for calculating the SO₂ emission rate is:

$$SO_2 \text{ Rate (lb/mmBtu)} = 2000 \text{ lb/tons} \times SO_2 \text{ Emissions (tons)} / \text{Heat Input (mmBtu)}$$

For 1997, the quality assured data under Part 75 and calculated emission rate are:

	SO ₂ Emissions	Heat Input	SO ₂ Emission Rate
Anclote 1	11,695	21,786,765	1.0736
Anclote 2	14,294	24,467,624	1.1684



**Florida
Power**
CORPORATION



Environmental Services Department

FAX COVER SHEET

DATE: 9/4/98

TO: AL Livers / Clair

FAX # (850) 922-6979

COMPANY: DEP

FROM: [Signature]

PHONE # (727) 826-4258

FAX # _____

NUMBER OF PAGES TRANSMITTED 5

Please call number listed above for any transmission problems.

COMMENTS:

Please review and call me
to discuss



AIR CONSTRUCTION PERMIT: No. 1010017-004-AC

SECTION III. SPECIFIC CONDITIONS

A. General Operation Requirements

1. **Applicable Regulations:** Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application and supplemental information referenced in Section I, Subsection C with the exception of used oil firing. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]
2. Unit 1 is authorized to fire fuel oils No. 1 through No. 6 with a maximum heat input of 4964 MMBtu per hour. Unit 2 is authorized to fire fuel oils No. 1 through No. 6 with a maximum heat input of 4850 MMBtu per hour. Pipeline quality natural gas may be fired alone or cofired with fuel oil in either boiler and shall be limited to a maximum heat input of 44% of the total heat input per boiler. Unit 1 is authorized to co-fire natural gas with fuel oils No. 1 through No. 6 with a maximum heat input of 5073 MMBtu per hour. Unit 2 is authorized to co-fire natural gas with fuel oils No. 1 through No. 6 with a maximum heat input of 4957 MMBtu per hour. *reword to allow all gas at < 40mw*
need HT clarifying language
3. Anclote Power Plant Units 1 and 2 may operate continuously (i.e., 8760 hours per year). *Insert (X)*
4. Only pipeline quality natural gas or No. 1 - 6 fuel oils with ^{an as-fired} maximum sulfur content of 1.8% by weight shall be fired in Units 1 and 2. *OK*
5. **Plant Operation - Problems:** If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Permitting Authority as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the Permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]
6. **Operating Procedures:** Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. [Rule 62-4.070(3), F.A.C.]

Mr. Fancy
August 27, 1998
Page 2

measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.

Also, the Department added the following language to each permit condition titled Permitted Capacity:

(X) (Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability.)

Accordingly, FPC requests that this language regarding heat input be added to all of FPC's Title V permits currently being processed by the Department. FPC intends to notify the Department as soon as possible after formalizing its position on the remainder of periodic monitoring issues. If you should have any questions concerning the above, please do not hesitate to contact me at (727) 826-4258.

Sincerely,



Scott H. Osbourn
Senior Environmental Engineer

cc: Robert Manning, HGS&S

AIR CONSTRUCTION PERMIT: No. 1010017-004-AC

SECTION III. SPECIFIC CONDITIONS

B. Emission Limits and Standards

1. The following is a summary of emission limits applicable to Units 1 and 2:

Table 1. Emission Limits

Pollutant	Standard
SO ₂	1.5% sulfur content by weight, based upon 12 month rolling average
PM/PM ₁₀	0.1 lb/MMBtu
Visible Emissions	40 percent opacity

2. Visible Emissions. Visible emissions (VE) shall not exceed 40 percent opacity. Owners or operators shall conduct a compliance test for particulate matter emissions and opacity annually. Failure to demonstrate compliance with the particulate matter standard or the opacity standard of this condition shall constitute grounds for immediate revocation of this 40% standard in which case the standard from Rule 62-296.405(1)(a) F.A.C. shall apply (20% opacity limit except for one six-minute period per hour during which opacity shall not exceed 27%). [Rule 62-296.405(1)(a), F.A.C.; and, OGC File Nos. 86-1574 and 86-1575/Orders dated December 11, 1986.]

[Handwritten signature]

3. Visible Emissions - Soot Blowing and Load Change. Excess emissions from existing fossil fuel steam generators resulting from boiler cleaning (soot blowing) and load change shall be permitted provided the duration of such excess emissions shall not exceed 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 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 by this subparagraph, for boiler cleaning and load changes on Units 1 and 2 which are required to operate continuous opacity monitors. [40 CFR 75 and Rule 62-210.700(3), F.A.C.]

4. Sulfur Dioxide. The sulfur content of fuel oils burned shall not exceed 1.8% by weight, *as-received as-fired* at the plant. The 12 month rolling average shall not exceed 1.5% by weight.

5. Particulate Matter. Particulate matter emissions shall not exceed 0.1 lb/MMBtu as measured by Method 5 or Method 17. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) or load change.

AIR CONSTRUCTION PERMIT: No. 1010017-004-AC

SECTION III. SPECIFIC CONDITIONS

Co-firing natural gas with fuel oil having more than 1.8% sulfur content by weight is prohibited. (Rules 62-213.440(1), 62-4.070(3), 62-296.405(1)(e)3., 62-296.405(1)(f)1.b., 62-297.440, F.A.C., and FPC's letter dated 8/1/98). 9/1/98 OK

4. An initial test for CO is required while co-firing No. 6 fuel oil and natural gas at the design maximum capacity for gas operation (approximately 40% to 44% of total heat input) and at within 90% (10%) of the permitted overall heat input rate for each unit. The initial CO test results shall be the average of three valid one-hour runs using EPA method 10. A second test for CO shall be conducted firing only No. 6 fuel oil at within 10% of the overall heat input rate for comparison. This test is not required annually. 90 yes

5. All fuel oil delivered to the facility shall be analyzed using ASTM D240-76 (or equivalent) to record the gross heating value (HHV). Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

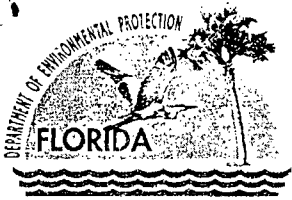
6. Compliance with the liquid fuel sulfur limit shall be verified by a fuel analysis provided by the vendor or performed by FPC upon each fuel delivery with the following exception: in cases where No. 6 fuel oil is received with a sulfur content exceeding 1.5% by weight, and blending is required to obtain a fuel mix equal to the applicable percent sulfur limit, an analysis of a fuel sample representative of fuel from the fuel storage tanks shall be performed by FPC prior to firing oil at the plant. Reports of percent sulfur content of these analyses shall be maintained at the power plant facility.

The owner or operator shall maintain records of the as-fired fuel oil heating value, density or specific gravity, and the percent sulfur content. fuel sulfur content, percent by weight, for liquid fuels shall be determined by either ASTM D2622-94, ASTM D4294-90 (93), ASTM D1552-95, ASTM D1266-91, or both ASTM D4057-88 and ASTM D129-95 (or latest editions) to analyze a representative sample of the fuel oil.

[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C., and applicant agreement with DEP on September 1, 1998.

E. Notification, Reporting and Recordkeeping

- All measurements, records, and other data required to be maintained by FPC shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These records shall be made available to DEP representatives upon request.
- Compliance Test Reports:** A test report indicating the results of the required compliance tests shall be filed with the DEP Southwest District Office as soon as practical, but no later than 45 days after the last sampling run is completed. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.



Department of Environmental Protection

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

September 3, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

W. Jeffrey Pardue
Director of Environmental Services
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

Re: Anclote Power Plant Units 1 and 2
Natural Gas Co-Firing
DRAFT Permit No. 1010017-004-AC

Dear Mr. Pardue:

Enclosed is one copy of the revised Draft Air Construction Permit to install natural gas co-firing capability on Units 1 and 2 at the Anclote Power Plant located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida. The Department's Intent to Issue Air Construction Permit and the "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" are also included.

The "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT AND AMENDMENT" must be published in the legal advertisement section of a newspaper of general circulation in the area affected. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit amendment.

Please submit any written comments you wish to have considered concerning the Department's proposed action to me at the above letterhead address. If you have any other questions, please contact me at 850/921-9503.

Sincerely,

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

/ch

Enclosures

In the Matter of an
Application for Permit by:

Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

DRAFT Permit No.: 1010017-004-AC
Anclote Power Plant Gas Co-firing
Pasco County

INTENT TO ISSUE CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit (copy of DRAFT AIR CONSTRUCTION PERMIT attached) and a determination that this constitutes a pollution control project (PCP) for the proposed project, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Florida Power Corporation, applied on February 26, 1998 to the Department for a construction permit to modify two utility boilers, Units 1 and 2, by adding the capability to co-fire natural gas with fuel oil at the Anclote Power Plant located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-296, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that an air construction permit is required for the proposed work.

The Department intends to issue this Construction Permit based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue Air Construction Permit." The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/ 922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of 30 days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed 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. 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.

Executed in Tallahassee, Florida.



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

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE CONSTRUCTION PERMIT (including the PUBLIC NOTICE, Technical Evaluation and Preliminary Determination, and the DRAFT permit) 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. Doug Neeley, EPA
- Mr. John Bunyak, NPS
- Mr. Bill Thomas, SWD

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.

Kimi Jober
(Clerk)

9-4-98
(Date)

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.

Also indicate the following services (for an extra fee):

- 1. Addressee's Address
 - 2. Restricted Delivery
- Consult postmaster for fee.

3. Article Addressed to:
 W. Jeffrey Pardue
 Director of Enw. Services
 Fla. Power Corp.
 3201 34th St. South
 St. Petersburg, FL
 33733

4a. Article Number
 P265 659 412

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

7. Date of Delivery
 SEP 08 1998

5. Received By: (Print Name)
 Kathy DeLong

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

6. Signature: (Addressee or Agent)
 X Kathy DeLong for W. Pardue

Thank you for using Return Receipt Service.

P 265 659 412

US Postal Service
Receipt for Certified Mail

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

Sent to W. Jeffrey Pardue	
Street & Number 34th St	
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	9-4-98
1010017-004-AC	

PS Form 3800, April 1995

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION
POLLUTION CONTROL PROJECT AND PSD APPLICABILITY REVIEW
FPC ANCLOTE GAS CO-FIRING PROJECT

BACKGROUND

Florida Power Corporation (FPC) operates the Anclote Power Plant in Pasco County. Anclote Units 1 and 2 are nominal 530 megawatts (MW) oil-fired units which exhaust through a common stack. There is no add-on air pollution control equipment on these units. In February, 1998, FPC applied to modify Units 1 and 2 to accommodate co-firing with natural gas.

The modifications will consist of adding gas spuds and new nozzle tips to the bottom two burner decks. Each tangential fired boiler has 5 burner decks and a total of 20 burners. Only one fuel (either gas or fuel oil) will be fired in these lower burner decks at a time. Natural gas piping will be added to the facility which will be capable of delivering up to 40 percent (%) of the heat input to each boiler.

The total heat input to the boiler when co-firing natural gas will be higher due to the additional latent heat losses when firing natural gas. The increased heat input when firing natural gas is 2% higher (5% latent heat losses times the maximum fraction of gas, 40%). According to FPC, annual average fuel sulfur levels are as follows: 1993 - 1.56%; 1994 - 1.34%; 1995 - 1.49%; 1996 - 1.36%; 1997 - 1.08%. The units are permitted to burn 2.5 % sulfur (S) No. 6 fuel oil.¹ According to FPC, they fired lower sulfur oil in 1996-97 to earn special SO₂ allowances. These were awarded to the company in August, 1998.²

The specifications for the burners indicated that they could co-fire natural gas with the 2.5% S fuel oil. Correspondence from FPC indicated that *"FPC has no plans to burn higher sulfur fuel oils when co-firing with gas but would like the flexibility to do so if the cost savings available would be significant."*³ Theoretically co-firing with natural gas could make it possible to more easily fire the less expensive high sulfur fuel oil thus increasing actual hourly sulfur dioxide emissions. The burner manufacturer, Ansaldo Inc., has guaranteed that hourly emissions of NO_x, PM, CO, and opacity will not increase when co-firing natural gas with No. 6 fuel oil.

In its application, FPC applied to fire used oil in quantities up to 10% of the annual heat input of the units. But it was mutually agreed that issues related to used oil will be addressed separately in the Anclote Title V Operation Permit action.

Because natural gas is an inherently cleaner fuel, FPC did not believe the project would trigger review for the Prevention of Significant Deterioration (PSD). The Department initially did not have reasonable assurance that there would not be PSD-significant increases because the use of lower cost natural gas together with lower cost high sulfur fuel oil could actually stimulate use of the units and thus increase annual NO_x and SO₂ emissions. FPC has presented information in subsequent submittals in support of its contention that the project is exempt from by rule from PSD as a Pollution Control Project (PCP).

REGULATIONS

The co-firing of natural gas is a change in method of operation with at least the possibility of causing *significant net emissions increase* as described in Rules 62-212.400(2)(d)4.a(ii) and 62-212.400(2), F.A.C. Therefore it may be a *Modification to a Major Facility*. As such, the PSD requirements in Rule 62-212.400, F.A.C. may apply.

Per Rule 62-212.400(5)(c), F.A.C.:

The proposed facility or modification shall apply Best Available Control Technology (BACT) for each pollutant subject to preconstruction review requirements as set forth in Rule 62-212.400(2)(f), F.A.C.

It is obvious that the definitions and applicability of facility modification and any exemptions are of key importance in this review.

A pollution control project (PCP) is defined at 40CFR52.21(b)(32) as:

Any activity or project undertaken at an existing electric steam generating unit for purposes of reducing emissions from such unit. Such activities and projects are limited to:

(1) The installation of conventional or innovative pollution control technology, including but not limited to advanced flue gas desulfurization, sorbent injection for sulfur dioxide control and nitrogen oxides control and electrostatic precipitators;

(2) An activity or project to accommodate switching to a fuel which is less polluting than the fuel in use prior to the activity or project, including, but not limited to natural gas or coal reburning, or the co-firing of natural gas and other fuel for the purpose of controlling emissions;

(3) A permanent clean coal technology demonstration project conducted under title II, Section 101(d) of the Further Continuing Appropriations Act of 1985.....; or

(4) A permanent clean coal technology demonstration project that constitutes a repowering project.

The PCP exemption rule was promulgated pursuant to the Wisconsin Electric Power Company (WEPCO) Decision and only to electric steam generating units. The rationale explained in EPA's July 1, 1994 Guidance (to Regions and Delegated State PSD Programs) as follows:

“Because WEPCO was directed at the utility industry which faced ‘massive industry-wide undertakings of pollution control projects’ to comply with the acid rain provisions of the Act (57 FR 32314), EPA limited the types of projects eligible for the exclusion to add-on controls and fuel switches at utilities.”

The above definition is not specifically listed in the State Rules in Chapter 62, F.A.C. However it is obvious that it is the intent of the State to abide by the Federal definition. Per **Rule 62-212.400(2)(a)2., F.A.C., Pollution Control Project Exemption:**

A pollution control project that is being added, replaced, or used at an existing electric utility steam generating unit and that meets the requirements of 40CFR52.21(b)(2)(iii)(h) shall not be subject to the preconstruction requirements of this rule.

According to **40CFR52.21(b)(2)(iii)(h)**, one of the exemptions from review for PSD is:

The addition, replacement or use of a pollution control project at an existing electric utility steam generating unit, unless the Administrator determines such addition, replacement, or use renders the unit less environmentally beneficial, or except (1) When the Administrator has reason to believe that the pollution control project would result in a significant net increase in representative actual annual emissions of any criteria pollutant over levels used for that source in the most recent air quality impact analysis in the area conducted for the purpose of title I if any, and (2) The Administrator determines the increase will cause or contribute to a violation of any national ambient air quality standard or PSD increment, or visibility limitation.

A fuel switch is not actually included in the definition of PCP nor is it listed as an activity in support of a PCP. However, it is not excluded. Furthermore, according to the EPA rule analysis at FR Vol. 57, No. 140, Pages 32320-32321:

“Thus EPA is today adopting revisions to its PSD and nonattainment regulations for the addition, replacement or use at an electric steam generating unit of any system or device whose primary function is the reduction of pollutants (including the switching to a less-polluting fuel where the primary purpose of the switch is the reduction of air pollutants).”

If it is established that the primary purpose of the switch is to reduce emissions, then it can be evaluated for qualification as a PCP. Even if there is an increase in a PSD pollutant associated with the project, it is not necessarily precluded from consideration as a PCP. Per the EPA analysis:

“Several commentors pointed out that a pollution control project that reduces one pollutant should not be allowed to increase emissions of another pollutant if that increase will cause or exacerbate a different pollution problem..... Although a pollution control project could theoretically cause a small collateral increase in some emissions, it will substantially reduce emissions of other pollutants. In recognition of this, the rule provides for a case-by-case assessment of the pollution control project’s net emissions and overall impact on the environment.”

Therefore, the criteria which the Department must follow are clear. The collateral increase in any PSD pollutant should be small and the decrease in one or more PSD pollutants should be substantial. The increases in any pollutant should not cause or contribute to violation of an ambient air quality standard or PSD increment.

DESCRIPTION OF PROJECTS

One project is the installation of natural gas burners. It can be considered for qualification as “an activity or project to accommodate switching to a fuel which is less polluting than the fuel in use prior to the activity or project, including, but not limited to natural gas or coal reburning, or the co-firing of natural gas and other fuel.” The other project is the actual “switching to a less-polluting fuel or co-firing of natural gas.”

It only remains to demonstrate that the installation of the burners is “for the purpose of controlling emissions” and that “the primary purpose co-firing natural gas is the reduction of air pollutants.”

INFORMATION IN SUPPORT OF PCP DESIGNATION

All factors being equal, use of natural gas should reduce hourly and annual emissions. Because use of an additional fuel can lower costs and increase availability of the units a utility may well be motivated to add fuel flexibility for primarily economic purposes. The initial press release from FPC suggested that the main purpose was to “save customers money.”⁴ The press release also mentioned “taking advantage of the environmental aspects of the clean burning natural gas.” Florida Gas Transmission Company will install, own, and operate a 22 mile connecting pipeline to deliver natural gas to the plant.

With its application, FPC provided forecast estimates of use of the Anclote units with and without gas co-firing.⁵ According to the projections, FPC believes that “the availability of gas, whenever it is lower cost, would help the Anclote Units be more competitive within the intermediate load category, but would not change the units’ category by an increase in capacity factor.” FPC provided historical data indicating that although natural gas has tended to be less expensive than residual fuel oil, by mid-1997, gas was more expensive. Since mid-1997, the price of gas has remained higher than residual fuel oil.⁶

The decrease in world oil prices is a well-known fact. Additionally many gas combustion turbine projects have been recently built, are being implemented, or planned throughout the state that will likely tighten the gas supply. These include:

- FPC Hines Energy Complex ~ 485 MW (startup)
- FPC Tiger Bay ~ 270 MW (operating)
- Lakeland McIntosh Unit 5 ~ 250-350 MW (construction)
- SECI Hardee Unit 3 ~ 250 MW (permitted)
- TECO Polk Power Partners ~ 250 MW (built)
- Tallahassee Purdom Unit 8 ~ 250 MW (permitted)
- Kissimmee Cane Island Unit 3 ~ 250 MW (application)
- Santa Rosa Energy ~ 250 MW plus steam (application)
- FPL Fort Myers Repowering ~ 1400 MW (application)
- Duke/New Smyrna ~ 500 MW (PSC Review)
- Gulf Power ~ 500 MW (application expected shortly)
- JEA Kennedy ~ 160 MW (application expected shortly)

The Department has been contacted by numerous other companies planning or exploring the possibility of gas projects in Florida. Florida Gas Transmission is evaluating the need for additional pipeline capacity. However the permitting will take several years and will not likely prevent a tightening of supply and increases in the costs of firm and interruptible supplies. Therefore the price advantage foreseen by FPC when it announced the project may have diminished. Also the above projects (including those by FPC) are much more efficient users of natural gas achieving thermal efficiencies as high as 56%. It is not likely that Anclote will become a high availability competitor with these projects or with coal-fired plants.

On August 28, 1998 members of the Department met with a representative from FPC and described the additional specific documentation needed to provide reasonable assurance that the primary reason for the gas co-firing project is for the control of emissions. On August 31, FPC provided an engineering study that clearly outlined solutions to a recognized particulate fallout problem at Anclote.⁷ According to the report:

*A portion of the **particulate** responsible for the fallout may result from very low load operation when ash deposits could accumulate in the air heater cold end, boiler exit flues, and stack --agglomerated and bound to the surfaces of these components by a sticky sulfuric acid solution which forms as a result of the low exit gas temperatures, high excess air, and moderate sulfur content of the fuel. When the units are started up, ramped up, from low load conditions, or when sootblowing is implemented in the boiler cold end surfaces, particularly in the air heater, the accumulations are agitated or loosened and are entrained with the flue gas out the stack. Due to the mass of these agglomerations, they could fall within close proximity of the stack; due to their acid content they could tightly adhere to and corrode the surfaces they fall on. This type of particulate **fallout** is commonly referred to as **acid smut**."*

The report describes one of the options to solving the problem as **firing at minimum load with natural gas**. The option and the project to implement it is clearly consistent with the project described by FPC in its application.

The problem and solution are described in a brief from Department compliance personnel clearly describes the problem and FPC's solution.⁸ According to the brief:

*"In late December of 1994 ... it came to the District's attention that **oily soot fallout from the Anclote Plant** was impacting residents within a one-half mile radius of the plant..... The use of **natural gas at low load**, such as during idle, **could only improve the condensable problem**."*

On September 3, FPC, through its Responsible Official and Designated Representative provided a statement to the effect that the purpose of the project is to reduce emissions and therefore qualifies for the PCP exemption from PSD⁹. With all the above facts, the Department has no reason to reject this assertion. Also information was provided to indicate that the project will not cause or contribute to a violation of any national ambient air quality standard or PSD increment.

CONCLUSION

Based on the foregoing analysis, the Department's Preliminary Determination is that co-firing with natural gas constitutes a Pollution Control Project per Department and EPA regulations. Additionally the installation of the burners constitutes a project and activities to accommodate switching to a fuel that is less polluting than the fuel in use prior to the project. The projects address one of the most obvious manifestations of acid rain - namely sulfuric acid smut fallout in the vicinity of the plant.

To insure that the project does not result in higher SO₂ emissions by using natural gas in conjunction with high sulfur fuel oil, the Department and FPC have agreed to limit fuel oil sulfur content to 1.8% on a short term basis and 1.5% on an annual basis. Additionally, the Department requires that FPC actually implement the use of natural gas at low load to insure the problems of acid smut fallout are actually ameliorated. This will be accomplished through FPC's "firm supply" contract to purchase the equivalent of 40 MW of natural gas at all times.

With natural gas co-firing, an emissions decrease is now expected. The increased competition, construction of more efficient gas turbines, tightening of the gas supply, and FPC's assessment of future demand provide reasonable assurance that this project will not actually cause the units to become high availability units and cause annual emissions increases. FPC is only firmly committed to take 40 MW of natural gas and the economic benefits and risks appear to be mostly borne by Florida Gas Transmission Company.

This Preliminary Determination that the PCP exemption to PSD Review applies, will be public-noticed in conjunction with the Intent to Issue an Air Construction Permit.

September 4, 1998

REFERENCES

- 1 Letter. Osbourn, S., FPC to Fancy, C.H., DEP. Fuel Oil Use - Anclote Units 1 and 2. August 31, 1998. ✓
- 2 Letter. EPA to Pardue, W.J., FPC. Allowances Earned From Anclote Plant. August, 1998. ✓
- 3 Letter. Osbourn, S., FPC, to Costello, M., DEP. Anclote Power Plant, Response to DEP Information Request. April 28, 1998. ✓
4. Press Release. Florida Power Corporation. "Florida Power Corporation's Partial Conversion of Plant to Save Customers Money." November 13, 1997. ✓
5. Letter. Osbourn, S., FPC, to Linero, A., DEP. Request to Burn Natural Gas at FPC's Anclote Facility. February 19, 1998. ✓
- 6 Report. Energy Information Administration. "Monthly Energy Review." August, 1998.
- 7 Gilbert/Commonwealth. Anclote Units 1 and 2 Particulate Fallout Investigation. June 23, 1995. ✓
8. E-Mail. Soich, Robert, DEP Southwest District, to Fancy, C.H., DEP. FPC Anclote Plant Gas Conversion. September 1, 1998. ✓
9. Letter. Pardue, W. J., FPC, to Fancy, C. H., DEP. Anclote Pollution Control Project Exemption. September 1, 1998. ✓

DRAFT

PERMITTEE:

Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

Permit No.	1010017-004-AC
SIC No.	4911
Expires:	December 1, 1999

Authorized Representative:
W. Jeffrey Pardue
Director Environmental Services

PROJECT AND LOCATION:

Permit for the installation of natural gas burners and natural gas supply equipment at the Anclote Power Plant Units 1 and 2, located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida.

UTM: Zone 17 ; 324.4 km E ; 3118.7 km N

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-214, 62-296 and 62-297. The above named Permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached Appendix made a part of this permit:

Appendix GC

Construction Permit General Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION

This permit authorizes the installation and testing of natural gas burners to utility boilers unit 1 and unit 2. Unit 1 is a nominal 535(summer)/540(winter) megawatt (electric) steam generator. Unit 2 is a nominal 525(summer)/530(winter) megawatt (electric) steam generator. Both units share a common 499 foot exhaust stack. There is no air pollution control equipment on these units.

REGULATORY CLASSIFICATION

The Anclote Generating Station is classified as a major air pollutant emitting facility. Units 1 and 2 are regulated under Rule 62-296.405 F.A.C., Fossil Fuel Steam Generators with more than 250 million Btu per Hour Heat Input.

This facility is regulated under Title IV and Title V of the Clean Air Act Amendments of 1990.

This facility is classified as a major source of Hazardous Air Pollutants (HAPs).

RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. They are specifically related to this permitting action but do not supersede the conditions given in this permit. These documents are on file with the Department.

Application received by DEP on 2/26/98

Department's letters dated 3/26/98, and 5/19/98

FPC response letters and faxes dated 3/23/98 4/28/98, 6/5/98, and 6/23/98

FPC letter dated 9/1/98

DRAFT

SECTION II. EMISSION UNITS ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to operate, and associated reports, tests, minor modifications and notifications or for permits to construct or modify an emission unit(s) should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (DEP) mailing address: 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, Mail Station 5505, and phone number (850) 488-0114.

The Permittee shall submit all compliance related notifications and reports required of this permit to the Department's Southwest District office:

Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6458

Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

U. S. Environmental Protection Agency - Region 4
Air, Pesticides & Toxics Management Division
Operating Permits Section
61 Forsyth Street
Atlanta, Georgia 32303
Telephone: 404/562-9099
Fax: 404/562-9095

2. General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in *Appendix GC* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]

3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.

4. Forms and Application Procedures: The Permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. [Rule 62-210.900, F.A.C.]

5. Expiration: This air construction permit shall expire on December 1, 1999.

SECTION III. SPECIFIC CONDITIONS

A. General Operation Requirements

1. Applicable Regulations: Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application and supplemental information referenced in Section I, Subsection C with the exception of used oil firing. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]
2. Unit 1 is authorized to fire fuel oils No. 1 through No. 6 with a maximum heat input of 4964 MMBtu per hour. Unit 2 is authorized to fire fuel oils No. 1 through No. 6 with a maximum heat input of 4850 MMBtu per hour. Pipeline quality natural gas may be fired alone or cofired with fuel oil in either boiler and shall be limited to a maximum heat input of 44% of the total heat input per boiler. Unit 1 is authorized to co-fire natural gas with fuel oils No. 1 through No. 6 with a maximum heat input of 5073 MMBtu per hour. Unit 2 is authorized to co-fire natural gas with fuel oils No. 1 through No. 6 with a maximum heat input of 4957 MMBtu per hour.
3. Anclote Power Plant Units 1 and 2 may operate continuously (i.e., 8760 hours per year).
4. Only pipeline quality natural gas or No. 1 - 6 fuel oils with a maximum sulfur content of 1.8% by weight shall be fired in Units 1 and 2.
5. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Permitting Authority as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the Permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]
6. Operating Procedures: Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. [Rule 62-4.070(3), F.A.C.]

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SECTION III. SPECIFIC CONDITIONS

B. Emission Limits and Standards

1. The following is a summary of emission limits applicable to Units 1 and 2:

Table 1. Emission Limits

Pollutant	Standard
SO ₂	1.5% sulfur content by weight, based upon 12 month rolling average
PM/PM ₁₀	0.1 lb/MMBtu
Visible Emissions	40 percent opacity

2. Visible Emissions. Visible emissions (VE) shall not exceed 40 percent opacity. Owners or operators shall conduct a compliance test for particulate matter emissions and opacity annually. Failure to demonstrate compliance with the particulate matter standard or the opacity standard of this condition shall constitute grounds for immediate revocation of this 40% standard in which case the standard from Rule 62-296.405(1)(a) F.A.C. shall apply (20% opacity limit except for one six-minute period per hour during which opacity shall not exceed 27%). [Rule 62-296.405(1)(a), F.A.C.; and, OGC File Nos. 86-1574 and 86-1575/Orders dated December 11, 1986.]
3. Visible Emissions - Soot Blowing and Load Change. Excess emissions from existing fossil fuel steam generators resulting from boiler cleaning (soot blowing) and load change shall be permitted provided the duration of such excess emissions shall not exceed 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 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 by this subparagraph, for boiler cleaning and load changes on Units 1 and 2 which are required to operate continuous opacity monitors. [40 CFR 75 and Rule 62-210.700(3), F.A.C.]
4. Sulfur Dioxide. The sulfur content of fuel oils burned shall not exceed 1.8% by weight, as received at the plant. The 12 month rolling average shall not exceed 1.5% by weight.
5. Particulate Matter. Particulate matter emissions shall not exceed 0.1 lb/MMBtu as measured by Method 5 or Method 17. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) or load change.

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SECTION III. SPECIFIC CONDITIONS

6. To minimize acid smut, at low load operation (less than 80 MW per unit), the use of natural gas shall be at least 40 % of the heat input to the unit or 7,000 MMBtu/day, whichever is less.

C. Excess Emissions

1. Excess emissions resulting from malfunction shall be permitted provided that best operational practices 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 DEP Southwest District Office for longer duration. 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.]
2. 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.]
3. Excess Emissions Report: If excess emissions occur due to malfunction, the owner or operator shall notify DEP's Southwest District office within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Excess emissions shall be reported in accordance with 40 CFR 60.7. [Rules 62-4.130 and 62-210.700(6), F.A.C.]

SECTION III. SPECIFIC CONDITIONS

D. Compliance Determination

1. Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate for natural gas firing, but not later than 180 days from the initial operation date on natural gas, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60, Appendix A (1998 version), and adopted by reference in Chapter 62-297, F.A.C.

Initial (I) compliance tests for VE and particulate emissions shall be performed on Units 1 and 2 while cofiring the maximum capacity of natural gas (approximately 40% to 44% of total heat input) and No. 6 Fuel oil. Annual (A) compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.340, F.A.C., on Units 1 and 2 as indicated. The following reference methods shall be used:

- DEP Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources (I, A).
- EPA Method 17 or Method 5. The minimum sample volume shall be 30 dry standard cubic feet.

For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. EPA Method 3A shall be used with the oxygen based F-factor and emission rates (lb/MMEtu) shall be computed according to EPA Method 19. Acetone wash shall be used with EPA Method 5 or 17. Stack testing shall be conducted using the fuel (and additive injection levels) which is representative of worst case for particulate emissions rate (i.e. using the fuel or fuel blend representative of that which has been fired during the past federal fiscal year which results in the highest potential emissions rate). (I, A) [Rules 62-213.440, 62-296.405(1)(e)2., and 62-297.401, F.A.C.]

Note: No other methods may be used for compliance testing unless prior DEP approval is received in writing. The DEP may request a special compliance test pursuant to Rule 62-297.340(2), F.A.C., when, after investigation (such as complaints, increased visible emissions, or questionable maintenance of control equipment), there is reason to believe that any applicable emission standard is being violated. The DEP's Southwest District office shall be notified, in writing, at least 30 days prior to the initial and annual compliance test(s)

2. Testing of emissions shall be conducted with each boiler operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the permit. If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. In this case, subsequent operation is limited by adjusting the heat input limit to 110 percent of the value reached during the test until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity.
3. EPA Method 6C may be used to determine compliance with the SO₂ emission limit. The following fuel sampling and analysis protocol may be used as an alternate sampling procedure authorized by this permit to demonstrate compliance with the sulfur dioxide standard: Determine and record the fuel sulfur content, percent by weight, for fuel oil delivered to the facility using either ASTM D2622-924, ASTM D4294-90, or both ASTM D4057-88 and ASTM D129-95 (or latest editions).

SECTION III. SPECIFIC CONDITIONS

Co-firing natural gas with fuel oil having more than 1.8% sulfur content by weight is prohibited. [Rules 62-213.440(1), 62-4.070(3), 62-296.405(1)(e)3., 62-296.405(1)(f)1.b., 62-297.440, F.A.C., and FPC's letter dated 8/1/98].

4. An initial test for CO is required while co-firing No. 6 fuel oil and natural gas at the design maximum capacity for gas operation (approximately 40% to 44% of total heat input) and at within 10% of the permitted overall heat input rate for each unit. The initial CO test results shall be the average of three valid one-hour runs using EPA method 10. A second test for CO shall be conducted firing only No. 6 fuel oil at within 10% of the overall heat input rate for comparison. This test is not required annually.
5. All fuel oil delivered to the facility shall be analyzed using ASTM D240-76 (or equivalent) to record the gross heating value (HHV). Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.
6. Compliance with the liquid fuel sulfur limit shall be verified by a fuel analysis provided by the vendor or performed by FPC upon each fuel delivery with the following exception: in cases where No. 6 fuel oil is received with a sulfur content exceeding 1.5% by weight, and blending is required to obtain a fuel mix equal to the applicable percent sulfur limit, an analysis of a fuel sample representative of fuel from the fuel storage tanks shall be performed by FPC prior to firing oil at the plant. Reports of percent sulfur content of these analyses shall be maintained at the power plant facility.

The owner or operator shall maintain records of the as-fired fuel oil heating value, density or specific gravity, and the percent sulfur content. fuel sulfur content, percent by weight, for liquid fuels shall be determined by either ASTM D2622-94, ASTM D4294-90 (95), ASTM D1552-95, ASTM D1266-91, or both ASTM D4057-88 and ASTM D129-95 (or latest editions) to analyze a representative sample of the fuel oil.

[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C., and applicant agreement with DEP on September 1, 1998.

E. Notification, Reporting and Recordkeeping

1. All measurements, records, and other data required to be maintained by FPC shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These records shall be made available to DEP representatives upon request.
2. Compliance Test Reports: A test report indicating the results of the required compliance tests shall be filed with the DEP Southwest District Office as soon as practical, but no later than 45 days after the last sampling run is completed. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.

SECTION III. SPECIFIC CONDITIONS

F. Monitoring Requirements

1. The Permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxides, sulfur dioxide emissions and opacity from Units 1 and 2. The continuous emission monitoring systems must comply with the certification and quality assurance, and other applicable requirements from 40 CFR 75. Periods of startup, shutdown, malfunction, and fuel switching shall be monitored, recorded, and reported as excess emissions when emission levels exceed the standards in Table 1 following the format of 40 CFR 60.7 (1998 version).
2. The following monitoring schedule for No. 1 - 6 fuel oil shall be followed: For all shipments of fuel oil received at the Anclote Power Plant Station, an analysis which reports the sulfur and ash content and heat content (HHV) of the fuel shall be provided by the fuel vendor or other sources which follow the appropriate fuel test methods listed in Specific Condition D1. The analysis record shall specify the origin of the fuel sample, the methods by which the analyses were conducted, the person conducting the sampling and analysis, and date of sampling and analysis.
4. Determination of Process Variables:
 - (a) The Permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
 - (b) Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh 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.]

G. Rule Requirements

1. The emission unit shall be operated in compliance with all applicable requirements of Rules 62-4, 204, 210, 212, 214, 296, and 297 except as otherwise specified herein. All notifications and reports specified in this section shall be submitted to the DEP's Southwest District office.
2. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (Rule 62-210.300(1), F.A.C.).
3. Except as otherwise specified herein, the emission unit shall be operated in compliance with all applicable provisions of Rule 62-210.700, F.A.C.: Excess Emissions; Chapter 62-297, F.A.C.: Stationary Sources - Emissions Monitoring; and, Rule 62-4.130, F.A.C.: Plant Operation - Problems.

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SECTION III. SPECIFIC CONDITIONS

4. Quarterly excess emission reports, in accordance with 40 CFR 60.7 (7) (c) (1998 version), shall be submitted to the DEP's Southwest District office.
5. Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the Permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports shall be sent to the DEP's Southwest District office by March 1st of each year.
6. Stack sampling facilities shall be available in accordance with Rule 62-297.310(6), F.A.C.
7. The Permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (Rule 62-4.090, F.A.C.).

H. Modifications

1. The Permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.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 or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and 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 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.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment 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.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- (a) Have access to and copy and records that must be kept under the conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
- Reasonable time may depend on the nature of the concern being investigated.
- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- (a) A description of and cause of non-compliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

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.

- G.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 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.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.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (a) Determination of Best Available Control Technology ()
 - (b) Determination of Prevention of Significant Deterioration non applicability (X); and
 - (c) Compliance with New Source Performance Standards ().
- G.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 or 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; and
 - 6. The results of such analyses.
- G.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 corrected promptly.
-



Department of Environmental Protection

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

P.E. Certification Statement

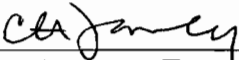
Permittee:
Florida Power Corporation

DRAFT Permit No. 1010017-004-AC

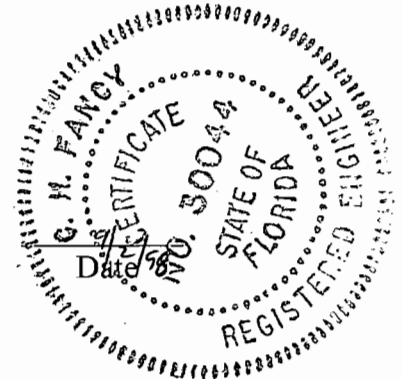
Facility ID No.: 1010017

Project type: Anclote Power Plant
Unit 1 and Unit 2 Gas Co-firing Project

I HEREBY CERTIFY that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).



Clair H. Fancy, P.E.
Registration Number: 30044
Bureau Chief



Department of Environmental Protection
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Phone (850) 488-0114
Fax (850) 922-6979



BUREAU OF
AIR REGULATION

MAY 26 1999

RECEIVED

May 24, 1999

Mr. William Proses
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Dr.
Tampa, Florida 33619-8318

Dear Mr. Proses:

Re: Anclote Facility
Initial and Annual Compliance Testing

Florida Power Corporation (FPC) had previously been issued a construction permit (No. 1010017-004-AC) for the installation of natural gas-firing capability at the above-referenced facility. Unit 1 has been modified and is currently available for the compliance testing required by the construction permit. As you know, particulate and visible emissions tests are also required annually on the Anclote units within the time period 60 days prior to June 28th. This letter serves to provide notification that testing to demonstrate compliance with the natural gas construction permit and to fulfill the requirements for annual particulate testing will be conducted on June 21-23, 1999. Similar testing for Unit 1 was conducted on April 12, 1999.

If you should have any questions concerning this request, please do not hesitate to contact me at (727) 826-4258.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott H. Osbourn".

Scott H. Osbourn
Senior Environmental Engineer

cc: Al Linero, DEP
Pete Burnette, ACE Testing

Anclote - Most recent active file.



RECEIVED

MAR 26 1999

BUREAU OF
AIR REGULATION

March 23, 1999

Mr. William Proses
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Dr.
Tampa, Florida 33619-8318

Dear Mr. Proses:

Re: Anclote Facility
Initial and Annual Compliance Testing

Florida Power Corporation (FPC) had previously been issued a construction permit (No. 1010017-004-AC) for the installation of natural gas-firing capability at the above-referenced facility. Unit 2 has been modified and is currently available for the compliance testing required by the construction permit. As you know, particulate and visible emissions tests are also required annually on the Anclote units within the time period 60 days prior to June 28th. This letter serves to provide notification that testing to demonstrate compliance with the natural gas construction permit will be conducted on April 12-14, 1999. Further, FPC requests that the annual test date for Unit 2 also be moved up to this time period, in order that the two tests may be combined.

Unit 1 is currently undergoing modification to accommodate natural gas firing. It's anticipated that testing to demonstrate compliance with the construction permit can be conducted within the current window provided for annual testing (i.e., prior to June 28th). FPC will provide notification when appropriate.

If you should have any questions concerning this request, please do not hesitate to contact me at (727) 826-4258.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott H. Osbourn", is written over a white background.

Scott H. Osbourn
Senior Environmental Engineer

cc: Al Linero, DEP
Pete Burnette, ACE Testing

al



January 29, 1999

RECEIVED

FEB 08 1999

BUREAU OF
AIR REGULATION

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

Dear Mr. Fancy:

Re: Fuel Oil Sampling at Anclote

I am writing to follow-up on our recent telephone conversation regarding fuel sampling and analysis for demonstration of compliance with the air construction permit that allows the use of natural gas at Florida Power Corporation's (FPC) Anclote Units 1 and 2. We discussed a practicable sampling program that ensures compliance with the permit while minimizing the burden to the plant. The following summarizes the program that FPC would like to use until such time that the Title V permit is finalized and becomes effective. FPC understands that the incorporation of periodic monitoring may alter these procedures somewhat in the final permit.

- 1) FPC currently takes an as-fired sample of #6 oil on a daily basis. These samples are used to develop a monthly composite sample for analysis. These monthly composite analyses are useful for determining compliance with the annual fuel sulfur limit of 1.5%.
- 2) The permit allows a maximum as-fired fuel sulfur limit of 1.8%. If an individual oil shipment contains less than 1.8% sulfur, then no additional sampling is necessary to ensure compliance with the daily limit. The on-going sampling discussed in 1) above will continue to ensure compliance with the annual 1.5% sulfur limit.
- 3) On occasion, a fuel oil shipment will contain greater than 1.8% sulfur. If this occurs, there are two ways of assuring compliance.

- a. As-fired sampling and analysis will be necessary in order to ensure compliance with the as-fired maximum limit. However, there may be a need to burn the fuel prior to receiving the analysis results. In such cases, a material balance calculation will be performed in order to closely estimate the sulfur content of the fuel to be burned. This can serve as assurance until the actual laboratory analysis is received. FPC understands that the calculation is not the ultimate compliance assurance, and that FPC will operate at its own risk until the final analysis is received.

Mr. Clair H. Fancy
January 29, 1999
Page Two

b. Similar to 2) above, if a blended sample analysis shows sulfur content under 1.8% prior to burning or prior to shipment to Anclote, then no additional daily sampling would be required.

Thank you for continuing to work with FPC on the conditions of this new permit. Please feel free to contact me at (727) 826-4334 if you have any questions.

Sincerely,



J. Michael Kennedy, Q.E.P.
Manager, Air Programs

Date: 9/1/98 5:52:26 PM
From: Robert Soich TPA
Subject: FPC Anclote Plant Gas Conversion.
To: Clair Fancy TAL
CC: Bill Thomas TPA
CC: Gerald Kissel TPA
CC: Bill Proses TPA
CC: Alvaro Linero TAL

In late December of 1994 and throughout 1995 it came to the districts attention that oily soot fallout from the Anclote plant was impacting residents within a one half mile radius of the plant.

Samples were collected from complainants property and indicated that fallout was from the power plant. The district met with Florida Power officials and a decision was made to install air tempering coils. The plant operation showed improvement after the installation. Large oily soot fallout no longer regularly occurred.

Since that time plume visibility has become more of a problem. A dense tan white condensed plume appears during early morning hours when associated with a load change. Stack monitors and compliance tests show compliance with the regulations. The public is concerned when viewing the dense plume. While idling at low loads the facility may still be condensing smaller size oily soot particles and that, along with condensing particles out side of the stack, may be causing the plume visibility problem. During the afternoon plume visibility does not appear to be a problem and visible emissions seem to correspond to opacity monitor readings.

With the construction of the FPC Hines Energy Complex in Polk County, this ensures that the current operation of idling the Anclote Plant will remain. The use of natural gas at low load, such as during idle, could only improve the condensable problem. When cofiring with gas at higher loads this also would help the plume visibility problem.

The alternative is that FPC keeps their current permit conditions without installing natural gas. Fuel oil up to 2.5% sulfur could be burned. Gas would certainly burn cleaner than #6 oil and this benefit will be available up to 40% of load on each unit. The need to blow soot wood become less frequent.

It's my opinion that gas conversion can only improve the situation concerning plume visibility and associated fallout from this facility.



September 1, 1998

Mr. Clair Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Re: FPC's Anclote Plant Natural Gas Co-Firing Project
Pollution Control Project Exemption

On February 19, 1998, Florida Power Corporation (FPC) applied for a Permit to Construct in order to install natural gas co-firing capability at the above-referenced site. FPC categorized this as a pollution control project, as defined under 40 CFR 51.21(b)(2)(iii)(h), and therefore excluded from new source review. FPC maintained that the definition appropriately applied because: 1) the use of natural gas at low loads will lessen the potential for acid smut formation, resulting in lower opacity and reduced soot deposition and 2) the reduction in future SO₂ emissions resulting from the burning of gas is significant to FPC's acid rain compliance strategy.

In accordance with the definition of a pollution control project (PCP) at 40 CFR 52.21(b)(32), F.A.C., FPC attests to the fact that the Anclote natural gas co-firing project is an activity undertaken to accommodate switching to a fuel which is less polluting than the fuel in use prior to the addition of gas. FPC also attests that the primary purpose of the Anclote gas co-firing project is the reduction of air pollutants. Specifically, the natural gas project itself will not result in any significant capacity factor increase, the collateral increase in PSD pollutants, if any, would be small and the decrease in one or more PSD pollutants will be substantial.

In support of the above statement, FPC has agreed to accept a lower fuel sulfur limit and to commit to the use of co-fired natural gas at low load operation. Specifically, FPC will accept an annual average fuel sulfur limit of 1.5 percent (including a 24 hour as-fired average of 1.8 percent), versus the current allowable 2.5 percent sulfur limit. Further, FPC acknowledges a commitment to purchase approximately 7,000 MMBtu/day of firm gas transportation at the Anclote site in order for the gas pipeline project to be feasible. This commitment reflects an intended use of co-fired natural gas at low loads to address the acid smut problem. FPC commits to burn firm natural gas during periods of low load (i.e., less than 80 MWs per unit) operation.

Mr. Fancy
September 1, 1998
Page 2

If you should have any questions concerning the above, please do not hesitate to contact either Scott Osbourn at (727) 826-4258 or me at (727) 826-4301.

Sincerely,


A handwritten signature in black ink, appearing to read "W. Jeffrey Pardue". The signature is stylized with a large, circular flourish at the beginning.

W. Jeffrey Pardue, C.E.P.
Director, Environmental Services Department
FPC Responsible Official

Memorandum

Florida Department of Environmental Protection

TO: Howard L. Rhodes, Director
Division of Air Resources Management

FROM: Clair H. Fancy, Chief 
Bureau of Air Regulation

DATE: September 1, 1998

SUBJECT: Florida Power Corporation

On Friday, August 29, I spent most of the day with Scott Osbourn of FPC. We worked out conditions in the draft Title V permit regarding annual hourly limits for 4 combustion turbines for the DeBary facility. The revised draft permit will be issued in about two weeks.

Much of the time was spent on the partial natural gas conversion project proposed for Anclote. On July 22 we issued an Intent for the conversion on the basis that actual emissions of PM, SO₂ and NO_x would not increase after the conversion, thus keeping them from going through Prevention of Significant Deterioration (PSD) review and a BACT review. The company objected to the permit as they had hoped it could be issued as a Pollution Control Project (PCP) and would escape restrictions and be exempt from PSD review. They are currently allowed, by permit and by rule, to operate each 500 MW Unit 8760 hours per year burning up to 2.5% sulfur fuel. They have recently burned fuel in the 1-1.5% sulfur range with a capacity factor of 33-44%.

As gas is a much cleaner fuel than oil and they have had acid smut problems at the plant when it operates at low loads (less than 80 MW), I decided we should discuss again the possibility of this being a PCP.

The company has agreed to taking a sulfur limit of 1.8% 24 hour and 1.5% rolling 12 month average, which is a reduction of 28-40% of what they are currently allowed. The effective SO₂ emission will actually be less than that because they will burn a minimum of 4% gas and a maximum of 40% gas, depending on price and availability. They will have 43 MW of firm gas that they must take to get the pipeline built to the Anclote plant.

A main reason for using the gas at low loads is that it will reduce the acid smut problem. At low loads, typically at night, material builds up in the boiler. Then in the morning when the load goes up, the material goes out the stack and ends up being deposited on cars, boats, and houses. FPC says they spend about \$40,000 per year washing cars, boats and houses, not to mention the public relations problems that they have. The district air compliance engineer is very much in favor of the partial gas conversion. There will be a permit condition requiring the firing of at least 43 MW of gas while the units operate at low load. This is part of the justification for this being a PCP, along with gas being an inherently cleaner fuel.

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

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MEMORANDUM

Page Two
September 1, 1998

The company has prepared a signed statement that the main reason for this conversion is pollution control and that this project will not cause the units to be run more - i.e., a capacity factor increase. These are two requirements of a PCP.

By taking this approach, we are using common sense regulation to produce a positive environmental result.

CHF/h

TO: Clair Fancy

FROM: A. A. Linero



DATE: September 1, 1998

SUBJ: Anclote Natural Gas Usage

The original application was to modify Anclote 1 and 2 to accommodate natural gas. Because of the present low availability of the unit, use of natural gas could increase the use of the unit, resulting in a PSD-significant increase in NOx emissions. Although the company has used 1-1.5% sulfur fuel oil in recent years, correspondence from them indicated that the burners were being designed to actually co-fire the gas with 2.5% sulfur fuel oil and maintain the flexibility of using even higher sulfur fuel oil.

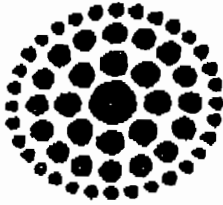
With these facts, the project would clearly trigger PSD and the Pollution Control Project exemption in our rules (which they did not request in their application) in our rules would not apply. Initially we included language to simply limit future emissions to past actual emissions plus a margin for system-wide capacity utilization. This is not acceptable to FPC, therefore we reached an impasse.

The PCP rule states that the purpose of co-firing must be to reduce emissions. According to the attached press release, the primary purpose appears to be economic.

We requested any internal documents from FPC in support of the environmental priority of the project. A similar request to TECO resulted in very substantial documentation regarding the coalyard project.

Since we met with FPC on Friday, they have agreed to stipulate through their responsible official that the primary purpose is environmental. They have now agreed to limit fuel oil sulfur to less than 1.8% sulfur. With these additional facts and recognition of the acid smut fallout problem in the area, we can consider the natural gas co-firing to be a PCP. Without this additional substantiation, we could not.

AAL/kt



Florida Power CORPORATION



Environmental Services Department

FAX COVER SHEET

DATE: 9/1/98

TO: Clair Farnaj

FAX # (850) 922-6979

COMPANY: DEP

FROM: Sam Osborn

PHONE # (727) 826-4258

FAX # _____

NUMBER OF PAGES TRANSMITTED 4

Please call number listed above for any transmission problems.

COMMENTS:

As we discussed.





August 31, 1998

Mr. Clair Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Re: FPC's Anclote Plant Natural Gas Co-Firing Project
Pollution Control Project Exemption

This letter serves to provide the additional information requested during our telephone conversation of August 31, 1998. Specifically, you had requested that Florida Power Corporation (FPC) submit data for the Anclote Plant relating to annual average fuel oil sulfur levels and annual capacity factors for the years 1993 through 1997. The data summarized below was obtained from the Annual Operating Reports for the years requested.

Annual average fuel sulfur levels are as follows: 1993 - 1.56%; 1994 - 1.34%; 1995 - 1.49%; 1996 - 1.36%; 1997 - 1.08%. Although the allowable fuel oil sulfur level at Anclote Plant is 2.5%, FPC has historically burned fuel oils with a sulfur content of 2.0% or less. Recently, the fuel oil sulfur levels have been much lower in order that FPC could qualify for SO₂ bonus allowances under EPA's Acid Rain program (see attached letter). The levels for 1996 and 1997 were lower than normal because there was uncertainty regarding which year EPA would use as the baseline for determining eligibility. Now that FPC has qualified for the allowances, there is no continuing requirement.

Annual capacity factor is determined by dividing total heat input (or fuel use) for each year by the total potential heat input or fuel use, assuming the units could operate at full load for 8,760 hours per year. The figures are as follows: 1993 - 40%; 1994 - 33%; 1995 - 33%; 1996 - 39%; 1997 - 44%.

If you should have any questions concerning the above, please do not hesitate to contact me at (727) 826-4258.

Sincerely,

Scott H. Osbourn
Senior Environmental Engineer

Attachment

BEST AVAILABLE COPY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

RECEIVED

AUG 07 1998

Environmental Protection
DepartmentOFFICE OF
AIR AND RADIATION

AUG 13 1998

Mr. W. Jeffrey Pardue
Florida Power Corporation
P.O. Box 14042
MAC H2G
St. Petersburg, FL 33733

Re: Determination of Eligibility under §73.19 For Anclote Units 1 & 2

Dear Mr. Pardue:

EPA's review of data in the National Allowance Data Base (NADB) and Supplemental Data File (SDF) confirms that Anclote units 1 and 2 meet the requirements for eligibility both under existing §73.19(a) and under the revised §73.19(a) that EPA intends to promulgate as a final rule in the 1998 allocation revision rulemaking. Under either version of §73.19(a) a unit's 1997 SO₂ emission rate can be used to determine eligibility.

To determine 1997 SO₂ emission rate, EPA used quality assured data submitted in accordance with 40 CFR Part 75. For Anclote 1, continuous emissions monitoring showed a heat input of 21,786,765 mmBtu and emissions of 11,695 tons of SO₂. The calculated emission rate was 1.0736 lb/mmBtu. For Anclote 2, monitoring showed a heat input of 24,467,624 mmBtu and emissions of 14,294 tons of SO₂. The calculated emission rate is 1.1684 lb/mmBtu. Both units' calculated emission rate of SO₂ is less than 1.2 lb/mmBtu, so the units are eligible to receive allowance allocations under §73.19, which implements section 405(i)(2) of the Act. An attachment is provided which documents the emission rate calculations.

In summary, EPA has determined that Anclote units 1 and 2 are eligible to receive allowances under §73.19. If you have questions about the calculations or the provision, please contact Kathy Barylaki of my staff at (202) 564-9074.

Sincerely,

Brian J. McLean, Director
Acid Rain Division



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contains at least 60% recycled fiber

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Calculation of SO₂ Emission Rate

The formula for calculating the SO₂ emission rate is:

$$SO_2 \text{ Rate (lb/mmBtu)} = 2000 \text{ lb/tons} \times SO_2 \text{ Emissions (tons)} / \text{Heat Input (mmBtu)}$$

For 1997, the quality assured data under Part 75 and calculated emission rate are:

	SO ₂ Emissions	Heat Input	SO ₂ Emission Rate
Anclote 1	11,695	21,786,765	1.0736
Anclote 2	14,294	24,467,624	1.1684

Florida Power Corporation Anclote Plant

#6 Oil Emissions Modeling

9/1/98

Introduction: The ambient air quality impact of SO₂, NO_x, and particulate matter (PM) emissions from Florida Power Corporation's (FPC) Anclote Plant was assessed with the use of dispersion modeling. Emissions from #6 oil burning were input to the Industrial Source Complex (ISC) model. The emissions impact from Anclote was predicted in an area covering up to a distance of 3 kilometers (km) from the plant. Predicted ambient concentrations are well below the respective National Ambient Air Quality Standards (NAAQS) and State of Florida ambient air quality standards (FAAQS).

Model Used: The latest version of EPA's ISC model, which is called ISC3, was used. For conservatism, FPC utilized the short-term version, which computes concentrations on an hourly basis. For SO₂, the highest 3-hour, 24-hour, and annual concentrations were compared to the NAAQS and FAAQS. For NO_x, the highest annual concentrations were compared to the annual NAAQS. Finally, for PM the highest 24-hour and annual concentrations were compared to the NAAQS and FAAQS.

In accordance with EPA modeling guidance, the regulatory default option was chosen for addressing plume rise, calm periods, wind profiles, and temperature gradients with height. Since the area surrounding the plant is dominated by water (Gulf of Mexico) and a suburban landscape, the rural dispersion option was used.

A full year (1986) of hourly meteorological data taken at the Tampa National Weather Service office was input to the model for this analysis.

The receptor network input to the model is comprised of a rectangular grid. The receptors were placed at 400 meter intervals with the Anclote stack at the center of the grid. Receptors were placed to a distance of 3 km from the center. Maximum predicted concentrations were well inside the boundaries of the receptor network, at a distance of approximately 1.5 km from the plant.

Emissions Input: As part of a pollution control project demonstration, FPC has agreed to an annual average #6 oil sulfur content of 1.5%, and a 24-hour average sulfur content of 1.8%. Maximum SO₂, NO_x, and PM emissions from the Anclote plant were modeled. In addition, a low load SO₂ scenario (80 MW per unit) was modeled on a short-term basis. The plant has 2 units with a capacity of approximately 535 MW each that discharge emissions through a common stack. Stack parameters input to ISC for the full load cases are as follows:

Height	152.1 meters (499 feet)
Diameter	7.6 meters (24.9 feet)
Temperature	430 degrees K
Exit Velocity	35.1 meters/sec.

Ancote Modeling Summary
Page Two

For the low load case, the stack gas temperature input was 349 degrees K and the exit velocity was 8.6 meters/sec.

Emissions calculations are as follows:

#6 Oil

Heat input limits: Unit 1 - 4964 mmBtu/hr Unit 2 - 4850 mmBtu/hr
Total heat input at maximum load: 9814 mmBtu/hr

For SO₂, a 1.5% sulfur annual average corresponds to an emission rate of 1.65 lb/mmBtu. A 1.8% sulfur daily average results in an emission rate of 1.98 lb/mmBtu.

$$\begin{aligned} \text{\#6 oil SO}_2 \text{ (1.5\% S): } & 9814 \text{ mmBtu/hr} \times 1.65 \text{ lb/mmBtu} \times 453.6 \text{ g/lb} \times 1/3600 \text{ sec/hr} \\ & = 2,042.1 \text{ g/sec} \end{aligned}$$

For a 1.8% sulfur limit, the above calculation results in an emission rate of 2,450.6 g/s.

Similarly, the NO_x emission rate is based on 0.40 lb/mmBtu, which corresponds to 495.1 g/s. The PM emission rate is based on the permit limit of 0.1 lb/mmBtu, resulting in a rate of 123.8 g/s.

Modeling Results and Conclusion

For SO₂, the 1.5% sulfur limit was modeled on an annual average basis, and the 1.8% 24-hour sulfur limit was modeled on a 3-hour and 24-hour basis. PM concentrations were modeled for 24-hour and annual periods. NO_x was modeled as NO₂ on an annual average basis. The following are the highest predicted concentrations in micrograms/cubic meter for these pollutants and averaging times:

	<u>SO₂</u>		<u>PM</u>	<u>NO₂</u>
	<u>Full load</u>	<u>80 MW</u>		
Highest 24-hour avg.	62.6	35.7	3.2	NA
Highest 3-hour avg.	363.8	164.1	NA	NA
Highest Annual avg.	2.2	NA	0.1	0.5

NA = Not Applicable

Highest predicted concentrations are much lower than the corresponding ambient air quality standards.

Complete ISC model outputs of this analysis are attached to this summary.

Anclote SO2
1.5% 5 Annual Avg.

CO STARTING
CO TITLEONE ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.65 lb/mmBtu
CO TITLETWO 2042 G/SEC EMISS. RATE; ANNUAL CONC. @ FULL LOAD
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME PERIOD
CO POLLUTID SO2
CO DCAYCOEF .000000
CO RUNORNOT RUN
CO ERRORFIL ERRORS.OUT
CO FINISHED

SO STARTING
** Source Location Cards:
** SRCID SRCTYP XS YS ZS

SO LOCATION 1 POINT 0.0000 0.0000 .0000

** Source Parameter Cards:
** POINT: SRCID QS HS TS VS DS

SO SRCPARAM 1 2042.1 152.100 430.0000 35.1000 7.6000

SO EMISUNIT .100000E+07 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDCART CAR1 STA
RE CAR1 XYINC -3000. 16 400. -3000. 16 400.
RE CAR1 END
RE FINISHED

ME STARTING
ME INPUTFIL tpapr186.bin UNFORM
ME ANEMHGHT 6.700 METERS
ME SURFDATA 12842 1986 SURFNAME
ME UAIRDATA 12842 1986 UAIRNAME
ME WINDCATS 1.54 3.09 5.14 8.23 10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED

*** SETUP Finishes Successfully ***

**MODELOPTs: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

-- SCAVENGING/DEPOSITION LOGIC --

**Model Uses NO DRY DEPLETION. DDPLETE = F

**Model Uses NO WET DEPLETION. WDPLETE = F

**NO WET SCAVENGING Data Provided.

**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:

1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates PERIOD Averages Only

**This Run Includes: 1 Source(s); 1 Source Group(s); and 256 Receptor(s)

**The Model Assumes A Pollutant Type of: SO2

**Model Set To Continue RUNNING After the Setup Testing.

**Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours

m for Missing Hours

b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0

Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07

Output Units = (MICROGRAMS/CUBIC-METER)

**Input Runstream File: an_15sul.dta ; **Output Print File: an_15sul.lst

**Detailed Error/Message File: ERRORS.OUT

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

NUMBER	EMISSION RATE	BASE	STACK	STACK	STACK	STACK	BUILDING	EMISSION RATE			
SOURCE	PART. (USER UNITS)	X	Y	ELEV.	HEIGHT	TEMP.	EXIT VEL.	DIAMETER	EXISTS	SCALAR	VARY
ID	CATS.	(METERS)	(METERS)	(METERS)	(METERS)	(DEG.K)	(M/SEC)	(METERS)		BY	
1	0	0.20421E+04	0.0	0.0	0.0	152.10	430.00	35.10	7.60	NO	

**MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID SOURCE IDs

ALL 1 ,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

*** Y-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: tpapr86.bin FORMAT: UNFORM
 SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
 NAME: SURFNAME NAME: UAIRNAME
 YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	FLOW	SPEED	TEMP	STAB	MIXING	HEIGHT (M)	USTAR	M-O	LENGTH	Z-0	IPCODE	PRATE
			VECTOR	(M/S)	(K)	CLASS	RURAL	URBAN	(M/S)	(M)	(M)	(M)	(mm/HR)	
86	1	1	1	351.0	4.12	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	2	348.0	3.60	292.6	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	3	174.0	4.63	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	4	293.0	3.09	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	5	3.0	1.54	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	6	322.0	2.57	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	7	345.0	3.60	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	8	343.0	2.57	290.4	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	9	337.0	3.09	290.9	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	10	341.0	3.09	292.6	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	11	4.0	2.57	294.3	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	12	356.0	3.09	294.8	2	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	13	23.0	2.57	295.9	2	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	14	59.0	2.57	294.8	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	15	42.0	3.09	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	16	54.0	1.54	293.7	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	17	51.0	2.06	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	18	47.0	1.00	293.2	5	419.0	418.0	0.0000	0.0	0.0000	0	0.00
86	1	1	19	134.0	2.06	291.5	6	428.0	424.0	0.0000	0.0	0.0000	0	0.00
86	1	1	20	127.0	1.00	290.9	6	437.0	430.0	0.0000	0.0	0.0000	0	0.00
86	1	1	21	130.0	1.00	290.9	6	447.0	435.0	0.0000	0.0	0.0000	0	0.00
86	1	1	22	132.0	1.00	289.8	6	456.0	441.0	0.0000	0.0	0.0000	0	0.00
86	1	1	23	270.0	1.54	290.9	6	465.0	447.0	0.0000	0.0	0.0000	0	0.00
86	1	1	24	290.0	2.06	290.4	6	474.0	453.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
 FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD	X-COORD (METERS)								
(METERS)	-3000.00	-2600.00	-2200.00	-1800.00	-1400.00	-1000.00	-600.00	-200.00	200.00
3000.00	0.93451	0.70572	0.53299	0.44047	0.40688	0.41893	0.47568	0.55885	0.65132
2600.00	1.05364	0.81559	0.57904	0.41710	0.34420	0.33917	0.39675	0.49741	0.60327
2200.00	1.10752	0.90810	0.65903	0.43044	0.29455	0.25736	0.31110	0.43430	0.56062
1800.00	1.10244	0.94014	0.72968	0.48921	0.28777	0.17316	0.20016	0.36386	0.53043
1400.00	1.05549	0.92294	0.75817	0.56312	0.31689	0.14406	0.11755	0.30331	0.51290
1000.00	0.98639	0.86820	0.74695	0.58924	0.42402	0.21478	0.04267	0.06359	0.14828
600.00	0.93826	0.81159	0.70170	0.58087	0.51823	0.23950	0.00467	0.00000	0.00000
200.00	0.93278	0.78931	0.66177	0.53612	0.46133	0.11303	0.00000	0.00000	0.00000
-200.00	0.94175	0.79329	0.65769	0.52211	0.44535	0.11142	0.00000	0.00000	0.00000
-600.00	0.92152	0.77972	0.64719	0.49478	0.40661	0.17258	0.00464	0.00000	0.00000
-1000.00	0.92063	0.77143	0.61720	0.44288	0.30871	0.20354	0.09493	0.01104	0.00973
-1400.00	0.90634	0.73871	0.57115	0.42774	0.28836	0.20683	0.12836	0.04630	0.05376
-1800.00	0.85919	0.69976	0.55572	0.43483	0.32764	0.21083	0.11306	0.05642	0.06437
-2200.00	0.81654	0.69004	0.57028	0.45294	0.33451	0.21463	0.12502	0.08432	0.09362
-2600.00	0.79977	0.69173	0.57566	0.45416	0.32503	0.20813	0.13935	0.11318	0.12418
-3000.00	0.78357	0.67595	0.55996	0.43514	0.30677	0.20924	0.16099	0.14429	0.15736

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)						
	600.00	1000.00	1400.00	1800.00	2200.00	2600.00	3000.00
3000.00	0.71603	0.72826	0.72084	0.73920	0.82302	0.97870	1.18658
2600.00	0.65840	0.65284	0.64490	0.70081	0.85349	1.08826	1.36457
2200.00	0.60687	0.58250	0.58819	0.70478	0.94260	1.25770	1.59663
1800.00	0.55204	0.51123	0.57731	0.77829	1.09907	1.48050	1.86126
1400.00	0.52065	0.48663	0.61075	0.93244	1.30611	1.71697	2.10924
1000.00	0.25764	0.51309	0.76413	1.07089	1.48087	1.86719	2.22723
600.00	0.01169	0.47022	0.89171	1.07476	1.46597	1.80836	2.14647
200.00	0.00000	0.17970	0.68140	0.86505	1.26575	1.62461	1.98159
-200.00	0.00000	0.08060	0.40865	0.61441	0.99613	1.34639	1.69581
-600.00	0.00022	0.07382	0.23608	0.38725	0.67439	0.96645	1.27969
-1000.00	0.01885	0.03714	0.11404	0.23678	0.41939	0.63114	0.88298
-1400.00	0.06519	0.05408	0.09917	0.20169	0.30567	0.44042	0.61501
-1800.00	0.08450	0.09723	0.14522	0.21225	0.29159	0.37765	0.48301
-2200.00	0.11571	0.13318	0.17604	0.23974	0.31320	0.38234	0.44784
-2600.00	0.14247	0.15426	0.19472	0.26273	0.33372	0.40131	0.45672
-3000.00	0.17321	0.17706	0.20261	0.27129	0.34478	0.41007	0.46759

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG) OF TYPE GRID-ID
ALL	1ST HIGHEST VALUE IS 2.22723 AT (3000.00, 1000.00, 0.00, 0.00)	GC CAR1
	2ND HIGHEST VALUE IS 2.14647 AT (3000.00, 600.00, 0.00, 0.00)	GC CAR1
	3RD HIGHEST VALUE IS 2.10924 AT (3000.00, 1400.00, 0.00, 0.00)	GC CAR1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 816 Informational Message(s)

A Total of 816 Calm Hours Identified

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
*** NONE ***

*** ISCST3 Finishes Successfully ***

*** RUN INFORMATION PAGE ***

INPUT FILENAME IS: an_15sul.dta
OUTPUT FILENAME IS: an_15sul.lst
RUN TITLE1 IS: ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.65 lb/mmBtu
2042 G/SEC EMISS. RATE; ANNUAL CONC. @ FULL LOAD
COMPUTER ID NAME (VOLUME): no label

BEGINNING HOUR,MINUTE,SECOND -----: 11:18:01
BEGINNING MONTH,DAY,YEAR -----: 09/01/98

ENDING HOUR,MINUTE,SECOND -----: 11:18:22
ENDING MONTH,DAY,YEAR -----: 09/01/98

TOTAL CPU SECONDS -----: 21.

Anclote SO₂
1.8% 5 Short-term Avg.

CO STARTING
CO TITLEONE ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu
CO TITLETWO 2451 G/SEC EMISS. RATE; 3,24 hr CON. @ FULL LOAD
CO MODELOPT DEFAULT CONC RURAL
CO AVERTIME 3 24
CO POLLUTID SO2
CO DCAYCOEF .000000
CO RUNORNOT RUN
CO ERRORFIL ERRORS.OUT
CO FINISHED

SO STARTING
** Source Location Cards:
** SRCID SRCTYP XS YS ZS
SO LOCATION 1 POINT 0.0000 0.0000 .0000
** Source Parameter Cards:
** POINT: SRCID QS HS TS VS DS
SO SRCPARAM 1 2450.6 152.100 430.0000 35.1000 7.6000
SO EMISUNIT .100000E+07 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDCART CAR1 STA
RE CAR1 XYINC -3000. 16 400. -3000. 16 400.
RE CAR1 END
RE FINISHED

ME STARTING
ME INPUTFIL tpaprl86.bin UNFORM
ME ANEMHGHT 6.700 METERS
ME SURFDATA 12842 1986 SURFNAME
ME UAIRDATA 12842 1986 UAIRNAME
ME WINDCATS 1.54 3.09 5.14 8.23 10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED

*** SETUP Finishes Successfully ***

**MODELOPTs: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

-- SCAVENGING/DEPOSITION LOGIC --

**Model Uses NO DRY DEPLETION. DDPLETE = F

**Model Uses NO WET DEPLETION. WDPLETE = F

**NO WET SCAVENGING Data Provided.

**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:

1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates 2 Short Term Average(s) of: 3-HR 24-HR

**This Run Includes: 1 Source(s); 1 Source Group(s); and 256 Receptor(s)

**The Model Assumes A Pollutant Type of: SO2

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Input Runstream File: an_18sul.dta ; **Output Print File: an_18sul.lst

**Detailed Error/Message File: ERRORS.OUT

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

NUMBER	EMISSION RATE		BASE	STACK	STACK	STACK	STACK	BUILDING	EMISSION RATE	
SOURCE	PART. (USER UNITS)	X	Y	ELEV.	HEIGHT	TEMP.	EXIT VEL.	DIAMETER	EXISTS	SCALAR VARY
ID	CATS.	(METERS)	(METERS)	(METERS)	(METERS)	(DEG.K)	(M/SEC)	(METERS)		BY
1	0	0.24506E+04	0.0	0.0	0.0	152.10	430.00	35.10	7.60	NO

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 2042 G/SEC EMISS. RATE; 3,24 hr CON. @ FULL LOAD *** 11:22:22
PAGE 3

**MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
----------	------------

ALL 1	,
-------	---

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

*** Y-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: tpapr86.bin FORMAT: UNFORM
 SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
 NAME: SURFNAME NAME: UAIRNAME
 YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	FLOW	SPEED	TEMP	STAB	MIXING	HEIGHT (M)	USTAR	M-O LENGTH	Z-0	IPCODE	PRATE
			VECTOR	(M/S)	(K)	CLASS	RURAL	URBAN	(M/S)	(M)	(M)	(mm/HR)	
86	1	1	1	351.0	4.12	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	2	348.0	3.60	292.6	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	3	174.0	4.63	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	4	293.0	3.09	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	5	3.0	1.54	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	6	322.0	2.57	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	7	345.0	3.60	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	8	343.0	2.57	290.4	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	9	337.0	3.09	290.9	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	10	341.0	3.09	292.6	3	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	11	4.0	2.57	294.3	3	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	12	356.0	3.09	294.8	2	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	13	23.0	2.57	295.9	2	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	14	59.0	2.57	294.8	3	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	15	42.0	3.09	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	16	54.0	1.54	293.7	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	17	51.0	2.06	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0 0.00
86	1	1	18	47.0	1.00	293.2	5	419.0	418.0	0.0000	0.0	0.0000	0 0.00
86	1	1	19	134.0	2.06	291.5	6	428.0	424.0	0.0000	0.0	0.0000	0 0.00
86	1	1	20	127.0	1.00	290.9	6	437.0	430.0	0.0000	0.0	0.0000	0 0.00
86	1	1	21	130.0	1.00	290.9	6	447.0	435.0	0.0000	0.0	0.0000	0 0.00
86	1	1	22	132.0	1.00	289.8	6	456.0	441.0	0.0000	0.0	0.0000	0 0.00
86	1	1	23	270.0	1.54	290.9	6	465.0	447.0	0.0000	0.0	0.0000	0 0.00
86	1	1	24	290.0	2.06	290.4	6	474.0	453.0	0.0000	0.0	0.0000	0 0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
 FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | -3000.00 -2600.00 -2200.00 -1800.00 -1400.00

3000.0	113.52367 (86051612)	111.55085 (86082912)	89.22980 (86082912)	104.55141 (86052812)	108.90842 (86052812)
2600.0	117.29279 (86051612)	96.80557 (86051612)	95.38003 (86082912)	69.12270 (86052812)	95.69305 (86052812)
2200.0	121.13721 (86092915)	106.13638 (86082515)	102.16341 (86062215)	89.79748 (86062215)	62.73760 (86052812)
1800.0	132.82155 (86082615)	125.36060 (86080812)	122.76752 (86080812)	117.29839 (86062215)	99.48739 (86062215)
1400.0	199.23311 (86082615)	186.91002 (86082615)	157.95015 (86082615)	149.45741 (86080812)	140.21864 (86062215)
1000.0	225.15247 (86082615)	245.28735 (86082615)	253.74727 (86082615)	241.91370 (86082615)	192.91649 (86080812)
600.0	182.23872 (86082615)	220.00871 (86082615)	263.46329 (86082615)	317.65674 (86082615)	335.82068 (86082615)
200.0	120.61973 (86060412)	135.67563 (86081015)	161.51744 (86082615)	211.78102 (86082615)	231.77045 (86082615)
-200.0	128.30412 (86070612)	140.73695 (86070612)	155.22144 (86070612)	179.17967 (86070612)	186.40320 (86070612)
-600.0	122.07618 (86090112)	140.88922 (86090112)	160.39912 (86090112)	188.78206 (86080912)	204.04744 (86080912)
-1000.0	135.77876 (86080912)	147.69168 (86080912)	152.60332 (86080912)	146.52025 (86080912)	163.45714 (86062715)
-1400.0	121.78358 (86080912)	114.67264 (86080912)	112.76883 (86040312)	145.02722 (86062715)	164.07556 (86062715)
-1800.0	99.26367 (86110412)	105.66028 (86062715)	134.26668 (86062715)	147.40520 (86062715)	133.69472 (86080915)
-2200.0	107.81937 (86091915)	126.68836 (86062715)	139.82664 (86062715)	124.07984 (86062715)	147.04272 (86052215)
-2600.0	121.10629 (86062715)	135.55098 (86062715)	128.59773 (86062715)	116.62411 (86052215)	144.25252 (86052215)
-3000.0	132.03526 (86062715)	131.99028 (86062715)	113.98782 (86042312)	123.68047 (86052215)	128.78224 (86052215)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD	X-COORD (METERS)				
(METERS)	-1000.00	-600.00	-200.00	200.00	600.00
3000.0	121.07088 (86092312)	146.76038 (86092312)	142.69269 (86071712)	166.90486 (86080312)	134.68542 (86073112)
2600.0	110.70470 (86092312)	147.78355 (86092312)	154.36496 (86071712)	154.66216 (86072515)	155.51228 (86073112)
2200.0	96.74619 (86092312)	148.72888 (86092312)	167.52518 (86071712)	173.00600 (86072515)	177.14000 (86073112)
1800.0	76.71557 (86092312)	151.34879 (86092312)	191.13988 (86071712)	203.21782 (86072515)	200.92561 (86073112)
1400.0	109.74807 (86062215)	136.74254 (86092312)	187.64333 (86071712)	228.32426 (86072515)	217.00659c(86090115)
1000.0	149.91449 (86062215)	47.10582 (86062215)	51.86873 (86092312)	89.08729 (86073112)	134.25049c(86090115)
600.0	138.18817 (86082615)	6.78918 (86062215)	0.00151 (86092312)	0.00242 (86073112)	11.54944 (86090715)
200.0	62.92689 (86082615)	0.00195 (86082615)	0.00000 (86010324)	0.00000 (86111809)	0.00298 (86071612)
-200.0	61.16990 (86090112)	0.00170 (86090112)	0.00000c(86121903)	0.00000c(86021809)	0.00116 (86062012)
-600.0	91.08949 (86040312)	7.24191 (86062715)	0.00067 (86052215)	0.00048 (86022403)	0.46960 (86051115)
-1000.0	180.30511 (86062715)	166.29945 (86052215)	30.16948 (86052215)	30.86861 (86062615)	58.42922 (86062615)
-1400.0	183.97343 (86052215)	217.80037 (86052215)	79.72059 (86052215)	163.14561 (86062615)	191.07550 (86062615)
-1800.0	183.92342 (86052215)	154.00418 (86052215)	56.88409 (86052215)	151.91377 (86062615)	190.47722 (86062615)
-2200.0	158.53786 (86052215)	105.98245 (86052215)	46.78139 (86062615)	121.10326 (86062615)	170.21849 (86062615)
-2600.0	127.37424 (86052215)	74.03808 (86052215)	39.76124 (86062615)	99.74615 (86062615)	152.45598 (86062615)
-3000.0	98.20298 (86052215)	53.05090 (86052215)	51.08304 (86082412)	83.47566 (86062615)	134.92973 (86062615)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	139.42967 (86073112)	140.50005c(86090115)	190.84258c(86090115)	207.14967c(86090115)	189.56297c(86090115)
2600.0	142.69914 (86073112)	192.94014c(86090115)	228.35893c(86090115)	215.48689c(86090115)	172.17772c(86090115)
2200.0	183.06000c(86090115)	248.63045c(86090115)	247.51599c(86090115)	197.24463c(86090115)	136.89441 (86080115)
1800.0	264.76514c(86090115)	286.39493c(86090115)	230.02148c(86090115)	153.23680 (86080115)	172.26959 (86080115)
1400.0	344.50858c(86090115)	278.74414c(86090115)	176.46913 (86080115)	218.60258 (86071612)	231.45332 (86071612)
1000.0	273.16763c(86090115)	263.54407 (86071612)	293.79419 (86071612)	274.30841 (86071612)	236.33131 (86071612)
600.0	216.30901 (86071612)	363.83081 (86071612)	290.82239 (86071612)	213.61548 (86071612)	175.67381 (86071512)
200.0	70.30254 (86090815)	263.09979 (86071315)	295.26462 (86071315)	265.34232 (86071315)	246.84343 (86071315)
-200.0	59.38921 (86071315)	311.44308 (86071315)	334.40649 (86071315)	295.43597 (86071315)	272.78183 (86071315)
-600.0	99.01807 (86051115)	206.72394 (86062012)	182.69530 (86062012)	181.84535 (86071315)	185.44856 (86071315)
-1000.0	47.24898 (86051115)	122.66519 (86051115)	145.85251 (86051115)	144.63509 (86062012)	139.52174 (86062012)
-1400.0	91.45303 (86062615)	40.71486 (86051115)	77.30570 (86051115)	102.46354 (86051115)	114.31131 (86051115)
-1800.0	129.02632 (86062615)	55.13937 (86062615)	59.62046 (86042212)	81.93897 (86042212)	72.69431 (86042212)
-2200.0	147.26302 (86062615)	84.04600 (86062615)	49.25843 (86061815)	85.27506 (86042212)	105.47446 (86042212)
-2600.0	154.55376 (86062615)	109.88422 (86062615)	78.24567 (86061815)	68.20962 (86061815)	98.45185 (86042212)
-3000.0	153.47552 (86062615)	129.27489 (86062615)	95.13172 (86061815)	98.14850 (86061815)	82.10799 (86061815)

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 2042 G/SEC EMISS. RATE; 3,24 hr CON. @ FULL LOAD *** 11:22:22
PAGE 10

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
(METERS) | 3000.00

3000.0 | 152.55809c(86090115)
2600.0 | 123.87840 (86080115)
2200.0 | 164.60942 (86080115)
1800.0 | 185.80328 (86071612)
1400.0 | 221.32629 (86071612)
1000.0 | 194.25316 (86071612)
600.0 | 159.49089 (86071512)
200.0 | 232.53133 (86071315)
-200.0 | 254.36140 (86071315)
-600.0 | 185.68089 (86071315)
-1000.0 | 127.19436 (86062012)
-1400.0 | 114.70694 (86051115)
-1800.0 | 87.41639 (86051115)
-2200.0 | 93.97993 (86042212)
-2600.0 | 114.86546 (86042212)
-3000.0 | 101.28916 (86042212)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | -3000.00 -2600.00 -2200.00 -1800.00 -1400.00

Y-COORD (METERS)	X-COORD (METERS) -3000.00	X-COORD (METERS) -2600.00	X-COORD (METERS) -2200.00	X-COORD (METERS) -1800.00	X-COORD (METERS) -1400.00
3000.0	101.59805 (86082912)	75.64199 (86082515)	73.63709 (86052315)	90.08856 (86051215)	82.76638 (86051215)
2600.0	103.49857 (86092915)	93.25033 (86082515)	81.44006 (86062215)	68.24210 (86051215)	74.18246 (86051215)
2200.0	109.35687 (86080812)	102.45208 (86080812)	91.74926 (86082515)	67.93665 (86082912)	57.95861 (86062215)
1800.0	115.63090 (86062312)	120.65685c(86070815)	112.12153c(86070815)	98.31089 (86080812)	57.23526 (86080812)
1400.0	120.01240 (86083115)	128.04445 (86083115)	142.26067 (86080812)	137.30838c(86070815)	124.19454 (86080812)
1000.0	115.29926 (86052912)	125.15446 (86083115)	143.33537 (86083115)	159.86061 (86083115)	185.10474 (86082615)
600.0	134.84644 (86081015)	144.13937 (86081015)	151.30603 (86081015)	166.09608 (86052912)	181.17560 (86083115)
200.0	120.38498 (86081015)	125.80242 (86082615)	153.76100 (86081015)	183.54871 (86081015)	181.78621 (86081015)
-200.0	85.61615 (86060412)	98.90045 (86082215)	116.64727 (86090112)	149.69223 (86090112)	180.55556 (86090112)
-600.0	111.43356 (86080612)	131.57349 (86080912)	156.85732 (86080912)	182.09285 (86090112)	187.12567 (86090112)
-1000.0	126.36205 (86090112)	132.99574 (86042415)	134.08922 (86042415)	125.19758 (86042415)	156.80663 (86040312)
-1400.0	108.19767 (86042415)	102.48072 (86042415)	107.11628 (86062715)	126.52802 (86040312)	114.12973 (86040312)
-1800.0	91.82516 (86041915)	102.34567 (86040312)	106.81470 (86040312)	92.05198 (86040312)	128.05592 (86052215)
-2200.0	102.54675 (86062715)	100.16711 (86091915)	77.48148 (86040312)	110.78367 (86080915)	131.67519 (86080915)
-2600.0	110.66425 (86091915)	86.43301 (86091915)	92.72376 (86080915)	115.98706 (86080915)	113.99377 (86080915)
-3000.0	90.54900 (86091915)	96.89056 (86042312)	107.47378 (86062715)	107.98828 (86080915)	91.12875 (86080915)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	-1000.00	-600.00	-200.00	200.00	600.00
3000.0	79.09983 (86050612)	101.96460 (86071712)	123.02859 (86080612)	139.20152 (86072515)	132.34811 (86080312)
2600.0	68.64970 (86052812)	102.71453 (86071712)	133.82158 (86080612)	150.18483 (86080612)	130.55399 (86072515)
2200.0	61.50325 (86052812)	101.65621 (86071712)	146.39493 (86080612)	165.18135 (86080612)	152.87135 (86061415)
1800.0	53.88053 (86062215)	95.53903 (86071712)	165.68686 (86080612)	189.70598 (86080612)	180.78369 (86061415)
1400.0	60.65992 (86080812)	66.58964 (86071712)	171.80318 (86080612)	209.30940 (86073112)	210.76062 (86073112)
1000.0	147.34355 (86080812)	44.20609 (86092312)	39.81289 (86080612)	72.70766 (86072515)	112.78703 (86070515)
600.0	131.00476 (86080812)	4.21905 (86080812)	0.00028 (86072606)	0.00158 (86062815)	6.22110 (86080115)
200.0	52.21410 (86052912)	0.00179 (86052912)	0.00000 (86080709)	0.00000c(86090621)	0.00220 (86071512)
-200.0	54.42046 (86082215)	0.00147 (86082215)	0.00000 (86010709)	0.00000 (86042909)	0.00089 (86051115)
-600.0	82.91582 (86062715)	4.10438 (86040312)	0.00035 (86101606)	0.00023 (86100321)	0.21556 (86062012)
-1000.0	121.55179 (86040312)	67.37837 (86080915)	3.71084 (86080915)	0.03517 (86052215)	0.63813 (86051115)
-1400.0	167.33966 (86080915)	130.09001 (86080915)	36.70927 (86062615)	3.99668 (86052215)	3.85693c(86072215)
-1800.0	146.82170 (86080915)	98.13317 (86080915)	52.02689 (86062615)	13.64116 (86052215)	17.22690c(86072215)
-2200.0	112.94407 (86080915)	62.59492 (86080915)	43.06954 (86052215)	27.54794 (86052215)	30.36064c(86072215)
-2600.0	81.71889 (86080915)	38.83064 (86032215)	36.33514 (86052215)	38.26110 (86052215)	34.65009c(86072215)
-3000.0	56.85929 (86080915)	51.72118 (86032215)	50.49077 (86030212)	54.61392 (86082412)	46.88307 (86052215)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	130.40712 (86061415)	111.76236 (86061415)	131.90100 (86070515)	127.64133 (86070515)	110.22994 (86022215)
2600.0	139.53049 (86061415)	128.13039 (86070515)	133.60101 (86070515)	107.08563 (86090715)	123.38389 (86090715)
2200.0	141.68443 (86061415)	142.23161 (86070515)	117.98043 (86090715)	139.67699 (86090715)	134.51567c(86090115)
1800.0	153.22385 (86070515)	135.75296 (86070515)	160.80164 (86090715)	149.85956c(86090115)	162.37529 (86071612)
1400.0	170.89192 (86070515)	192.69360 (86090715)	174.48499 (86071612)	178.53802 (86080115)	160.93690 (86080115)
1000.0	240.03130 (86090715)	218.02431 (86080115)	183.19902 (86080115)	167.87949 (86062015)	177.54948 (86071512)
600.0	176.20168 (86080115)	229.92346 (86091212)	201.44952 (86071512)	189.02742 (86071512)	157.54054 (86071612)
200.0	61.62183 (86050815)	217.69965 (86090815)	194.99377 (86050815)	166.75134 (86050815)	150.37680 (86050815)
-200.0	54.70388 (86062412)	196.64162 (86062412)	184.00551 (86062412)	156.85924 (86062412)	144.42180 (86062815)
-600.0	97.86190 (86062012)	195.24217 (86051115)	168.57730 (86071315)	149.14682 (86062012)	124.23648 (86062815)
-1000.0	33.87481 (86062012)	104.28484 (86062012)	137.03835 (86062012)	143.04750 (86051115)	129.54512 (86051115)
-1400.0	8.82830 (86051115)	27.53259 (86062012)	60.70111 (86062012)	87.89203 (86062012)	105.52609 (86062012)
-1800.0	23.00496 (86061815)	28.86829 (86061815)	34.20254 (86041715)	51.00995 (86051115)	72.46027 (86051115)
-2200.0	35.37179c(86072215)	52.56887 (86061815)	41.95620 (86042212)	50.06863 (86052212)	60.27871 (86041715)
-2600.0	52.15921c(86072215)	67.07492 (86061815)	56.66575 (86042315)	58.35361 (86042212)	71.60729 (86052212)
-3000.0	59.79199c(86072215)	67.92217 (86061815)	81.90592 (86062615)	65.74609 (86070618)	71.10694 (86052212)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
(METERS) | 3000.00

3000.0	125.36610 (86022215)
2600.0	121.99896c(86090115)
2200.0	122.17969 (86071612)
1800.0	173.90862 (86080115)
1400.0	151.78700 (86062015)
1000.0	184.29988 (86071512)
600.0	140.27368 (86071315)
200.0	137.11005 (86050815)
-200.0	144.56956 (86062815)
-600.0	131.76819 (86062815)
-1000.0	111.47353 (86051115)
-1400.0	113.00324 (86062012)
-1800.0	74.41510 (86062012)
-2200.0	57.35443 (86052115)
-2600.0	71.10703 (86052212)
-3000.0	87.43167 (86052212)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | -3000.00 -2600.00 -2200.00 -1800.00 -1400.00

Y-COORD (METERS)	X-COORD (METERS) -3000.00	X-COORD (METERS) -2600.00	X-COORD (METERS) -2200.00	X-COORD (METERS) -1800.00	X-COORD (METERS) -1400.00
3000.0	16.75589c(86101124)	17.61954c(86082924)	15.35549c(86040324)	20.95866 (86052824)	20.42568 (86052824)
2600.0	18.88616 (86051624)	15.54172c(86082524)	15.06236c(86082924)	14.33307 (86052824)	18.53841 (86052824)
2200.0	20.86049c(86080824)	17.68940c(86082524)	15.29154c(86082524)	11.71271c(86062224)	12.64001 (86052824)
1800.0	26.41648c(86080824)	23.74009c(86080824)	20.18433c(86080824)	15.32990c(86082524)	12.97662c(86062224)
1400.0	34.47046c(86082624)	32.15030c(86082624)	26.86589c(86082624)	23.91024c(86080824)	18.77576c(86080824)
1000.0	37.85330c(86082624)	41.30281c(86082624)	42.72737c(86082624)	40.53635c(86082624)	30.87126c(86082624)
600.0	30.39549c(86082624)	36.70702c(86082624)	43.97427c(86082624)	52.97593c(86082624)	55.97527c(86082624)
200.0	19.54476 (86081024)	20.96757c(86082624)	26.92010c(86082624)	35.29707c(86082624)	38.62852c(86082624)
-200.0	16.16624 (86070624)	17.70099 (86070624)	19.49261 (86070624)	24.94871c(86090124)	30.09259c(86090124)
-600.0	21.22746c(86042424)	23.48154c(86090124)	26.73319c(86090124)	30.34881c(86090124)	31.42507c(86080924)
-1000.0	24.09861c(86042424)	24.39867c(86042424)	23.75447c(86080924)	24.84764c(86080924)	26.13555c(86040324)
-1400.0	23.28539c(86042424)	20.94833c(86042424)	18.84996c(86040324)	23.18607c(86062724)	25.95286c(86062724)
-1800.0	19.30059c(86042424)	17.80115c(86062724)	21.67984c(86062724)	23.42883c(86062724)	21.34266c(86052224)
-2200.0	17.83369c(86062724)	20.68251c(86062724)	22.28707c(86062724)	20.04226c(86062724)	24.50712c(86052224)
-2600.0	19.97267c(86062724)	21.66419c(86062724)	20.73586c(86062724)	19.73814c(86042324)	24.04209c(86052224)
-3000.0	21.15370c(86062724)	21.21697c(86062724)	22.40412c(86042324)	21.33951c(86042324)	21.46372c(86052224)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	-1000.00	-600.00	-200.00	200.00	600.00
3000.0	18.14523c(86092324)	22.68836 (86050624)	25.01493 (86080624)	27.91585 (86080624)	20.32786 (86080624)
2600.0	16.82131c(86092324)	19.96139c(86092324)	27.21086 (86080624)	30.54163 (86080624)	20.61379c(86072524)
2200.0	14.59257c(86092324)	20.09190c(86092324)	29.76720 (86080624)	33.59262 (86080624)	22.14250 (86073124)
1800.0	11.08230c(86092324)	20.11435c(86092324)	33.48026 (86080624)	38.36145 (86080624)	25.11570 (86073124)
1400.0	14.31497c(86062224)	17.91392c(86092324)	34.00171 (86080624)	40.31961 (86080624)	36.16777c(86090124)
1000.0	22.10751c(86080824)	6.14424c(86062224)	8.70663 (86080624)	11.99640 (86080624)	22.37508c(86090124)
600.0	23.03141 c(86082624)	0.88555c(86062224)	0.00020c(86092324)	0.00030 (86073124)	1.92491c(86090724)
200.0	10.48796c(86082624)	0.00038c(86082624)	0.00000c(86010324)	0.00000 (86111824)	0.00050c(86080724)
-200.0	10.19498c(86090124)	0.00028c(86090124)	0.00000c(86121924)	0.00000c(86021824)	0.00017c(86062024)
-600.0	15.18159c(86040324)	1.14346c(86062724)	0.00011c(86052224)	0.00006 (86022424)	0.06126c(86051124)
-1000.0	28.47029c(86062724)	27.71658c(86052224)	5.02825c(86052224)	5.14477c(86062624)	9.73820c(86062624)
-1400.0	30.66224c(86052224)	36.30006c(86052224)	13.28676c(86052224)	27.19106c(86062624)	31.84592c(86062624)
-1800.0	30.65390c(86052224)	25.66736c(86052224)	9.48068c(86052224)	25.32366c(86062624)	31.74621c(86062624)
-2200.0	26.42298c(86052224)	17.66374c(86052224)	8.37602c(86062624)	20.21400c(86062624)	28.36996c(86062624)
-2600.0	21.22904c(86052224)	12.33968c(86052224)	7.44181c(86062624)	16.69136c(86062624)	25.41084c(86062624)
-3000.0	16.36716c(86052224)	12.10673c(86032824)	9.59212c(86032824)	14.00093c(86062624)	22.49104c(86062624)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	17.78279c(86061424)	23.41667c(86090124)	31.80709c(86090124)	34.52495c(86090124)	31.59383c(86090124)
2600.0	20.05252c(86090124)	32.15669c(86090124)	38.05982c(86090124)	35.91448c(86090124)	28.69629c(86090124)
2200.0	30.51000c(86090124)	41.43841c(86090124)	41.25267c(86090124)	32.87410c(86090124)	24.81239c(86071624)
1800.0	44.12752c(86090124)	47.73249c(86090124)	38.33691c(86090124)	29.74086c(86071624)	40.22340c(86071624)
1400.0	57.41810c(86090124)	46.45736c(86090124)	36.26500c(86071624)	48.06430c(86071624)	53.05946c(86071624)
1000.0	45.52794c(86090124)	46.54189c(86071624)	56.70091c(86071624)	57.90324c(86071624)	53.86979c(86071624)
600.0	36.15145c(86071624)	62.55400c(86071624)	54.30373c(86071624)	44.65565c(86071624)	36.76424c(86071624)
200.0	11.00903c(86080724)	43.85602c(86071324)	49.28301c(86071324)	44.48112c(86071324)	41.46339c(86071324)
-200.0	9.89820c(86071324)	51.90737c(86071324)	55.73908c(86071324)	49.26633c(86071324)	45.50359c(86071324)
-600.0	13.98037c(86062024)	29.53855c(86062024)	28.12662c(86071324)	30.39778c(86071324)	30.98448c(86071324)
-1000.0	6.16297c(86051124)	16.00316c(86051124)	19.64352c(86062024)	20.95055c(86062024)	20.45729c(86062024)
-1400.0	15.24225c(86062624)	5.31148c(86051124)	10.10547c(86051124)	13.48726c(86051124)	15.36448c(86062024)
-1800.0	21.50440c(86062624)	9.19322c(86062624)	9.40317c(86052224)	12.91564 (86042224)	14.98950 (86042224)
-2200.0	24.54384c(86062624)	14.00801c(86062624)	10.81898c(86052224)	16.00346c(86052224)	16.87695 (86042224)
-2600.0	25.75896c(86062624)	18.31405c(86062624)	11.70382c(86090324)	16.91804c(86052224)	21.85226c(86052224)
-3000.0	25.57928c(86062624)	21.54581c(86062624)	13.65100c(86062624)	15.19104c(86090324)	21.95617c(86052224)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
(METERS) | 3000.00

3000.0 | 25.42635c(86090124)
2600.0 | 21.43756c(86080124)
2200.0 | 33.42023c(86071624)
1800.0 | 45.72441c(86071624)
1400.0 | 52.66086c(86071624)
1000.0 | 47.61877c(86071624)
600.0 | 32.74304c(86071524)
200.0 | 39.09343c(86071324)
-200.0 | 42.43216c(86071324)
-600.0 | 31.00718c(86071324)
-1000.0 | 20.30959c(86050924)
-1400.0 | 16.80697c(86062024)
-1800.0 | 13.30943 (86042224)
-2200.0 | 19.90398 (86042224)
-2600.0 | 21.62351c(86052224)
-3000.0 | 26.00699c(86052224)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | -3000.00 -2600.00 -2200.00 -1800.00 -1400.00

3000.0	16.05244c(86082924)	13.86721c(86040324)	14.08917c(86082924)	14.49680c(86051224)	14.40601c(86051224)
2600.0	17.03690c(86082524)	14.65637c(86082924)	12.30585c(86040324)	11.83217c(86040324)	12.11761c(86051224)
2200.0	20.16274 (86051624)	17.10580c(86080824)	13.32566c(86062224)	10.72751c(86082924)	8.81586c(86051224)
1800.0	23.68025c(86082624)	18.77885c(86082524)	18.63699c(86082524)	15.29979c(86062224)	9.21641c(86082524)
1400.0	27.02815c(86080824)	26.80630c(86080824)	25.94323c(86080824)	20.63191c(86070824)	18.28939c(86062224)
1000.0	18.83994c(86080824)	21.11393c(86080824)	23.53312c(86080824)	26.41571c(86080824)	29.33448c(86080824)
600.0	18.70377 (86081024)	19.08821 (86081024)	19.41954 (86081024)	20.78423 (86052924)	25.88226c(86083124)
200.0	16.66176c(86082624)	20.06719 (86081024)	21.03313 (86081024)	23.47979 (86081024)	22.76789 (86081024)
-200.0	15.74857c(86042424)	16.48341c(86082224)	19.44122c(86090124)	23.71271c(86082224)	25.05723c(86082224)
-600.0	20.34604c(86090124)	22.72165c(86042424)	24.51172c(86042424)	28.58827c(86080924)	31.18761c(86090124)
-1000.0	21.06034c(86090124)	22.39348c(86080924)	23.46729c(86042424)	20.46267c(86042424)	25.83982c(86062724)
-1400.0	18.60701c(86080924)	18.29995c(86080924)	17.93042c(86080924)	21.10301c(86040324)	22.37204c(86080924)
-1800.0	14.60980c(86040324)	17.10307c(86040324)	17.81569c(86040324)	17.00532c(86080924)	21.30997c(86080924)
-2200.0	15.30867c(86040324)	15.21314c(86040324)	13.27860c(86080924)	17.54835c(86080924)	19.99407c(86080924)
-2600.0	15.97091c(86060324)	13.46876c(86060324)	16.65491c(86042324)	19.43735c(86052224)	17.16348c(86080924)
-3000.0	15.76015c(86102024)	17.53035c(86042324)	18.36209c(86062724)	20.61341c(86052224)	13.69675c(86080924)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	-1000.00	-600.00	-200.00	200.00	600.00
3000.0	16.54520 (86050624)	19.73912c(86092324)	18.67500 (86050624)	22.75987c(86080324)	19.94448c(86072524)
2600.0	12.41405 (86052824)	17.92262 (86050624)	20.13456c(86071724)	24.42035c(86072524)	20.41967 (86080624)
2200.0	11.49156 (86052824)	13.68898 (86080624)	21.85111c(86071724)	27.31674c(86072524)	20.84609c(86061424)
1800.0	7.10263 (86052824)	12.46165c(86071724)	24.93129c(86071724)	32.08702c(86072524)	24.96783c(86082724)
1400.0	9.11662c(86080824)	8.68573c(86071724)	24.47522c(86071724)	36.05120c(86072524)	29.19996c(86082724)
1000.0	19.55406c(86062224)	5.76791c(86092324)	6.76551c(86092324)	11.48016c(86072524)	15.10597c(86082724)
600.0	19.65677c(86080824)	0.63286c(86080824)	0.00004c(86072624)	0.00026c(86082724)	1.03685c(86080124)
200.0	6.59617c(86060424)	0.00022 (86052924)	0.00000c(86120124)	0.00000c(86090624)	0.00050c(86071624)
-200.0	9.07008c(86082224)	0.00026c(86082224)	0.00000c(86070724)	0.00000c(86042924)	0.00012c(86051124)
-600.0	13.09203c(86062724)	0.68406c(86040324)	0.00004 (86101624)	0.00003c(86100324)	0.03081c(86062024)
-1000.0	20.92032c(86080924)	10.13072c(86080924)	0.55663c(86080924)	0.00586c(86052224)	0.08323c(86051124)
-1400.0	26.24128c(86080924)	19.52053c(86080924)	6.13600c(86062624)	0.66612c(86052224)	0.55295c(86072224)
-1800.0	22.17265c(86080924)	14.72046c(86080924)	8.85380c(86062624)	2.27355c(86052224)	2.48272c(86072224)
-2200.0	16.97304c(86080924)	9.39005c(86080924)	7.17826c(86052224)	4.59136c(86052224)	4.41403c(86072224)
-2600.0	12.26654c(86080924)	8.87223c(86032824)	7.27050c(86032824)	6.37688c(86052224)	5.63076c(86052224)
-3000.0	10.63410c(86032824)	8.84182c(86052224)	8.51384c(86082424)	9.10232c(86082424)	7.81672c(86052224)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	17.42871 (86073124)	20.78757c(86082924)	17.77874c(86082924)	15.95517 (86070524)	18.54893c(86022224)
2600.0	19.89999c(86082724)	17.67973c(86082724)	16.70013 (86070524)	17.84760c(86090724)	20.56398c(86090724)
2200.0	22.03522c(86082724)	17.77895 (86070524)	19.66340c(86090724)	23.27950c(86090724)	23.64508c(86080124)
1800.0	22.40532c(86082724)	21.77886c(86090724)	26.80028c(86090724)	26.31331c(86080124)	30.92879c(86080124)
1400.0	24.43505c(86090724)	32.11560c(86090724)	30.01408c(86080124)	31.58011c(86080124)	30.77544c(86080124)
1000.0	40.00521c(86090724)	36.42998c(86080124)	34.38304c(86080724)	35.50937c(86080724)	37.80706c(86071524)
600.0	29.36753c(86080124)	46.17475c(86080724)	41.36175c(86080724)	34.35705c(86080724)	33.66523c(86071524)
200.0	10.15333c(86071624)	32.16946c(86050824)	29.33546c(86050824)	25.51107c(86050824)	27.05615c(86081824)
-200.0	8.20803c(86062424)	29.80575c(86062424)	29.71594c(86062424)	28.55940c(86062424)	28.34267c(86062424)
-600.0	12.91542c(86051124)	25.47346c(86051124)	26.21569c(86062024)	21.75701c(86062024)	22.01147c(86062424)
-1000.0	4.83928c(86062024)	14.90036c(86062024)	19.09792c(86051124)	19.00493c(86051124)	17.63643c(86051124)
-1400.0	1.15152c(86051124)	4.00507c(86062624)	8.68443c(86062024)	12.63932c(86062024)	15.24507c(86051124)
-1800.0	2.98636 (86061824)	5.56242c(86071924)	8.63996c(86071924)	10.34378c(86052224)	9.54367c(86051124)
-2200.0	5.19283c(86072224)	7.17127 (86061824)	10.44557c(86071924)	13.29289c(86071924)	16.44134c(86052224)
-2600.0	7.58497c(86072224)	8.66215 (86061824)	11.15487 (86061824)	14.59223c(86071924)	16.59699c(86071924)
-3000.0	8.65674c(86072224)	8.59700 (86061824)	12.59954 (86061824)	14.72028 (86061824)	17.18000c(86071924)

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 2042 G/SEC EMISS. RATE; 3,24 hr CON. @ FULL LOAD *** 11:22:22
PAGE 22

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
(METERS) | 3000.00

3000.0 | 20.13971c(86022224)
2600.0 | 20.71518c(86071624)
2200.0 | 29.67386c(86080124)
1800.0 | 33.67572c(86080124)
1400.0 | 35.04977c(86071524)
1000.0 | 40.49583c(86071524)
600.0 | 30.96523c(86071624)
200.0 | 35.45493c(86081824)
-200.0 | 27.86469c(86062424)
-600.0 | 23.27248c(86062424)
-1000.0 | 18.92663c(86062024)
-1400.0 | 15.71590c(86051124)
-1800.0 | 11.66920c(86051124)
-2200.0 | 13.02318c(86052224)
-2600.0 | 18.70450 (86042224)
-3000.0 | 18.43312c(86071924)

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 2042 G/SEC EMISS. RATE; 3,24 hr CON. @ FULL LOAD *** 11:22:22
PAGE 23

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 3-HR RESULTS ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	DATE	NETWORK
AVERAGE CONC (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE GRID-ID

ALL HIGH 1ST HIGH VALUE IS 363.83081 ON 86071612: AT (1400.00, 600.00, 0.00, 0.00) GC CAR1
HIGH 2ND HIGH VALUE IS 240.03130 ON 86090715: AT (1000.00, 1000.00, 0.00, 0.00) GC CAR1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 2042 G/SEC EMISS. RATE; 3,24 hr CON. @ FULL LOAD *** 11:22:22
PAGE 24

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	DATE	NETWORK	OF TYPE
	AVERAGE CONC (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	GRID-ID

ALL HIGH 1ST HIGH VALUE IS 62.55400c ON 86071624: AT (1400.00, 600.00, 0.00, 0.00) GC CAR1
HIGH 2ND HIGH VALUE IS 46.17475c ON 86080724: AT (1400.00, 600.00, 0.00, 0.00) GC CAR1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 2042 G/SEC EMISS. RATE; 3,24 hr CON. @ FULL LOAD *** 11:22:22
PAGE 25

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 816 Informational Message(s)
A Total of 816 Calm Hours Identified

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
*** NONE ***

*** ISCST3 Finishes Successfully ***

*** RUN INFORMATION PAGE ***

INPUT FILENAME IS: an_18sul.dta
OUTPUT FILENAME IS: an_18sul.lst
RUN TITLE1 IS: ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu
2042 G/SEC EMISS. RATE; 3,24 hr CON. @ FULL LOAD
COMPUTER ID NAME (VOLUME): no label

BEGINNING HOUR,MINUTE,SECOND ----- : 11:22:22
BEGINNING MONTH,DAY,YEAR ----- : 09/01/98

ENDING HOUR,MINUTE,SECOND ----- : 11:22:45
ENDING MONTH,DAY,YEAR ----- : 09/01/98

TOTAL CPU SECONDS ----- : 23.

Anclote SO₂
Low load (80 MW)

CO STARTING
CO TITLEONE ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu
CO TITLETWO 392 G/SEC EMISS. RATE; 3,24 hr CON. @ 80 MW
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 3 24
CO POLLUTID SO2
CO DCAYCOEF .000000
CO RUNORNOT RUN
CO ERRORFIL ERRORS.OUT
CO FINISHED

SO STARTING

** Source Location Cards:

** SRCID SRCTYP XS YS ZS

SO LOCATION 1 POINT 0.0000 0.0000 .0000

** Source Parameter Cards:

** POINT: SRCID QS HS TS VS DS

SO SRCPARAM 1 392.0 152.100 349.0000 8.6000 7.6000

SO EMISUNIT .100000E+07 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)

SO SRCGROUP ALL

SO FINISHED

RE STARTING

RE GRIDCART CAR1 STA

RE CAR1 XYINC -3000. 16 400. -3000. 16 400.

RE CAR1 END

RE FINISHED

ME STARTING

ME INPUTFIL tpapr186.bin UNFORM

ME ANEMHGHT 6.700 METERS

ME SURFDATA 12842 1986 SURFNAME

ME UAIRDATA 12842 1986 UAIRNAME

ME WINDCATS 1.54 3.09 5.14 8.23 10.80

ME FINISHED

OU STARTING

OU RECTABLE ALLAVE FIRST SECOND

OU FINISHED

*** SETUP Finishes Successfully ***

**MODELOPTs: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

-- SCAVENGING/DEPOSITION LOGIC --

**Model Uses NO DRY DEPLETION. DDPLETE = F

**Model Uses NO WET DEPLETION. WDPLETE = F

**NO WET SCAVENGING Data Provided.

**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:

1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates 2 Short Term Average(s) of: 3-HR 24-HR

**This Run Includes: 1 Source(s); 1 Source Group(s); and 256 Receptor(s)

**The Model Assumes A Pollutant Type of: SO2

**Model Set To Continue RUNNING After the Setup Testing.

**Output Options Selected:

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Input Runstream File: an80mw.dta ; **Output Print File: an80mw.lst

**Detailed Error/Message File: ERRORS.OUT

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 392 G/SEC EMISS. RATE; 3,24 hr CON. @ 80 MW *** 15:26:37
**MODELOPTs: CONC RURAL FLAT DFAULT PAGE 2

*** POINT SOURCE DATA ***

NUMBER	EMISSION RATE	BASE	STACK	STACK	STACK	STACK	BUILDING	EMISSION RATE			
SOURCE	PART. (USER UNITS)	X	Y	ELEV.	HEIGHT	TEMP.	EXIT VEL.	DIAMETER	EXISTS	SCALAR	VARY
ID	CATS.	(METERS)	(METERS)	(METERS)	(METERS)	(DEG.K)	(M/SEC)	(METERS)		BY	
1	0	0.39200E+03	0.0	0.0	0.0	152.10	349.00	8.60	7.60	NO	

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 392 G/SEC EMISS. RATE; 3,24 hr CON. @ 80 MW *** 15:26:37

**MODELOPTs: CONC RURAL FLAT DFAULT PAGE 3

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID SOURCE IDs

ALL 1 ,

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

*** Y-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: tpapr186.bin FORMAT: UNFORM
 SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
 NAME: SURFNAME NAME: UAIRNAME
 YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	FLOW	SPEED	TEMP	STAB	MIXING	HEIGHT (M)	USTAR	M-O	LENGTH	Z-0	IPCODE	PRATE
			VECTOR	(M/S)	(K)	CLASS	RURAL	URBAN	(M/S)	(M)	(M)	(M)	(mm/HR)	
86	1	1	1	351.0	4.12	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	2	348.0	3.60	292.6	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	3	174.0	4.63	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	4	293.0	3.09	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	5	3.0	1.54	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	6	322.0	2.57	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	7	345.0	3.60	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	8	343.0	2.57	290.4	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	9	337.0	3.09	290.9	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	10	341.0	3.09	292.6	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	11	4.0	2.57	294.3	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	12	356.0	3.09	294.8	2	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	13	23.0	2.57	295.9	2	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	14	59.0	2.57	294.8	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	15	42.0	3.09	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	16	54.0	1.54	293.7	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	17	51.0	2.06	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	18	47.0	1.00	293.2	5	419.0	418.0	0.0000	0.0	0.0000	0	0.00
86	1	1	19	134.0	2.06	291.5	6	428.0	424.0	0.0000	0.0	0.0000	0	0.00
86	1	1	20	127.0	1.00	290.9	6	437.0	430.0	0.0000	0.0	0.0000	0	0.00
86	1	1	21	130.0	1.00	290.9	6	447.0	435.0	0.0000	0.0	0.0000	0	0.00
86	1	1	22	132.0	1.00	289.8	6	456.0	441.0	0.0000	0.0	0.0000	0	0.00
86	1	1	23	270.0	1.54	290.9	6	465.0	447.0	0.0000	0.0	0.0000	0	0.00
86	1	1	24	290.0	2.06	290.4	6	474.0	453.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
 FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | -3000.00 -2600.00 -2200.00 -1800.00 -1400.00

Y-COORD (METERS)	X-COORD (METERS) -3000.00	X-COORD (METERS) -2600.00	X-COORD (METERS) -2200.00	X-COORD (METERS) -1800.00	X-COORD (METERS) -1400.00
3000.0	88.02937 (86031815)	85.55343 (86081212)	87.10784 (86081212)	72.36352 (86050809)	68.31754 (86100812)
2600.0	91.68445 (86031815)	96.17520 (86031815)	88.03341 (86081212)	84.02258 (86080309)	74.95975 (86052812)
2200.0	104.90434 (86052618)	93.20673 (86031815)	100.08215 (86031815)	81.83091 (86081212)	85.17562 (86080309)
1800.0	97.76260 (86051412)	106.73298 (86052618)	105.14330 (86100912)	100.56495 (86100912)	84.76771 (86082112)
1400.0	85.59409 (86070512)	100.59681 (86070512)	117.16745 (86092915)	115.02197 (86100912)	100.05173 (86100912)
1000.0	87.75004 (86111112)	79.85487 (86111112)	85.08528 (86052712)	114.93993 (86092915)	114.91465 (86092915)
600.0	96.69730 (86111112)	108.18277 (86111112)	110.43152 (86111112)	94.35388 (86111112)	90.29246 (86082615)
200.0	111.74450 (86052312)	110.62268 (86052312)	100.40945 (86052312)	91.95174 (86041415)	71.46951 (86041415)
-200.0	89.19302c(86062515)	93.29806c(86062515)	99.41036 (86070715)	101.17448 (86070715)	81.14544c(86062515)
-600.0	114.51175 (86091712)	136.06207 (86091712)	148.07147 (86091712)	129.97583 (86091712)	70.96021 (86092515)
-1000.0	104.04791 (86091712)	94.02113 (86091712)	90.27793 (86020315)	88.31522 (86041915)	90.49607 (86091915)
-1400.0	76.45273 (86060512)	79.86880 (86101912)	92.71378 (86091915)	103.27357 (86091915)	75.95878 (86091915)
-1800.0	83.87751 (86033112)	93.33636 (86091915)	90.37272 (86091915)	74.56094 (86041012)	81.68555 (86062612)
-2200.0	81.53004 (86091915)	77.10786 (86101915)	73.65336 (86041012)	76.51994 (86062612)	71.32325 (86062612)
-2600.0	66.75067 (86060409)	70.86172 (86021312)	73.65905 (86021312)	70.45406 (86102015)	77.43114 (86011212)
-3000.0	73.05430 (86021312)	81.61673 (86021312)	67.62200 (86102015)	88.99107 (86011212)	77.76788 (86041812)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD	X-COORD (METERS)				
(METERS)	-1000.00	-600.00	-200.00	200.00	600.00
3000.0	73.11144 (86071312)	72.26128 (86111615)	87.96198 (86010112)	106.83707 (86063012)	102.43386 (86063012)
2600.0	76.67404 (86100812)	85.01835 (86111615)	93.30520 (86091115)	126.18809 (86063012)	103.86216 (86063012)
2200.0	87.67355 (86052812)	91.33905 (86111615)	100.72962 (86091115)	143.01347 (86063012)	98.43011 (86041212)
1800.0	96.58321 (86052812)	79.34509 (86111615)	96.71762 (86050615)	145.02605 (86063012)	91.09353 (86062912)
1400.0	76.50755 (86082112)	79.62123 (86052812)	81.80770 (86052312)	109.30686 (86063012)	79.08663 (86072112)
1000.0	63.62485 (86082515)	75.26376 (86061112)	94.53123 (86052312)	93.86962 (86083015)	134.06667c(86090115)
600.0	103.11280 (86082615)	94.69741 (86062215)	37.61928 (86092312)	42.26799 (86073112)	151.68607c(86090115)
200.0	143.64934 (86082615)	68.04481 (86082615)	0.00000 (86062215)	0.00000 (86090715)	74.15588 (86071612)
-200.0	90.98920 (86090415)	39.57167 (86090112)	0.00000 (86062715)	0.00000 (86061112)	37.72519 (86080112)
-600.0	84.02576 (86082512)	98.13025 (86062715)	25.44493 (86052215)	25.14368 (86062615)	71.73603c(86071415)
-1000.0	75.02338 (86062812)	85.02631 (86052912)	85.39164 (86041812)	86.11365 (86062615)	80.71638 (86061112)
-1400.0	76.77436 (86042312)	74.45908 (86042612)	76.72935 (86041812)	47.32512 (86062615)	68.82150 (86062615)
-1800.0	72.32396 (86062612)	89.52167 (86112112)	64.99419 (86082412)	58.10316 (86082412)	72.40218 (86062615)
-2200.0	79.50432 (86041812)	97.64352 (86112112)	85.37411 (86101612)	69.52032 (86082412)	65.68253 (86062615)
-2600.0	88.10303 (86112112)	87.88236 (86112112)	105.71348 (86101612)	73.18836 (86082412)	60.14122 (86062615)
-3000.0	93.12638 (86112112)	114.94715 (86101612)	113.49215 (86101612)	72.71027 (86082412)	59.66016 (86021215)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	81.10293 (86041212)	74.37812 (86071412)	81.26978 (86071412)	95.33469 (86061912)	82.78569 (86061912)
2600.0	83.13278 (86082815)	85.09542 (86071412)	92.15762 (86061912)	91.40939 (86061912)	63.06195 (86061912)
2200.0	84.57306 (86080215)	80.95081 (86071412)	94.82510 (86061912)	75.60651 (86022215)	96.37149 (86010415)
1800.0	78.65194 (86082812)	83.17429 (86061912)	90.05607 (86022215)	103.89252 (86010415)	104.94714 (86010415)
1400.0	71.91320 (86072112)	95.03010 (86022215)	99.83115 (86080715)	105.85009 (86040712)	116.30133 (86091212)
1000.0	83.64071c(86090115)	91.28147 (86080715)	113.84945 (86091212)	114.58396 (86091212)	101.89375 (86042515)
600.0	121.69590 (86071612)	86.97866 (86071812)	99.66616 (86042515)	114.22446 (86100315)	118.59280 (86100315)
200.0	164.05215 (86071812)	108.01242 (86053015)	133.46696 (86053015)	131.03273 (86100515)	118.93616 (86100515)
-200.0	153.82086 (86080112)	130.98479 (86080112)	111.28410 (86080112)	103.16149 (86061515)	111.47919 (86081515)
-600.0	54.24722 (86051115)	58.41021 (86081712)	71.62820 (86081712)	76.93933 (86042815)	82.89915 (86072015)
-1000.0	64.19527 (86042212)	48.62638 (86042212)	67.78696 (86081712)	78.43514 (86081712)	89.96288 (86112215)
-1400.0	79.65589 (86042912)	82.68617 (86042212)	62.80519 (86090315)	67.05218 (86081712)	73.75739 (86081712)
-1800.0	87.92327 (86042912)	77.91092 (86042912)	73.98096 (86042212)	69.71952 (86090315)	70.06365 (86042215)
-2200.0	73.21513 (86062615)	91.12466 (86042912)	89.62542 (86101615)	62.86565 (86090315)	65.37222 (86090315)
-2600.0	71.26316 (86062615)	72.85388 (86042912)	100.44958 (86101615)	91.00700 (86101615)	58.43884 (86041315)
-3000.0	63.30623 (86062615)	59.96781 (86062615)	85.25043 (86101615)	104.63621 (86101615)	83.25121 (86101615)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
(METERS) | 3000.00

3000.0 | 61.86742 (86030415)
2600.0 | 85.62195 (86010415)
2200.0 | 103.26312 (86010415)
1800.0 | 97.52923 (86091212)
1400.0 | 106.52212 (86091212)
1000.0 | 102.58506 (86061212)
600.0 | 110.57987 (86100315)
200.0 | 102.78530 (86100515)
-200.0 | 111.08459 (86081515)
-600.0 | 83.98849 (86081715)
-1000.0 | 88.79011 (86071118)
-1400.0 | 78.02898 (86112215)
-1800.0 | 70.57676 (86081712)
-2200.0 | 70.56036 (86081712)
-2600.0 | 65.95863 (86042318)
-3000.0 | 54.29189 (86072315)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | -3000.00 -2600.00 -2200.00 -1800.00 -1400.00

Y-COORD (METERS)	X-COORD (METERS) -3000.00	X-COORD (METERS) -2600.00	X-COORD (METERS) -2200.00	X-COORD (METERS) -1800.00	X-COORD (METERS) -1400.00
3000.0	67.14139 (86083112)	65.90266 (86112515)	74.14379 (86080309)	68.86838 (86080309)	63.82162 (86052812)
2600.0	79.03364 (86031212)	73.54372 (86100912)	71.12177 (86092912)	77.71458 (86082112)	71.85218 (86050809)
2200.0	88.06074 (86031212)	91.11649 (86031212)	87.52331 (86100912)	79.90530 (86092912)	82.19159 (86082112)
1800.0	89.62827 (86070512)	96.88734 (86092915)	102.53515 (86031212)	93.13734 (86031815)	81.37927 (86080309)
1400.0	78.43108 (86082615)	100.31094 (86051412)	109.93201 (86051412)	114.04768 (86092915)	83.58496 (86110512)
1000.0	80.64706 (86111115)	78.72736 (86111115)	84.98302 (86092915)	107.29775 (86051412)	95.67111 (86100912)
600.0	76.62911 (86091812)	86.05949 (86111115)	98.32230 (86111115)	91.80637 (86070712)	72.02091 (86052712)
200.0	73.62405 (86040418)	81.00589 (86041415)	90.24560 (86041415)	76.82368 (86052312)	66.78967c(86062515)
-200.0	79.77210 (86081012)	87.66836 (86070715)	93.75596c(86062515)	90.19321 (86091712)	77.09542 (86070715)
-600.0	82.04836 (86070715)	88.87534 (86070715)	88.81671 (86090412)	95.33714 (86092515)	67.27505 (86091712)
-1000.0	80.69241 (86091715)	92.68064 (86092515)	89.86160 (86092515)	70.49949 (86110412)	74.08048 (86041915)
-1400.0	71.97075 (86101912)	78.34431 (86033112)	84.70971 (86041915)	87.20466 (86101915)	67.15241 (86041012)
-1800.0	80.62759 (86101912)	74.34711 (86033112)	87.68853 (86101915)	73.28098 (86101915)	71.98708 (86042312)
-2200.0	65.47777 (86101915)	72.91316 (86091915)	67.89028 (86062612)	67.25702 (86041012)	69.94727 (86042312)
-2600.0	64.74389 (86101915)	69.45145 (86041012)	71.86763 (86120412)	63.80850 (86062612)	62.32516 (86041812)
-3000.0	68.62370 (86120412)	80.79734 (86120412)	55.88297 (86062612)	53.21698 (86102015)	65.10577 (86011212)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	-1000.00	-600.00	-200.00	200.00	600.00
3000.0	65.20769 (86100812)	66.06250 (86071312)	82.02678 (86091115)	87.74729 (86080412)	79.29879 (86111712)
2600.0	69.35143 (86071312)	75.25694 (86071312)	87.01511 (86010112)	93.28962 (86080412)	90.75419 (86041212)
2200.0	81.46506 (86100812)	80.59676 (86071312)	89.09188 (86050615)	96.09090 (86080312)	91.91168 (86063012)
1800.0	84.68565 (86051215)	74.60143 (86071312)	95.63360 (86091115)	99.41370 (86080312)	89.10596 (86080215)
1400.0	65.48022 (86051215)	67.65818c(86080512)	81.69111 (86050615)	78.14789 (86080312)	71.77956 (86080215)
1000.0	61.42954 (86100912)	69.88437 (86082612)	94.10995 (86092312)	87.35198c(86072215)	87.39721 (86072112)
600.0	81.07081 (86082515)	71.34789 (86062712)	25.29802c(86080512)	38.24018 (86062815)	95.40434 (86090715)
200.0	92.24090 (86081015)	40.44862 (86052912)	0.00000 (86062712)	0.00000 (86090712)	64.26782 (86080712)
-200.0	86.26406 (86083012)	36.99919 (86043012)	0.00000 (86082315)	0.00000c(86071415)	33.68999 (86062012)
-600.0	80.12312 (86062315)	96.90710 (86082312)	17.24208 (86090812)	9.03662 (86061112)	63.88504 (86061112)
-1000.0	67.32346 (86062715)	83.46861 (86042612)	80.55795 (86052415)	49.97946 (86060112)	69.19010c(86071415)
-1400.0	70.60580 (86062612)	60.11376 (86041812)	61.47467 (86052415)	41.27287 (86052415)	43.86383 (86061112)
-1800.0	70.20547 (86042312)	74.85782 (86041812)	63.71751 (86041812)	56.77363 (86021215)	48.54012c(86072215)
-2200.0	67.10035 (86112112)	68.65348 (86041812)	76.32996 (86082412)	66.81918 (86021215)	53.12957 (86042212)
-2600.0	81.64258 (86041812)	87.40304 (86101612)	80.05809 (86082412)	68.79939 (86111512)	57.90883 (86021215)
-3000.0	70.22007 (86041812)	73.11599 (86112112)	85.22582 (86011115)	71.38086 (86111512)	57.81222 (86062615)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	75.00600 (86111712)	67.05642 (86080218)	69.74362 (86061912)	73.68807 (86020415)	64.00695 (86020415)
2600.0	81.59052 (86080215)	67.22128 (86080218)	69.55951 (86071412)	67.05596 (86020415)	62.61712 (86030415)
2200.0	83.83469 (86082815)	74.70776 (86061912)	70.09595 (86022215)	68.51273 (86061912)	72.21894 (86080715)
1800.0	75.12579 (86072112)	76.18152 (86092415)	79.48873 (86080715)	88.04529 (86080715)	84.49918 (86040712)
1400.0	71.88125c(86090115)	83.44899 (86080715)	97.09330 (86010415)	102.72070 (86091212)	99.49813 (86040712)
1000.0	74.29554 (86090712)	81.02672 (86042015)	111.27584 (86040712)	101.50482 (86082715)	94.05271 (86061212)
600.0	88.50912 (86061412)	84.08132 (86071515)	96.72366 (86060615)	103.53310c(86062512)	110.28818c(86062512)
200.0	148.22191 (86080712)	105.54178 (86071812)	127.42640 (86100515)	126.01431 (86053015)	108.31142 (86053015)
-200.0	138.99335 (86071315)	94.02654 (86071315)	102.87952 (86061515)	101.20205 (86081515)	96.26305 (86072012)
-600.0	45.82458 (86062012)	55.43381 (86072412)	68.92646 (86042815)	75.27124 (86072015)	76.49998 (86042815)
-1000.0	59.62333c(86071415)	46.64244 (86073115)	60.34032 (86072009)	77.55117 (86112215)	72.99507 (86081712)
-1400.0	70.28253 (86061815)	66.57652 (86052212)	58.55026 (86042212)	61.72469 (86042215)	68.18159 (86061318)
-1800.0	74.76004 (86061815)	77.08718 (86052212)	68.39152 (86090315)	54.40973 (86042212)	68.70269 (86081712)
-2200.0	59.34349 (86111515)	78.18968 (86101615)	70.58414 (86052212)	61.98854 (86042212)	63.36827 (86042318)
-2600.0	54.26743 (86122915)	67.37316 (86101615)	75.97884 (86042912)	64.19638 (86011312)	54.34553 (86090315)
-3000.0	53.47513 (86122915)	56.51530 (86111515)	70.18735 (86042912)	64.61642 (86011312)	63.24208 (86011312)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
(METERS) | 3000.00

3000.0 | 56.57210 (86061912)
2600.0 | 63.58550 (86010315)
2200.0 | 69.33188 (86090618)
1800.0 | 85.52252 (86040712)
1400.0 | 89.86774 (86100415)
1000.0 | 94.22938 (86042515)
600.0 | 105.37576c(86062512)
200.0 | 98.72584 (86060618)
-200.0 | 96.41104 (86060718)
-600.0 | 78.26224 (86072015)
-1000.0 | 85.10342 (86112215)
-1400.0 | 77.56660 (86061318)
-1800.0 | 55.06812 (86042215)
-2200.0 | 63.71603 (86042215)
-2600.0 | 57.15026 (86090315)
-3000.0 | 53.68755 (86041315)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	-3000.00	-2600.00	-2200.00	-1800.00	-1400.00
3000.0	14.00852 (86112424)	13.15564c(86082124)	15.18809c(86112524)	14.70387 (86052824)	14.93176 (86052824)
2600.0	21.84759 (86112424)	14.94242c(86100924)	13.91653c(86082124)	14.30717c(86112524)	17.92986 (86052824)
2200.0	21.02174 (86112424)	22.32943 (86112424)	16.23893c(86100924)	14.21219c(86082124)	16.11067 (86052824)
1800.0	21.61628c(86082624)	21.77496c(86101324)	21.15809c(86101324)	16.91410c(86100924)	13.76815c(86040324)
1400.0	25.40342c(86082624)	26.14355c(86082624)	22.20857c(86070824)	20.46282c(86101324)	15.43120c(86100924)
1000.0	22.54465 (86111124)	22.00684c(86080824)	25.53399c(86082624)	24.24693c(86080824)	18.65297c(86070824)
600.0	24.52221 (86111124)	27.20330 (86111124)	27.72635 (86111124)	23.68944 (86111124)	20.31365c(86082624)
200.0	25.28017c(86070724)	27.44297c(86070724)	28.19497c(86070724)	25.45411c(86070724)	16.79620c(86070724)
-200.0	27.51751c(86070724)	30.33065c(86070724)	31.82561c(86070724)	29.55360c(86070724)	20.14020c(86070724)
-600.0	23.59275c(86070724)	26.58546 (86091724)	28.78067 (86091724)	25.37672 (86091724)	15.95589c(86082324)
-1000.0	26.22643 (86091724)	24.50206 (86091724)	19.10836c(86092824)	19.11254c(86082324)	18.96627c(86082324)
-1400.0	19.49354c(86092824)	18.97319 (86033024)	19.52775c(86092124)	16.29029 (86091924)	15.72136c(86102024)
-1800.0	20.09904 (86101924)	19.43292 (86101924)	16.30291 (86091924)	18.67179c(86102024)	19.37115c(86102024)
-2200.0	17.31513c(86092124)	15.85020c(86102024)	18.90519c(86102024)	21.37665c(86102024)	17.79028c(86102024)
-2600.0	15.87600c(86102024)	18.01641c(86102024)	20.35624c(86102024)	20.83667c(86102024)	15.41162c(86011224)
-3000.0	16.69818c(86102024)	18.38831c(86102024)	20.28019c(86102024)	16.65549c(86102024)	13.46510 (86112124)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	-1000.00	-600.00	-200.00	200.00	600.00
3000.0	13.28925c(86071324)	13.91923 (86050624)	14.33661c(86072524)	17.19296c(86072524)	15.43281c(86041224)
2600.0	13.94767c(86100824)	15.72744 (86050624)	15.76766c(86091124)	16.75769c(86063024)	20.63672c(86080224)
2200.0	17.79838 (86052824)	16.57119 (86050624)	17.66587c(86091124)	19.03654c(86063024)	26.97998c(86080224)
1800.0	20.03280 (86052824)	14.90855 (86050624)	19.34410 (86050624)	19.35587c(86063024)	31.12944c(86080224)
1400.0	12.58628c(86040324)	14.75219 (86052824)	16.85562 (86050624)	14.64189c(86063024)	25.23431c(86080224)
1000.0	10.64269c(86082524)	12.54396c(86061124)	15.49172c(86071324)	16.54980 (86080624)	22.34444c(86090124)
600.0	23.96483c(86070824)	12.35184c(86062224)	4.91118c(86092324)	6.37343c(86082724)	31.57224c(86090724)
200.0	24.18253c(86082624)	11.34403c(86082624)	0.00000c(86062224)	0.00000c(86090724)	14.34219c(86080724)
-200.0	16.31598c(86090424)	6.59528c(86090124)	0.00000c(86082324)	0.00000c(86061124)	6.28830c(86080124)
-600.0	19.70986c(86062324)	32.20031c(86082324)	4.24082c(86052224)	4.19061c(86062624)	11.95601c(86071424)
-1000.0	20.30245c(86082324)	13.85519 (86052924)	14.23194c(86041824)	14.35278c(86062624)	13.60458c(86061124)
-1400.0	15.94814c(86042324)	10.89436 (86112124)	12.78823c(86041824)	7.89446c(86062624)	11.47025c(86062624)
-1800.0	15.73207c(86042324)	17.00932 (86112124)	13.15706c(86032824)	9.68652c(86082424)	12.06703c(86062624)
-2200.0	16.04321 (86112124)	17.77579 (86112124)	13.01264c(86032824)	12.11686c(86021324)	10.94712c(86062624)
-2600.0	18.08203 (86112124)	15.56348 (86112124)	13.73729 (86101624)	13.29014c(86021324)	11.48625c(86061024)
-3000.0	17.72349 (86112124)	14.46017 (86101624)	14.78915 (86101624)	13.51892c(86021324)	12.19398c(86021324)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	25.62769c(86080224)	28.49075c(86080224)	20.78757c(86080224)	14.42432c(86022224)	16.97812c(86071824)
2600.0	31.37371c(86080224)	27.91422c(86080224)	15.56386c(86101424)	17.48161c(86071824)	17.87183c(86071824)
2200.0	34.04689c(86080224)	20.60322c(86080224)	16.52923c(86071824)	18.86359c(86071824)	16.40749 (86010424)
1800.0	27.70114c(86080224)	15.06321c(86022224)	18.44568c(86071824)	17.89468c(86090724)	17.86745c(86040724)
1400.0	14.73976 (86072124)	18.88660c(86090724)	19.73631c(86090724)	22.16513c(86040724)	25.37548c(86100424)
1000.0	20.60583c(86090724)	19.32572c(86090724)	22.77890c(86040724)	28.98624c(86100424)	28.11641c(86100424)
600.0	27.79856c(86071624)	24.89673c(86071624)	27.53158c(86042524)	28.08262c(86042524)	24.52465c(86062024)
200.0	29.37031c(86080724)	23.79345c(86081824)	31.94496c(86100524)	35.65870c(86100524)	34.42558c(86100524)
-200.0	26.26233c(86080124)	25.06797c(86080124)	24.96637 (86072024)	30.21849c(86081524)	33.59402c(86081524)
-600.0	7.57949c(86072424)	12.79631c(86072424)	19.79895c(86050924)	24.78569c(86050924)	26.20745c(86050924)
-1000.0	12.65903c(86052224)	11.24080 (86042224)	12.91673c(86082424)	13.01717c(86050924)	19.09992c(86050924)
-1400.0	16.02618c(86052224)	20.85725c(86052224)	14.87108 (86042224)	14.93504 (86042224)	12.68702c(86082424)
-1800.0	14.65755c(86042924)	21.94219c(86052224)	21.65081c(86052224)	16.72312c(86052224)	16.07457 (86042224)
-2200.0	12.20252c(86062624)	16.04308c(86052224)	21.91552c(86052224)	19.56198c(86052224)	16.08840c(86052224)
-2600.0	11.87719c(86062624)	12.16664c(86042924)	18.05250c(86052224)	19.62819c(86052224)	16.90203c(86052224)
-3000.0	10.55104c(86062624)	9.99463c(86062624)	12.43081c(86090324)	17.66233c(86052224)	16.94483c(86052224)

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 392 G/SEC EMISS. RATE; 3,24 hr CON. @ 80 MW *** 15:26:37
PAGE 18

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
(METERS) | 3000.00

3000.0 | 16.37229c(86071824)
2600.0 | 15.36166 (86010424)
2200.0 | 16.47262 (86010424)
1800.0 | 20.25748c(86100424)
1400.0 | 26.14865c(86100424)
1000.0 | 26.26897c(86042524)
600.0 | 22.26114c(86062024)
200.0 | 31.17726c(86100524)
-200.0 | 34.62524c(86081524)
-600.0 | 25.70846c(86050924)
-1000.0 | 22.66786c(86050924)
-1400.0 | 13.68172c(86030524)
-1800.0 | 13.13032 (86042224)
-2200.0 | 14.62665 (86042224)
-2600.0 | 14.79524c(86041324)
-3000.0 | 14.98258c(86041324)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	-3000.00	-2600.00	-2200.00	-1800.00	-1400.00
3000.0	13.58847c(86100924)	12.10409c(86112524)	11.94209c(86080324)	14.09010c(86112524)	14.77038c(86100824)
2600.0	17.27109c(86101324)	14.55983 (86112424)	12.42922c(86112524)	12.49642c(86080324)	13.38360c(86100824)
2200.0	20.13769c(86101324)	19.54980c(86101324)	15.55884c(86101324)	12.39692 (86092924)	13.42139c(86040324)
1800.0	19.44946c(86070824)	19.54025c(86070824)	20.49073 (86112424)	15.75003c(86101324)	13.48274c(86082124)
1400.0	21.32012c(86080824)	22.14851c(86080824)	22.06593c(86101324)	18.78385 (86092924)	15.26694 (86092924)
1000.0	18.65880 (86052724)	21.75770c(86082624)	25.23767c(86080824)	22.24624c(86082624)	16.99268c(86080824)
600.0	22.37821c(86070724)	23.37805c(86070724)	22.77606c(86070724)	19.30121c(86070724)	19.40364c(86080824)
200.0	22.77148c(86040424)	22.25418c(86040424)	19.75459c(86040424)	15.46527c(86041424)	11.93686c(86041424)
-200.0	22.54276c(86082324)	21.67476c(86082324)	19.91752c(86082324)	17.93333 (86091724)	15.61056c(86090424)
-600.0	22.52288 (86091724)	24.82106c(86070724)	24.02914c(86070724)	19.32274 (86091524)	13.88507 (86091724)
-1000.0	22.46096 (86091524)	21.89102 (86091524)	19.10538c(86082324)	15.50653c(86092124)	14.34251c(86062324)
-1400.0	18.80534 (86033024)	18.67936c(86033124)	19.01239 (86101924)	15.94921c(86082324)	15.50430c(86082324)
-1800.0	19.55855c(86092124)	19.27257c(86092124)	15.25185 (86101924)	15.64971 (86032924)	14.57100c(86042324)
-2200.0	17.20544 (86101924)	15.47113 (86032924)	16.49674 (86032924)	15.60175 (86032924)	15.26045c(86042324)
-2600.0	14.81841 (86032924)	15.81007 (86032924)	15.91767 (86032924)	12.71644 (86102124)	14.24039c(86032824)
-3000.0	14.50714 (86032924)	15.14551 (86032924)	13.49965 (86032924)	15.87864c(86011224)	12.99934c(86011224)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	-1000.00	-600.00	-200.00	200.00	600.00
3000.0	11.50922c(86100824)	12.04355c(86111624)	13.52639c(86091124)	14.16051c(86063024)	15.27399c(86063024)
2600.0	12.94189c(86071324)	14.16973c(86111624)	14.58669 (86050624)	16.02599c(86072524)	16.47081c(86041224)
2200.0	14.63238c(86100824)	15.22318c(86111624)	17.47949 (86050624)	13.87549c(86072524)	17.45020c(86082824)
1800.0	14.10579c(86051224)	14.43068c(86051224)	17.85030c(86091124)	13.55676c(86080324)	21.58333c(86082824)
1400.0	12.32682 (86052824)	11.93032c(86051224)	13.78832c(86091124)	10.65779c(86080324)	19.50122c(86082824)
1000.0	9.73477 (86081024)	11.71853c(86082624)	15.46244c(86082224)	16.32878c(86061424)	13.83236c(86072524)
600.0	19.14306c(86082624)	11.72562c(86070824)	3.56490c(86082624)	5.73810c(86062824)	25.28101c(86090124)
200.0	19.21993c(86082524)	5.08446c(86082524)	0.00000c(86062724)	0.00000c(86080124)	12.52169c(86071624)
-200.0	14.33658c(86082224)	6.16653c(86043024)	0.00000c(86062724)	0.00000c(86071424)	4.81304c(86062024)
-600.0	19.07683c(86082324)	17.35106c(86062324)	2.24897c(86090824)	1.50611c(86061124)	10.64812c(86061124)
-1000.0	16.07011c(86062324)	11.92409c(86042624)	10.98518c(86052424)	6.61425c(86052424)	11.53168c(86071424)
-1400.0	12.85935 (86052924)	10.72799 (86052924)	9.79602c(86032824)	6.49822c(86052224)	7.56788c(86061124)
-1800.0	13.03860c(86032824)	12.47630c(86041824)	10.83387c(86082424)	9.52016c(86021324)	7.00041c(86072224)
-2200.0	13.25072c(86041824)	13.38279c(86032824)	12.72447c(86082424)	11.59160c(86082424)	9.43375c(86061024)
-2600.0	13.60710c(86041824)	13.10836c(86032824)	13.34791c(86082424)	12.20634c(86082424)	10.39231c(86021324)
-3000.0	11.70334c(86041824)	12.64727 (86112124)	13.26844c(86082424)	12.13158c(86082424)	11.92226c(86061024)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	17.80337c(86082824)	19.61286c(86082824)	14.62906c(86082824)	13.61924c(86061924)	11.82654c(86061924)
2600.0	22.48887c(86082824)	20.19110c(86082824)	15.18437c(86022224)	13.33088c(86022224)	12.59638c(86090724)
2200.0	25.50299c(86082824)	17.70812c(86082824)	15.15691c(86022224)	14.52160c(86090724)	15.64269c(86090724)
1800.0	23.32600c(86082824)	14.74709 (86072124)	16.79923c(86090724)	16.58235 (86010424)	15.61646 (86010424)
1400.0	14.02728c(86082824)	15.31105c(86022224)	18.21130c(86040724)	18.46531c(86100424)	20.91043c(86091224)
1000.0	13.94012c(86090124)	18.94282c(86040724)	21.90644c(86100424)	24.42258c(86082724)	26.96297c(86042524)
600.0	18.24208c(86080724)	23.09762c(86071524)	26.69450c(86071524)	24.92356c(86062024)	24.19927c(86042524)
200.0	24.94565c(86071824)	20.74923c(86080124)	31.88886c(86081824)	33.03705c(86081824)	31.33744c(86081824)
-200.0	23.16987c(86071324)	18.69660 (86072024)	24.27143c(86080124)	26.05044 (86072024)	27.66878c(86060724)
-600.0	7.15033c(86051124)	10.52548c(86050924)	16.40184c(86072424)	20.02719 (86072024)	21.71838 (86072024)
-1000.0	11.42722c(86071924)	10.98566c(86082424)	9.84005c(86041124)	12.95991c(86030524)	15.33907c(86081724)
-1400.0	14.26367c(86090324)	17.04668c(86071924)	14.83912c(86052224)	14.65849c(86082424)	12.59727c(86041124)
-1800.0	11.48513c(86090324)	17.45662c(86090324)	17.88674c(86071924)	15.08120c(86082424)	14.85006c(86082424)
-2200.0	9.74074c(86042924)	15.73847c(86090324)	16.37381c(86090324)	17.17869c(86071924)	14.41195c(86041324)
-2600.0	7.86836 (86111524)	10.18720c(86090324)	16.12159c(86090324)	15.89092c(86071924)	15.92540c(86071924)
-3000.0	7.96938 (86111524)	8.94984c(86072324)	11.95167c(86052224)	14.48397c(86090324)	14.92299c(86071924)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | 3000.00

3000.0	11.99699 (86030424)
2600.0	14.23068c(86071824)
2200.0	13.64709c(86040724)
1800.0	17.06118c(86040724)
1400.0	20.60426c(86091224)
1000.0	24.01936c(86100424)
600.0	21.30615c(86100524)
200.0	28.96999c(86060624)
-200.0	27.82104c(86060724)
-600.0	22.51877c(86081724)
-1000.0	18.88589c(86081724)
-1400.0	12.87461c(86041124)
-1800.0	12.01612c(86082424)
-2200.0	14.31398c(86082424)
-2600.0	14.50892c(86052224)
-3000.0	14.48297c(86071924)

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 392 G/SEC EMISS. RATE; 3,24 hr CON. @ 80 MW *** 15:26:37

PAGE 23

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 3-HR RESULTS ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	DATE AVERAGE CONC (YYMMDDHH)	NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE GRID-ID
----------	---------------------------------	--	-----------------

ALL HIGH 1ST HIGH VALUE IS 164.05215 ON 86071812: AT (1000.00, 200.00, 0.00, 0.00) GC CAR1
HIGH 2ND HIGH VALUE IS 148.22191 ON 86080712: AT (1000.00, 200.00, 0.00, 0.00) GC CAR1

*** RECEPTOR TYPES: GC = GRIDCART

GP = GRIDPOLR

DC = DISCCART

DP = DISCPOLR

BD = BOUNDARY

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 392 G/SEC EMISS. RATE; 3,24 hr CON. @ 80 MW *** 15:26:37
PAGE 24

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	DATE	NETWORK	OF TYPE
	AVERAGE CONC (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	GRID-ID

ALL HIGH 1ST HIGH VALUE IS 35.65870c ON 86100524: AT (2200.00, 200.00, 0.00, 0.00) GC CAR1
HIGH 2ND HIGH VALUE IS 33.03705c ON 86081824: AT (2200.00, 200.00, 0.00, 0.00) GC CAR1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 95250 *** *** ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu *** 09/01/98
*** 392 G/SEC EMISS. RATE; 3,24 hr CON. @ 80 MW *** 15:26:37
PAGE 25

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 816 Informational Message(s)

A Total of 816 Calm Hours Identified

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
*** NONE ***

*** ISCST3 Finishes Successfully ***

*** RUN INFORMATION PAGE ***

INPUT FILENAME IS: an80mw.dta
OUTPUT FILENAME IS: an80mw.lst
RUN TITLE1 IS: ANCLOTE SO2 EMISSIONS; UNITS 1-2 @ 1.98 lb/mmBtu
392 G/SEC EMISS. RATE; 3,24 hr CON. @ 80 MW
COMPUTER ID NAME (VOLUME): no label

BEGINNING HOUR,MINUTE,SECOND ----- : 15:26:36
BEGINNING MONTH,DAY,YEAR ----- : 09/01/98

ENDING HOUR,MINUTE,SECOND ----- : 15:27:00
ENDING MONTH,DAY,YEAR ----- : 09/01/98

TOTAL CPU SECONDS ----- : 24.

CO STARTING
CO TITLEONE ANCLOTE TSP EMISSIONS; UNITS 1-2 @ 0.10 lb/mmBtu
CO TITLETWO 124 G/SEC EMISS. RATE; ANN. 24 h con, FULL LOAD
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 24 PERIOD
CO POLLUTID TSP
CO DCAYCOEF .000000
CO RUNORNOT RUN
CO ERRORFIL ERRORS.OUT
CO FINISHED

SO STARTING
** Source Location Cards:
** SRCID SRCTYP XS YS ZS

SO LOCATION 1 POINT 0.0000 0.0000 .0000

** Source Parameter Cards:
** POINT: SRCID QS HS TS VS DS

SO SRCPARAM 1 123.8 152.100 430.0000 35.1000 7.6000

SO EMISUNIT .100000E+07 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDCART CAR1 STA
RE CAR1 XYINC -3000. 16 400. -3000. 16 400.
RE CAR1 END
RE FINISHED

ME STARTING
ME INPUTFIL tpapr186.bin UNFORM
ME ANEMHGHT 6.700 METERS
ME SURFDATA 12842 1986 SURFNAME
ME UAIRDATA 12842 1986 UAIRNAME
ME WINDCATS 1.54 3.09 5.14 8.23 10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED

*** SETUP Finishes Successfully ***

**MODELOPTs: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

-- SCAVENGING/DEPOSITION LOGIC --

**Model Uses NO DRY DEPLETION. DDPLETE = F

**Model Uses NO WET DEPLETION. WDPLETE = F

**NO WET SCAVENGING Data Provided.

**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:

1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates 1 Short Term Average(s) of: 24-HR
and Calculates PERIOD Averages

**This Run Includes: 1 Source(s); 1 Source Group(s); and 256 Receptor(s)

**The Model Assumes A Pollutant Type of: TSP

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours

m for Missing Hours

b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0

Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07

Output Units = (MICROGRAMS/CUBIC-METER)

**Input Runstream File: anctsp.dta ; **Output Print File: anctsp.lst

**Detailed Error/Message File: ERRORS.OUT

*** ISCST3 - VERSION 95250 *** *** ANCLOTE TSP EMISSIONS; UNITS 1-2 @ 0.10 lb/mmBtu *** 09/01/98
 *** 124 G/SEC EMISS. RATE; ANN. 24 h con, FULL LOAD *** 14:51:47
 **MODELOPTs: CONC RURAL FLAT DFAULT
 PAGE 2

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR	EMISSION RATE VARY BY
1	0	0.12380E+03	0.0	0.0	0.0	152.10	430.00	35.10	7.60	NO		

*** ISCST3 - VERSION 95250 *** *** ANCLOTE TSP EMISSIONS; UNITS 1-2 @ 0.10 lb/mmBtu *** 09/01/98
*** 124 G/SEC EMISS. RATE; ANN. 24 h con, FULL LOAD *** 14:51:47
**MODELOPTs: CONC RURAL FLAT DFAULT PAGE 3

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
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ALL 1	,
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*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

*** Y-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: tpapr86.bin FORMAT: UNFORM
 SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
 NAME: SURFNAME NAME: UAIRNAME
 YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	FLOW	SPEED	TEMP	STAB	MIXING	HEIGHT (M)	USTAR	M-O	LENGTH	Z-0	IPCODE	PRATE
			VECTOR	(M/S)	(K)	CLASS	RURAL	URBAN	(M/S)	(M)	(M)	(mm/HR)		
86	1	1	1	351.0	4.12	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	2	348.0	3.60	292.6	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	3	174.0	4.63	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	4	293.0	3.09	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	5	3.0	1.54	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	6	322.0	2.57	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	7	345.0	3.60	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	8	343.0	2.57	290.4	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	9	337.0	3.09	290.9	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	10	341.0	3.09	292.6	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	11	4.0	2.57	294.3	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	12	356.0	3.09	294.8	2	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	13	23.0	2.57	295.9	2	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	14	59.0	2.57	294.8	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	15	42.0	3.09	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	16	54.0	1.54	293.7	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	17	51.0	2.06	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	18	47.0	1.00	293.2	5	419.0	418.0	0.0000	0.0	0.0000	0	0.00
86	1	1	19	134.0	2.06	291.5	6	428.0	424.0	0.0000	0.0	0.0000	0	0.00
86	1	1	20	127.0	1.00	290.9	6	437.0	430.0	0.0000	0.0	0.0000	0	0.00
86	1	1	21	130.0	1.00	290.9	6	447.0	435.0	0.0000	0.0	0.0000	0	0.00
86	1	1	22	132.0	1.00	289.8	6	456.0	441.0	0.0000	0.0	0.0000	0	0.00
86	1	1	23	270.0	1.54	290.9	6	465.0	447.0	0.0000	0.0	0.0000	0	0.00
86	1	1	24	290.0	2.06	290.4	6	474.0	453.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
 FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD	X-COORD (METERS)								
(METERS)	-3000.00	-2600.00	-2200.00	-1800.00	-1400.00	-1000.00	-600.00	-200.00	200.00
3000.00	0.05665	0.04278	0.03231	0.02670	0.02467	0.02540	0.02884	0.03388	0.03949
2600.00	0.06388	0.04944	0.03510	0.02529	0.02087	0.02056	0.02405	0.03015	0.03657
2200.00	0.06714	0.05505	0.03995	0.02610	0.01786	0.01560	0.01886	0.02633	0.03399
1800.00	0.06683	0.05700	0.04424	0.02966	0.01745	0.01050	0.01213	0.02206	0.03216
1400.00	0.06399	0.05595	0.04596	0.03414	0.01921	0.00873	0.00713	0.01839	0.03109
1000.00	0.05980	0.05263	0.04528	0.03572	0.02571	0.01302	0.00259	0.00385	0.00899
600.00	0.05688	0.04920	0.04254	0.03521	0.03142	0.01452	0.00028	0.00000	0.00000
200.00	0.05655	0.04785	0.04012	0.03250	0.02797	0.00685	0.00000	0.00000	0.00000
-200.00	0.05709	0.04809	0.03987	0.03165	0.02700	0.00675	0.00000	0.00000	0.00000
-600.00	0.05587	0.04727	0.03924	0.03000	0.02465	0.01046	0.00028	0.00000	0.00000
-1000.00	0.05581	0.04677	0.03742	0.02685	0.01872	0.01234	0.00575	0.00067	0.00059
-1400.00	0.05495	0.04478	0.03463	0.02593	0.01748	0.01254	0.00778	0.00281	0.00326
-1800.00	0.05209	0.04242	0.03369	0.02636	0.01986	0.01278	0.00685	0.00342	0.00390
-2200.00	0.04950	0.04183	0.03457	0.02746	0.02028	0.01301	0.00758	0.00511	0.00568
-2600.00	0.04848	0.04194	0.03490	0.02753	0.01970	0.01262	0.00845	0.00686	0.00753
-3000.00	0.04750	0.04098	0.03395	0.02638	0.01860	0.01268	0.00976	0.00875	0.00954

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)						
	600.00	1000.00	1400.00	1800.00	2200.00	2600.00	3000.00
3000.00	0.04341	0.04415	0.04370	0.04481	0.04989	0.05933	0.07194
2600.00	0.03991	0.03958	0.03910	0.04249	0.05174	0.06597	0.08273
2200.00	0.03679	0.03531	0.03566	0.04273	0.05714	0.07625	0.09679
1800.00	0.03347	0.03099	0.03500	0.04718	0.06663	0.08975	0.11284
1400.00	0.03156	0.02950	0.03703	0.05653	0.07918	0.10409	0.12787
1000.00	0.01562	0.03111	0.04632	0.06492	0.08978	0.11320	0.13502
600.00	0.00071	0.02851	0.05406	0.06516	0.08887	0.10963	0.13013
200.00	0.00000	0.01089	0.04131	0.05244	0.07673	0.09849	0.12013
-200.00	0.00000	0.00489	0.02477	0.03725	0.06039	0.08162	0.10281
-600.00	0.00001	0.00448	0.01431	0.02348	0.04088	0.05859	0.07758
-1000.00	0.00114	0.00225	0.00691	0.01435	0.02543	0.03826	0.05353
-1400.00	0.00395	0.00328	0.00601	0.01223	0.01853	0.02670	0.03728
-1800.00	0.00512	0.00589	0.00880	0.01287	0.01768	0.02289	0.02928
-2200.00	0.00701	0.00807	0.01067	0.01453	0.01899	0.02318	0.02715
-2600.00	0.00864	0.00935	0.01180	0.01593	0.02023	0.02433	0.02769
-3000.00	0.01050	0.01073	0.01228	0.01645	0.02090	0.02486	0.02835

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | -3000.00 -2600.00 -2200.00 -1800.00 -1400.00

Y-COORD (METERS)	X-COORD (METERS) -3000.00	X-COORD (METERS) -2600.00	X-COORD (METERS) -2200.00	X-COORD (METERS) -1800.00	X-COORD (METERS) -1400.00
3000.0	0.84648c(86101124)	0.89011c(86082924)	0.77573c(86040324)	1.05879 (86052824)	1.03187 (86052824)
2600.0	0.95410 (86051624)	0.78514c(86082524)	0.76092c(86082924)	0.72408 (86052824)	0.93653 (86052824)
2200.0	1.05384c(86080824)	0.89364c(86082524)	0.77250c(86082524)	0.59171c(86062224)	0.63855 (86052824)
1800.0	1.33451c(86080824)	1.19931c(86080824)	1.01968c(86080824)	0.77444c(86082524)	0.65556c(86062224)
1400.0	1.74139c(86082624)	1.62418c(86082624)	1.35722c(86082624)	1.20790c(86080824)	0.94852c(86080824)
1000.0	1.91228c(86082624)	2.08655c(86082624)	2.15851c(86082624)	2.04783c(86082624)	1.55956c(86082624)
600.0	1.53553c(86082624)	1.85437c(86082624)	2.22150c(86082624)	2.67625c(86082624)	2.82777c(86082624)
200.0	0.98737 (86081024)	1.05924c(86082624)	1.35996c(86082624)	1.78315c(86082624)	1.95145c(86082624)
-200.0	0.81669 (86070624)	0.89422 (86070624)	0.98473 (86070624)	1.26036c(86090124)	1.52022c(86090124)
-600.0	1.07237c(86042424)	1.18625c(86090124)	1.35051c(86090124)	1.53317c(86090124)	1.58754c(86080924)
-1000.0	1.21742c(86042424)	1.23258c(86042424)	1.20003c(86080924)	1.25526c(86080924)	1.32032c(86040324)
-1400.0	1.17634c(86042424)	1.05827c(86042424)	0.95227c(86040324)	1.17132c(86062724)	1.31109c(86062724)
-1800.0	0.97503c(86042424)	0.89928c(86062724)	1.09523c(86062724)	1.18358c(86062724)	1.07819c(86052224)
-2200.0	0.90093c(86062724)	1.04484c(86062724)	1.12590c(86062724)	1.01250c(86062724)	1.23806c(86052224)
-2600.0	1.00898c(86062724)	1.09444c(86062724)	1.04754c(86062724)	0.99714c(86042324)	1.21456c(86052224)
-3000.0	1.06865c(86062724)	1.07184c(86062724)	1.13182c(86042324)	1.07803c(86042324)	1.08431c(86052224)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | -1000.00 -600.00 -200.00 200.00 600.00

Y-COORD (METERS)	X-COORD (METERS) = -1000.00	X-COORD (METERS) = -600.00	X-COORD (METERS) = -200.00	X-COORD (METERS) = 200.00	X-COORD (METERS) = 600.00
3000.0	0.91667c(86092324)	1.14618 (86050624)	1.26371 (86080624)	1.41026 (86080624)	1.02693 (86080624)
2600.0	0.84978c(86092324)	1.00841c(86092324)	1.37464 (86080624)	1.54291 (86080624)	1.04137c(86072524)
2200.0	0.73719c(86092324)	1.01501c(86092324)	1.50379 (86080624)	1.69704 (86080624)	1.11860 (86073124)
1800.0	0.55986c(86092324)	1.01614c(86092324)	1.69136 (86080624)	1.93795 (86080624)	1.26880 (86073124)
1400.0	0.72317c(86062224)	0.90498c(86092324)	1.71771 (86080624)	2.03688 (86080624)	1.82713c(86090124)
1000.0	1.11683c(86080824)	0.31040c(86062224)	0.43984 (86080624)	0.60604 (86080624)	1.13035c(86090124)
600.0	1.16351c(86082624)	0.04474c(86062224)	0.00001c(86092324)	0.00002 (86073124)	0.09724c(86090724)
200.0	0.52983c(86082624)	0.00002c(86082624)	0.00000c(86010324)	0.00000 (86111824)	0.00003c(86080724)
-200.0	0.51503c(86090124)	0.00001c(86090124)	0.00000c(86121924)	0.00000c(86021824)	0.00001c(86062024)
-600.0	0.76695c(86040324)	0.05777c(86062724)	0.00001c(86052224)	0.00000 (86022424)	0.00309c(86051124)
-1000.0	1.43827c(86062724)	1.40019c(86052224)	0.25402c(86052224)	0.25990c(86062624)	0.49196c(86062624)
-1400.0	1.54900c(86052224)	1.83382c(86052224)	0.67122c(86052224)	1.37364c(86062624)	1.60880c(86062624)
-1800.0	1.54858c(86052224)	1.29667c(86052224)	0.47895c(86052224)	1.27931c(86062624)	1.60376c(86062624)
-2200.0	1.33484c(86052224)	0.89234c(86052224)	0.42314c(86062624)	1.02118c(86062624)	1.43320c(86062624)
-2600.0	1.07245c(86052224)	0.62338c(86052224)	0.37595c(86062624)	0.84322c(86062624)	1.28371c(86062624)
-3000.0	0.82684c(86052224)	0.61161c(86032824)	0.48458c(86032824)	0.70730c(86062624)	1.13621c(86062624)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	0.89836c(86061424)	1.18297c(86090124)	1.60684c(86090124)	1.74414c(86090124)	1.59606c(86090124)
2600.0	1.01302c(86090124)	1.62450c(86090124)	1.92272c(86090124)	1.81434c(86090124)	1.44969c(86090124)
2200.0	1.54131c(86090124)	2.09340c(86090124)	2.08401c(86090124)	1.66074c(86090124)	1.25348c(86071624)
1800.0	2.22924c(86090124)	2.41136c(86090124)	1.93671c(86090124)	1.50246c(86071624)	2.03202c(86071624)
1400.0	2.90066c(86090124)	2.34694c(86090124)	1.83204c(86071624)	2.42812c(86071624)	2.68047c(86071624)
1000.0	2.29999c(86090124)	2.35121c(86071624)	2.86443c(86071624)	2.92517c(86071624)	2.72141c(86071624)
600.0	1.82631c(86071624)	3.16012c(86071624)	2.74333c(86071624)	2.25592c(86071624)	1.85726c(86071624)
200.0	0.55616c(86080724)	2.21553c(86071324)	2.48969c(86071324)	2.24711c(86071324)	2.09466c(86071324)
-200.0	0.50004c(86071324)	2.62227c(86071324)	2.81584c(86071324)	2.48885c(86071324)	2.29876c(86071324)
-600.0	0.70626c(86062024)	1.49224c(86062024)	1.42091c(86071324)	1.53564c(86071324)	1.56528c(86071324)
-1000.0	0.31134c(86051124)	0.80845c(86051124)	0.99236c(86062024)	1.05838c(86062024)	1.03347c(86062024)
-1400.0	0.77001c(86062624)	0.26833c(86051124)	0.51051c(86051124)	0.68135c(86051124)	0.77619c(86062024)
-1800.0	1.08636c(86062624)	0.46443c(86062624)	0.47503c(86052224)	0.65248 (86042224)	0.75724 (86042224)
-2200.0	1.23991 c(86062624)	0.70766c(86062624)	0.54656c(86052224)	0.80847c(86052224)	0.85259 (86042224)
-2600.0	1.30130c(86062624)	0.92519c(86062624)	0.59126c(86090324)	0.85467c(86052224)	1.10394c(86052224)
-3000.0	1.29222c(86062624)	1.08846c(86062624)	0.68962c(86062624)	0.76742c(86090324)	1.10919c(86052224)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
(METERS) | 3000.00

3000.0	1.28449c(86090124)
2600.0	1.08299c(86080124)
2200.0	1.68833c(86071624)
1800.0	2.30992c(86071624)
1400.0	2.66033c(86071624)
1000.0	2.40562c(86071624)
600.0	1.65412c(86071524)
200.0	1.97493c(86071324)
-200.0	2.14360c(86071324)
-600.0	1.56643c(86071324)
-1000.0	1.02600c(86050924)
-1400.0	0.84906c(86062024)
-1800.0	0.67237 (86042224)
-2200.0	1.00551 (86042224)
-2600.0	1.09238c(86052224)
-3000.0	1.31383c(86052224)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | -3000.00 -2600.00 -2200.00 -1800.00 -1400.00

Y-COORD (METERS)	X-COORD (METERS) -3000.00	X-COORD (METERS) -2600.00	X-COORD (METERS) -2200.00	X-COORD (METERS) -1800.00	X-COORD (METERS) -1400.00
3000.0	0.81094c(86082924)	0.70055c(86040324)	0.711176c(86082924)	0.73235c(86051224)	0.72777c(86051224)
2600.0	0.86067c(86082524)	0.74041c(86082924)	0.62167c(86040324)	0.59774c(86040324)	0.61216c(86051224)
2200.0	1.01859 (86051624)	0.86415c(86080824)	0.67319c(86062224)	0.54194c(86082924)	0.44536c(86051224)
1800.0	1.19628c(86082624)	0.94867c(86082524)	0.94151c(86082524)	0.77292c(86062224)	0.46560c(86082524)
1400.0	1.36541c(86080824)	1.35421c(86080824)	1.31061c(86080824)	1.04229c(86070824)	0.92395c(86062224)
1000.0	0.95176c(86080824)	1.06664c(86080824)	1.18885c(86080824)	1.33447c(86080824)	1.48193c(86080824)
600.0	0.94488 (86081024)	0.96430 (86081024)	0.98104 (86081024)	1.04998 (86052924)	1.30753c(86083124)
200.0	0.84172c(86082624)	1.01376 (86081024)	1.06256 (86081024)	1.18616 (86081024)	1.15019 (86081024)
-200.0	0.79559c(86042424)	0.83271c(86082224)	0.98214c(86090124)	1.19792c(86082224)	1.26585c(86082224)
-600.0	1.02785c(86090124)	1.14786c(86042424)	1.23829c(86042424)	1.44423c(86080924)	1.57554c(86090124)
-1000.0	1.06393c(86090124)	1.13128c(86080924)	1.18553c(86042424)	1.03374c(86042424)	1.30538c(86062724)
-1400.0	0.93999c(86080924)	0.92448c(86080924)	0.90581c(86080924)	1.06609c(86040324)	1.13020c(86080924)
-1800.0	0.73806c(86040324)	0.86402c(86040324)	0.90002c(86040324)	0.85908c(86080924)	1.07654c(86080924)
-2200.0	0.77337c(86040324)	0.76854c(86040324)	0.67081c(86080924)	0.88651c(86080924)	1.01007c(86080924)
-2600.0	0.80682c(86060324)	0.68042c(86060324)	0.84138c(86042324)	0.98194c(86052224)	0.86707c(86080924)
-3000.0	0.79617c(86102024)	0.88560c(86042324)	0.92762c(86062724)	1.04135c(86052224)	0.69194c(86080924)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	-1000.00	-600.00	-200.00	200.00	600.00
3000.0	0.83583 (86050624)	0.99719c(86092324)	0.94343 (86050624)	1.14979c(86080324)	1.00756c(86072524)
2600.0	0.62714 (86052824)	0.90542 (86050624)	1.01716c(86071724)	1.23367c(86072524)	1.03157 (86080624)
2200.0	0.58053 (86052824)	0.69154 (86080624)	1.10388c(86071724)	1.37999c(86072524)	1.05311c(86061424)
1800.0	0.35881 (86052824)	0.62954c(86071724)	1.25948c(86071724)	1.62098c(86072524)	1.26133c(86082724)
1400.0	0.46056c(86080824)	0.43879c(86071724)	1.23644c(86071724)	1.82124c(86072524)	1.47513c(86082724)
1000.0	0.98784c(86062224)	0.29138c(86092324)	0.34178c(86092324)	0.57996c(86072524)	0.76313c(86082724)
600.0	0.99303c(86080824)	0.03197c(86080824)	0.00000c(86072624)	0.00001c(86082724)	0.05238c(86080124)
200.0	0.33323c(86060424)	0.00001 (86052924)	0.00000c(86120124)	0.00000c(86090624)	0.00003c(86071624)
-200.0	0.45820c(86082224)	0.00001c(86082224)	0.00000c(86070724)	0.00000c(86042924)	0.00001c(86051124)
-600.0	0.66139c(86062724)	0.03456c(86040324)	0.00000 (86101624)	0.00000c(86100324)	0.00156c(86062024)
-1000.0	1.05686c(86080924)	0.51179c(86080924)	0.02812c(86080924)	0.00030c(86052224)	0.00420c(86051124)
-1400.0	1.32566c(86080924)	0.98614c(86080924)	0.30998c(86062624)	0.03365c(86052224)	0.02793c(86072224)
-1800.0	1.12012c(86080924)	0.74365c(86080924)	0.44728c(86062624)	0.11486c(86052224)	0.12542c(86072224)
-2200.0	0.85745c(86080924)	0.47437c(86080924)	0.36263c(86052224)	0.23195c(86052224)	0.22299c(86072224)
-2600.0	0.61968c(86080924)	0.44821c(86032824)	0.36729c(86032824)	0.32215c(86052224)	0.28446c(86052224)
-3000.0	0.53722c(86032824)	0.44667c(86052224)	0.43010c(86082424)	0.45983c(86082424)	0.39489c(86052224)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)				
	1000.00	1400.00	1800.00	2200.00	2600.00
3000.0	0.88047 (86073124)	1.05015c(86082924)	0.89815c(86082924)	0.80603 (86070524)	0.93706c(86022224)
2600.0	1.00531 c(86082724)	0.89315c(86082724)	0.84366 (86070524)	0.90163c(86090724)	1.03886c(86090724)
2200.0	1.11318c(86082724)	0.89816 (86070524)	0.99336c(86090724)	1.17604c(86090724)	1.19451c(86080124)
1800.0	1.13188c(86082724)	1.10023c(86090724)	1.35390c(86090724)	1.32930c(86080124)	1.56247c(86080124)
1400.0	1.23442c(86090724)	1.62242c(86090724)	1.51626c(86080124)	1.59537c(86080124)	1.55472c(86080124)
1000.0	2.02099c(86090724)	1.84038c(86080124)	1.73697c(86080724)	1.79387c(86080724)	1.90995c(86071524)
600.0	1.48360c(86080124)	2.33267c(86080724)	2.08952c(86080724)	1.73566c(86080724)	1.70071c(86071524)
200.0	0.51293c(86071624)	1.62515c(86050824)	1.48198c(86050824)	1.28877c(86050824)	1.36683c(86081824)
-200.0	0.41466c(86062424)	1.50573c(86062424)	1.50120c(86062424)	1.44277c(86062424)	1.43182c(86062424)
-600.0	0.65246c(86051124)	1.28687c(86051124)	1.32437c(86062024)	1.09913c(86062024)	1.11198c(86062424)
-1000.0	0.24447c(86062024)	0.75274c(86062024)	0.96479c(86051124)	0.96010c(86051124)	0.89096c(86051124)
-1400.0	0.05817c(86051124)	0.20233c(86062624)	0.43872c(86062024)	0.63852c(86062024)	0.77015c(86051124)
-1800.0	0.15087 (86061824)	0.28100c(86071924)	0.43648c(86071924)	0.52255c(86052224)	0.48213c(86051124)
-2200.0	0.26233c(86072224)	0.36228 (86061824)	0.52769c(86071924)	0.67153c(86071924)	0.83059c(86052224)
-2600.0	0.38318c(86072224)	0.43760 (86061824)	0.56352 (86061824)	0.73717c(86071924)	0.83845c(86071924)
-3000.0	0.43732c(86072224)	0.43431 (86061824)	0.63651 (86061824)	0.74364 (86061824)	0.86790c(86071924)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

Y-COORD | X-COORD (METERS)
 (METERS) | 3000.00

3000.0		1.01742c(86022224)
2600.0		1.04649c(86071624)
2200.0		1.49907c(86080124)
1800.0		1.70124c(86080124)
1400.0		1.77065c(86071524)
1000.0		2.04578c(86071524)
600.0		1.56431c(86071624)
200.0		1.79112c(86081824)
-200.0		1.40768c(86062424)
-600.0		1.17568c(86062424)
-1000.0		0.95614c(86062024)
-1400.0		0.79394c(86051124)
-1800.0		0.58951c(86051124)
-2200.0		0.65791c(86052224)
-2600.0		0.94492 (86042224)
-3000.0		0.93121c(86071924)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

GROUP ID AVERAGE CONC NETWORK
RECEPTOR (XR, YR, ZELEV, ZFLAG) OF TYPE GRID-ID

ALL 1ST HIGHEST VALUE IS 0.13502 AT (3000.00, 1000.00, 0.00, 0.00) GC CAR1
2ND HIGHEST VALUE IS 0.13013 AT (3000.00, 600.00, 0.00, 0.00) GC CAR1
3RD HIGHEST VALUE IS 0.12787 AT (3000.00, 1400.00, 0.00, 0.00) GC CAR1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 95250 *** *** ANCLOTE TSP EMISSIONS; UNITS 1-2 @ 0.10 lb/mmBtu *** 09/01/98
*** 124 G/SEC EMISS. RATE; ANN. 24 h con, FULL LOAD *** 14:51:47
PAGE 18

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF TSP IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	DATE AVERAGE CONC (YYMMDDHH)	NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE GRID-ID
----------	---------------------------------	--	-----------------

ALL HIGH 1ST HIGH VALUE IS 3.16012c ON 86071624: AT (1400.00, 600.00, 0.00, 0.00) GC CAR1
HIGH 2ND HIGH VALUE IS 2.33267c ON 86080724: AT (1400.00, 600.00, 0.00, 0.00) GC CAR1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 816 Informational Message(s)
A Total of 816 Calm Hours Identified

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
*** NONE ***

*** ISCST3 Finishes Successfully ***

*** RUN INFORMATION PAGE ***

INPUT FILENAME IS: anctsp.dta
OUTPUT FILENAME IS: anctsp.lst
RUN TITLE1 IS: ANCLOTE TSP EMISSIONS; UNITS 1-2 @ 0.10 lb/mmBtu
124 G/SEC EMISS. RATE; ANN. 24 h con, FULL LOAD
COMPUTER ID NAME (VOLUME): no label

BEGINNING HOUR,MINUTE,SECOND ----- : 14:51:47
BEGINNING MONTH,DAY,YEAR ----- : 09/01/98

ENDING HOUR,MINUTE,SECOND ----- : 14:52:09
ENDING MONTH,DAY,YEAR ----- : 09/01/98

TOTAL CPU SECONDS ----- : 22.

CO STARTING
CO TITLEONE ANCLOTE NOx EMISSIONS; UNITS 1-2 @ 0.40 lb/mmBtu
CO TITLETWO 495 G/SEC EMISS. RATE; ANNUAL CONC. @ FULL LOAD
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME PERIOD
CO POLLUTID NO2
CO DCAYCOEF .000000
CO RUNORNOT RUN
CO ERRORFIL ERRORS.OUT
CO FINISHED

SO STARTING

** Source Location Cards:

** SRCID SRCTYP XS YS ZS

SO LOCATION 1 POINT 0.0000 0.0000 .0000

** Source Parameter Cards:

** POINT: SRCID QS HS TS VS DS

SO SRCPARAM 1 495.1 152.100 430.0000 35.1000 7.6000

SO EMISUNIT .100000E+07 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)

SO SRCGROUP ALL

SO FINISHED

RE STARTING

RE GRIDCART CAR1 STA

RE CAR1 XYINC -3000. 16 400. -3000. 16 400.

RE CAR1 END

RE FINISHED

ME STARTING

ME INPUTFIL tpapri86.bin UNFORM

ME ANEMHGHT 6.700 METERS

ME SURFDATA 12842 1986 SURFNAME

ME UAIRDATA 12842 1986 UAIRNAME

ME WINDCATS 1.54 3.09 5.14 8.23 10.80

ME FINISHED

OU STARTING

OU RECTABLE ALLAVE FIRST SECOND

OU FINISHED

*** SETUP Finishes Successfully ***

**MODELOPTs: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

-- SCAVENGING/DEPOSITION LOGIC --

**Model Uses NO DRY DEPLETION. DDPLETE = F

**Model Uses NO WET DEPLETION. WDPLETE = F

**NO WET SCAVENGING Data Provided.

**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:

1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates PERIOD Averages Only

**This Run Includes: 1 Source(s); 1 Source Group(s); and 256 Receptor(s)

**The Model Assumes A Pollutant Type of: NO2

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Input Runstream File: anNOx.dta ; **Output Print File: anNOx.lst

**Detailed Error/Message File: ERRORS.OUT

*** ISCST3 - VERSION 95250 *** *** ANCLOTE NOx EMISSIONS; UNITS 1-2 @ 0.40 lb/mmBtu *** 09/01/98
*** 495 G/SEC EMISS. RATE; ANNUAL CONC. @ FULL LOAD *** 14:07:20
PAGE 2

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR	BY VARY
1	0	0.49510E+03	0.0	0.0	0.0	152.10	430.00	35.10	7.60	NO		

*** ISCST3 - VERSION 95250 *** *** ANCLOTE NOx EMISSIONS; UNITS 1-2 @ 0.40 lb/mmBtu *** 09/01/98
*** 495 G/SEC EMISS. RATE; ANNUAL CONC. @ FULL LOAD *** 14:07:20
PAGE 3

**MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID SOURCE IDs

ALL 1 ,

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

*** Y-COORDINATES OF GRID ***
(METERS)

-3000.0, -2600.0, -2200.0, -1800.0, -1400.0, -1000.0, -600.0, -200.0, 200.0, 600.0,
1000.0, 1400.0, 1800.0, 2200.0, 2600.0, 3000.0,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: tpapr86.bin FORMAT: UNFORM
 SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
 NAME: SURFNAME NAME: UAIRNAME
 YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	FLOW	SPEED	TEMP	STAB	MIXING	HEIGHT (M)	USTAR	M-O	LENGTH	Z-0	IPCODE	PRATE
			VECTOR	(M/S)	(K)	CLASS	RURAL	URBAN	(M/S)	(M)	(M)	(M)	(mm/HR)	
86	1	1	1	351.0	4.12	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	2	348.0	3.60	292.6	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	3	174.0	4.63	291.5	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	4	293.0	3.09	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	5	3.0	1.54	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	6	322.0	2.57	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	7	345.0	3.60	289.8	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	8	343.0	2.57	290.4	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	9	337.0	3.09	290.9	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	10	341.0	3.09	292.6	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	11	4.0	2.57	294.3	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	12	356.0	3.09	294.8	2	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	13	23.0	2.57	295.9	2	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	14	59.0	2.57	294.8	3	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	15	42.0	3.09	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	16	54.0	1.54	293.7	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	17	51.0	2.06	293.2	4	416.0	416.0	0.0000	0.0	0.0000	0	0.00
86	1	1	18	47.0	1.00	293.2	5	419.0	418.0	0.0000	0.0	0.0000	0	0.00
86	1	1	19	134.0	2.06	291.5	6	428.0	424.0	0.0000	0.0	0.0000	0	0.00
86	1	1	20	127.0	1.00	290.9	6	437.0	430.0	0.0000	0.0	0.0000	0	0.00
86	1	1	21	130.0	1.00	290.9	6	447.0	435.0	0.0000	0.0	0.0000	0	0.00
86	1	1	22	132.0	1.00	289.8	6	456.0	441.0	0.0000	0.0	0.0000	0	0.00
86	1	1	23	270.0	1.54	290.9	6	465.0	447.0	0.0000	0.0	0.0000	0	0.00
86	1	1	24	290.0	2.06	290.4	6	474.0	453.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
 FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF NO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD (METERS)	X-COORD (METERS)								
	-3000.00	-2600.00	-2200.00	-1800.00	-1400.00	-1000.00	-600.00	-200.00	200.00
3000.00	0.22657	0.17110	0.12922	0.10679	0.09865	0.10157	0.11533	0.13549	0.15791
2600.00	0.25545	0.19774	0.14039	0.10112	0.08345	0.08223	0.09619	0.12059	0.14626
2200.00	0.26851	0.22016	0.15978	0.10436	0.07141	0.06240	0.07543	0.10529	0.13592
1800.00	0.26728	0.22793	0.17691	0.11861	0.06977	0.04198	0.04853	0.08822	0.12860
1400.00	0.25590	0.22376	0.18382	0.13653	0.07683	0.03493	0.02850	0.07354	0.12435
1000.00	0.23915	0.21049	0.18110	0.14286	0.10280	0.05207	0.01034	0.01542	0.03595
600.00	0.22748	0.19677	0.17013	0.14083	0.12564	0.05807	0.00113	0.00000	0.00000
200.00	0.22615	0.19137	0.16044	0.12998	0.11185	0.02740	0.00000	0.00000	0.00000
-200.00	0.22832	0.19233	0.15945	0.12658	0.10797	0.02701	0.00000	0.00000	0.00000
-600.00	0.22342	0.18904	0.15691	0.11996	0.09858	0.04184	0.00112	0.00000	0.00000
-1000.00	0.22320	0.18703	0.14964	0.10737	0.07485	0.04935	0.02301	0.00268	0.00236
-1400.00	0.21974	0.17910	0.13847	0.10371	0.06991	0.05015	0.03112	0.01123	0.01303
-1800.00	0.20831	0.16965	0.13473	0.10542	0.07944	0.05112	0.02741	0.01368	0.01561
-2200.00	0.19797	0.16730	0.13826	0.10981	0.08110	0.05204	0.03031	0.02044	0.02270
-2600.00	0.19390	0.16771	0.13957	0.11011	0.07880	0.05046	0.03379	0.02744	0.03011
-3000.00	0.18997	0.16388	0.13576	0.10550	0.07438	0.05073	0.03903	0.03498	0.03815

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
 INCLUDING SOURCE(S): 1

*** NETWORK ID: CAR1 ; NETWORK TYPE: GRIDCART ***

** CONC OF NO2 IN (MICROGRAMS/CUBIC-METER) **

Y-COORD	X-COORD (METERS)						
(METERS)	600.00	1000.00	1400.00	1800.00	2200.00	2600.00	3000.00
3000.00	0.17360	0.17656	0.17476	0.17922	0.19954	0.23728	0.28768
2600.00	0.15963	0.15828	0.15635	0.16991	0.20692	0.26385	0.33084
2200.00	0.14713	0.14123	0.14260	0.17087	0.22853	0.30493	0.38710
1800.00	0.13384	0.12395	0.13997	0.18869	0.26647	0.35894	0.45126
1400.00	0.12623	0.11798	0.14807	0.22607	0.31666	0.41627	0.51138
1000.00	0.06246	0.12440	0.18526	0.25963	0.35903	0.45269	0.53998
600.00	0.00284	0.11400	0.21619	0.26057	0.35542	0.43843	0.52040
200.00	0.00000	0.04357	0.16520	0.20973	0.30688	0.39388	0.48043
-200.00	0.00000	0.01954	0.09908	0.14896	0.24151	0.32643	0.41114
-600.00	0.00005	0.01790	0.05724	0.09389	0.16350	0.23431	0.31026
-1000.00	0.00457	0.00900	0.02765	0.05741	0.10168	0.15302	0.21408
-1400.00	0.01580	0.01311	0.02404	0.04890	0.07411	0.10678	0.14911
-1800.00	0.02049	0.02357	0.03521	0.05146	0.07069	0.09156	0.11710
-2200.00	0.02805	0.03229	0.04268	0.05813	0.07593	0.09270	0.10858
-2600.00	0.03454	0.03740	0.04721	0.06370	0.08091	0.09730	0.11073
-3000.00	0.04199	0.04293	0.04912	0.06577	0.08359	0.09942	0.11337

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF NO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID AVERAGE CONC NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG) OF TYPE GRID-ID

ALL 1ST HIGHEST VALUE IS 0.53998 AT (3000.00, 1000.00, 0.00, 0.00) GC CAR1
2ND HIGHEST VALUE IS 0.52040 AT (3000.00, 600.00, 0.00, 0.00) GC CAR1
3RD HIGHEST VALUE IS 0.51138 AT (3000.00, 1400.00, 0.00, 0.00) GC CAR1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 816 Informational Message(s)
A Total of 816 Calm Hours Identified

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
*** NONE ***

*** ISCST3 Finishes Successfully ***

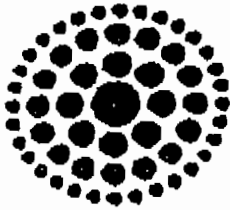
*** RUN INFORMATION PAGE ***

INPUT FILENAME IS: anNOx.dta
OUTPUT FILENAME IS: anNOx.lst
RUN TITLE1 IS: ANCLOTE NOx EMISSIONS; UNITS 1-2 @ 0.40 lb/mmBtu
495 G/SEC EMISS. RATE; ANNUAL CONC. @ FULL LOAD
COMPUTER ID NAME (VOLUME): no label

BEGINNING HOUR,MINUTE,SECOND ----- : 14:07:19
BEGINNING MONTH,DAY,YEAR ----- : 09/01/98

ENDING HOUR,MINUTE,SECOND ----- : 14:07:42
ENDING MONTH,DAY,YEAR ----- : 09/01/98

TOTAL CPU SECONDS ----- : 23.



Florida Power CORPORATION



Environmental Services Department

FAX COVER SHEET

DATE: 8/31/98

TO: Chris Foney

FAX # (855) 922-6979

COMPANY: DEP

FROM: [Signature]

PHONE # (727) 826-4258

FAX # 826-4216

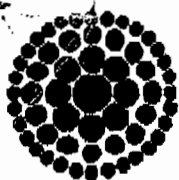
NUMBER OF PAGES TRANSMITTED 10

Please call number listed above for any transmission problems.

COMMENTS:

Please review the attached and let me know if its what you need.





**Florida
Power**
CORPORATION

INTEROFFICE CORRESPONDENCE

Energy Supply Plant Improvement Projects
OFFICE

C2E
MAC

231-5691
TELEPHONE

**SUBJECT: Anclote Stack Emissions Treatment
Draft GCI Interim Recommendations**

TO: Distribution

DATE: June 26, 1995

Attached is the complete draft GCI final report (with all attachments) for the subject project. Please provide any comments to me (231-5691) by 7/3/95.

**R. A. Frohnerath
Principal Mechanical Engineer
Energy Supply Plant Improvement Projects**

**cc: D. K. Belle (w/attach)
D. T. Buell (w/attach)
D. B. Cox (w/attach)
T. R. Courtney (w/attach)
M. E. Higgins (w/attach)
C. L. Gay (w/attach)
T. E. Sesler (w/attach)
S. H. Osbourn (w/attach)
N. A. Peterson (w/attach)
R. J. St Amant (w/attach)
E. J. Watkins (w/attach)
File AN-95-003 (w/attach)**



Gilbert/Commonwealth engineers and consultants
2675 Margantown Road, Reading, PA 19607 • Telephone (610) 855-2000 • FAX (610) 855-2932

June 23, 1995

Mr. Richard Frohnerath
Florida Power Corporation
3201 34th Street South
St. Petersburg, FL 33711-3828

Ref.: Anclote Particulate Fallout Study
Report # G/C 3095
Letter # GC-FPC-009

Dear Richard,

Enclosed please find the draft Final Report for the subject study at Anclote.

If you have further questions or comments regarding this report, please do not hesitate to call.

Sincerely,

R. G. Sensenig / fole
R. G. Sensenig, P.E.
Project Manager

RGS:mjb
enclosures: Particulate Fallout Study

**FLORIDA
POWER
CORPORATION**

Particulate Fallout Investigation

Anclote Units 1 and 2

G/C Report No. 3095

Engineering Study

Fossil Engineering

Fossil Operations

By: Bruce Kautsky / gkw
Bruce Kautsky, P.E.

ENGINEERING STUDY REPORT

A. Project Title

Anclote Units 1 and 2 Particulate Fallout Investigation

B. Problem Analysis

The community around the Anclote Station has been reporting incidence of particulate fallout on exposed surfaces including automobiles, lawn furnishings, and vegetation. This particulate has been described as dark agglomerations 1/16 to 1/8 inch in size with an oily or sticky consistency, often surrounded by a yellowish stain. The particles are also reported to be pitting or otherwise corroding the surfaces they fall on. It is possible that this particulate fallout is originating from Anclote Station and may be emanating from the stack during periods of unit start-up, when ramping up from the minimum load of 25 MW, and/or when blowing soot at higher loads. Fallout of ash in the community may be occurring when these operational conditions are concurrent with an on-shore wind which may carry particulate inland rather than out into the Gulf. The potential that the ash fallout is originating from Anclote Station is the primary problem to be addressed in this Engineering Study.

A portion of the particulate responsible for the fallout may result from very low load operation when ash deposits could accumulate in the airheater cold end, boiler exit flues, and stack--agglomerated and bound to the surfaces of these components by a sticky sulfuric acid solution which forms as a result of the low exit gas temperatures, high excess air, and moderate sulfur content of the fuel. When the units are started up, ramped up from low load conditions, or when sootblowing is implemented in the boiler cold end surfaces, particularly in the airheater, the accumulations are agitated or loosened and are entrained with the flue gas out the stack. Due to the mass of these agglomerations, they could fall within close proximity of the stack; due to their acidic content they could tightly adhere to and corrode the surfaces they fall on. This type of particulate fallout is commonly referred to as "acid smut." The oily or slippery consistency of fallout reported in some of the complaints may be attributed to the acid content or may be residual hydrocarbons resulting from incomplete combustion during the low load or ramping period.

Another source of particulate could be related to the entrainment of higher temperature ash deposits (above acid dew point) during sootblowing or increases in load. These higher temperature ash deposits may be loosened from or shed from boiler surfaces when ramping down to minimum load operation. The ash deposits may remain loosely bound to the surfaces or may fall into hoppers and into low velocity areas of the ductwork, such as the expansion area at the airheater exit. Increase in load and sootblowing may agitate these accumulations and entrain them back into the gas stream. It would be expected that ash fallout from these sources would be lighter in color and would not have the corrosive, sticky characteristics reported by many of the community complaints.

Other sources of particulate could be related to poor combustion efficiency or to over-injection of magnesium oxide fuel oil additive during low load operation. It is observed, however, from the results of Combustion Optimization testing in November and December 1993 and more recent emissions testing (for Axco fuel oil additive) in May 1995, that the unburned combustibles in the fly ash are quite low, generally less than 5% by weight of the fly ash composition, even at the 25MW minimum load condition. Unburned combustibles, measured as carbon in the flyash, is a direct indicator of combustion efficiency; an increase in particulate leaving the boiler which would result from combustion problems would be detected by this measurement of carbon in the flyash. It is also observed from the May, 1995 testing that Magnesium in the fly ash is generally less than 5%, including tests at the 25MW condition. It is concluded that neither poor combustion efficiency nor excessive magnesium injection are responsible for a significant portion of the fallout.

It is noted that community complaints were drastically curtailed when the plant's minimum operating loads were recently raised to meet the higher summer season load requirements. This increase in minimum load (to about 80MW) and the higher ambient temperatures would likely bring boiler exit gas temperatures above the acid dewpoint and the acidic ash agglomerations would be expected to cease. The decrease in community complaints suggests that dew point agglomerations are a more likely potential source of the fallout than the other described mechanisms; however, other variables such as wind conditions may also be influencing the fallout condition.

Based on the decline in customer complaints which coincided with the rise in minimum load and the observed dark, sticky, corrosive nature of the reported fallout (which suggests a significant acid content), it will be assumed in this Engineering Study that the most significant potential cause of the community particulate fallout is the creation of acid smuts due to minimum load operation with airheater exit gas temperatures below the acid dewpoint.

C. Decision Analysis

1.0 Purpose of Decision

The purpose of this Engineering Study is to identify a cost effective solution to the particulate fallout problem which may be emanating from Anclote Station.

2.0 Objectives

The primary intent of this Engineering Study is to identify alternatives for addressing particulate fallout which is potentially originating from the stack at Anclote. A solution is to be recommended which reliably addresses the problem and is consistent with FPC goals for this station, which include achieving the lowest possible costs for production of power to keep Anclote Station economically viable for the present and future competitive arena. To achieve these goals it is likely that FPC will pursue the purchase of higher sulfur oils, up to 2.5%, versus the 1.5% S oils currently fired. While the switch to higher sulfur oils would seem economically attractive, especially in future years as competition for the lower sulfur oils increases, it is recognized that higher sulfur oils will likely raise the acid dew point in the boiler exit gas, potentially compounding the acid smut problem at low minimum loads.

A secondary consideration in this study is the control of opacity and other regulated or soon-to-be regulated flue gas emissions. The switch to higher sulfur oils may also raise opacity, which is, even with the present moderate sulfur oils, already high and pushing the limit of 40% during load ramps. Higher sulfur oils will also result in higher SO₂ emissions; while SO₂ is not currently regulated at Anclote, it will likely be regulated after the year 2000.

3.0 Qualification Statement

This project is to be considered non-discretionary. If Anclote Station is found to be the source of the particulate fallout, legal action may be taken by the community which may require the units to be shut down.

4.0 Alternatives Considered

To address the formation and emission of acid smuts, several courses of action are possible which fall into five categories:

1. Change the mode of operation to avoid the low exit gas temperature conditions in which acid smuts are formed
2. Change the fuel fired at low load to reduce or eliminate the sulfur which is the source of the sulfuric acids
3. Provide a chemical additive system which will tie up sulfur in other stable compounds or will effectively neutralize any acids which are formed
4. Provide a system which will remove acids and/or particulate from the flue gas stream
5. Provide a system which will raise the exit gas temperature at low load above the acid dew point

Several alternative solutions which fall into these categories have been investigated and are discussed below.

Alternative 1a.- Raise Minimum Boiler Load

This change in the mode of operation will eliminate the low exit gas temperature condition in which acid smuts are formed. Some experimentation may be necessary to determine the optimum boiler load point, including monitoring of boiler exit gas temperatures and boiler exit surface temperatures at various load points. The objective would be to achieve a minimum load which keeps boiler exit gas temperatures above acid dew point. It would also be advantageous to somehow monitor and confirm the impact of higher minimum load operation on the fallout in the local neighborhoods. There is already a preliminary indication, based on recent summer season operation as discussed above, that minimum loads of 80 MW are sufficient to avoid the acid smut problem.

This action may also reduce the shedding of ash which could be occurring to a greater degree at the present 25 MW minimum load.

Side benefits of higher minimum load operation may include less impact on boiler feedwater quality(dissolved oxygen) and less impact on the turbine cold end(water droplet erosion).

While this alternative will be effective at addressing the primary problem of ash fallout, it is likely that the change in minimum load will result in less economical system operation. This alternative therefore does not seem to meet the long term objectives for the plant; however, some sensitivity analysis could be conducted of the costs associated with displacement of lower cost generation during off peak hours to verify that this is not a least cost option under any foreseeable condition.

There are also no equipment modifications or associated capital expenditures associated with this option.

Alternative 1b.-Operation at Lower Excess Air

Many studies have documented the potential for reducing the conversion of SO_2 to SO_3 by lowering the boiler excess air. These reductions have been verified through operating experience at Anclote. If SO_3 formation can be reduced, the potential to form sulfuric acid can also be reduced. However, at the very low loads where gas temperatures are passing through the acid dew point, the level of excess air is dictated by NFPA guidelines which recommend a minimum of 25% of the full load combustion air flow as the minimum permissible air flow through the boiler. At 25 MW, this translates to an excess air of about 200%. The literature predicts very little decrease in SO_3 conversion at excess airs above about 25%. Therefore, it does not appear that any tuning of excess air at low load operation will provide a significant reduction of SO_3 conversion.

It is noted, however, that the units at Anclote seem to be running well above the required 25% of full load combustion air flow. CEMS data from April, 1995, shows gas flows at 25 MW which correspond to about 40-50% of the full load combustion air flow, assuming about 10% airheater leakage. If the majority of this extra excess air is coming all the way through the boiler, it may be significantly changing the heat transfer characteristics at low load and therefore the exit gas

temperature. The direction and magnitude of this change can be predicted by running a boiler performance model. If a significant portion of the extra excess air results from airheater leakage, this may be lowering the airheater exit gas temperatures by dilution. In either case, the airheater exit gas temperatures are likely being affected by the current levels of excess air at minimum load. If the sources of, or reasons for, extra air can be identified and addressed, it may be possible to lower the load condition at which acid dew point is encountered.

Addressing the high excess air situation may require capital or O&M expenditures for F.D. fan control improvement or airheater seal refurbishment.

Alternative 2a. -- Firing at Minimum Load with No. 2 Fuel Oil

Since No. 2 oil has a negligible sulfur content, its use during minimum operation would eliminate the formation of sulfuric acid. Switching to No. 2 oil at low loads will require some changes in operating procedure and some operator efforts to manually change guns when transitioning to and from the low load point. This alternative will not require any capital expenditures; however, there will be a considerable increase in operating cost due to the fuel price difference.

A yearly operating cost increase of approximately \$1,450,000 would be incurred when firing No. 2 oil at the 25 MW minimum load condition based on the following assumptions:

- Price of current 1.5 S No. 6 oil = \$2.79/MMBtu
- Price of No. 2 oil = \$3.97/MMBtu
- Both units operate at 25MW for 8 hours/day, half the days of the year(183 days)

Some non quantified benefits of firing no. 2 oil at low loads include reduction of the corrosion of airheater cold end and exit flues and an improvement in the low load opacity and combustion conditions.

This alternative does not address higher load particulate or opacity problems, but will allow a switch to higher sulfur oils in the future without a negative impact on low load acid smut emissions.

Alternative 2b.-- Firing at Minimum Load With Natural Gas

The addition of an elevation of natural gas burners at Anclote Units 1 & 2 would alleviate the acid smut problem encountered during low load operations by avoiding the production of SO₃.

Adding natural gas firing to Units 1 & 2 would involve bringing natural gas to the plant site, installing a metering and regulating station, piping the gas from the metering station to the burner columns, and adding an elevation of natural gas burners.

Bringing gas to the plant site would require obtaining various permits, including right of way, and a contract with a natural gas company. The installation of the gas supply line to the site would be the responsibility of the gas company involved. Installing a metering and regulating station would also

be accomplished by the gas company. The costs associated with bringing the natural gas to the site and installing the metering station are included in the costs presented below.

Piping the natural gas from the metering station to the burner columns would be the responsibility of Florida Power Corporation. In conjunction with the installation of the natural gas burners and the gas supply and distribution system, several other systems would have to be incorporated which should meet current NFPA codes for firing natural gas. These other systems include a burner management system, a gas venting system, and a nitrogen purge system. The nitrogen purge system is not required by the NFPA, but is highly recommended for additional safety during system repairs and routine maintenance.

The main natural gas pipe will be installed underground up to the boiler building. It will be heavy walled to withstand vehicle traffic and will be coated for corrosion protection. A sacrificial anode type cathodic protection system will also be furnished as required. The gas distribution system will be made of carbon steel. Piping larger than 2 inches in diameter will be schedule 40. Piping 2 inches and below will be schedule 80.

In addition to the reduction of acid smut production, there are a few other benefits that can be realized when adding natural gas to the fuel system. These advantages include improved air heater cleanliness and performance and a reduction in the fire potential in the air heater, improved turndown capability which would increase combustion efficiency at low loads, and the potential to reduce NO_x emissions should that become a concern in the future.

The addition of natural gas firing capability to both units would eliminate the production acid smut during low load operations, startup, and shutdown. However, it will not address other emissions problems. There are other benefits to firing natural gas, as described above, but it is one of the more expensive options. The capital costs associated with this option are approximately \$6,500,000. The operating costs when firing natural gas at low loads will decrease by approximately \$480,000, based on the following assumptions:

- Price of natural gas = \$2.40/MMBtu
- Price of current 1.0 S No. 6 oil = \$2.83/MMBtu
- Both units operate at 25MW for 8 hours/day, half the days of the year(183 days)

Conversion of the units to 100% natural gas firing or co-firing would effectively address all the primary and secondary concerns of this Study. The incremental costs for this conversion versus all the short and long term benefits, including those discussed in this study, should be reviewed.

Alternative 2c.-- Firing a Lower Sulfur No. 6 Oil

If Anclote switches back to a lower sulfur No. 6 oil, acid dew point will be lowered and acid smut emissions may be adequately reduced. Lower sulfur No. 6 oil will also improve opacity and SO₂ emissions for longer term regulatory considerations.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

FLORIDA POWER CORPORATION,
ANCLOTE PLANT,

RECEIVED

Petitioner,

AUG 20 1998

vs.

BUREAU OF AIR REGULATION OGC CASE NO. 98-2274

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION,

Respondent.

ORDER GRANTING REQUEST FOR EXTENSION
OF TIME TO FILE PETITION FOR HEARING

This cause has come before the Florida Department of Environmental Protection (Department) on receipt of a request made by Petitioner, FLORIDA POWER CORPORATION, ANCLOTE PLANT, to grant an extension of time to file a petition for an administrative hearing on Application No. 1010017-004-AC. See Exhibit 1.


The Department has no objection to granting an extension of time. Therefore,

IT IS ORDERED:

The request for an extension of time to file a petition for administrative proceeding is granted. Petitioner shall have until September 7, 1998, to file a petition in this matter. Filing shall be complete on receipt by the Office of General Counsel, Mail Station 35, Department of Environmental Protection, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399- 3000.

DONE AND ORDERED on this 18th day of August, 1998, in
Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


F. PERRY ODOM
General Counsel

Douglas Building, MS #35
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
Telephone: (904) 488-9314

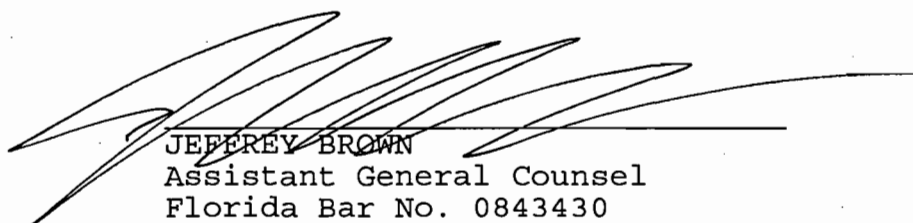
CERTIFICATE OF SERVICE

I CERTIFY that a true copy of the foregoing was mailed to:

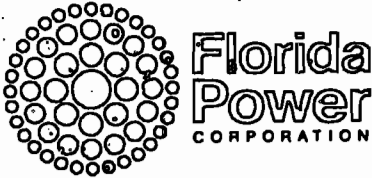
Robert A. Manning, Esquire
HOPPING, GREEN, SAMS & SMITH, P.A.
Post Office Box 6526
Tallahassee, Florida 32314-6526

on this 20 day of August, 1998.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


JEFFREY BROWN
Assistant General Counsel
Florida Bar No. 0843430

Mail Station 35
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
Telephone: (904) 488-9730



August 6, 1998

Ms. Kathy Carter, Clerk
Office of General Counsel
Florida Department of Environmental Protection
Room 638
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000

Dear Ms. Carter:

RE: Florida Power Corporation, Anclote Plant
REQUEST FOR EXTENSION OF TIME on the *Intent to Issue Air Construction Permit*
Draft Permit No. 1010017-004-AC

On July 24, 1998, Florida Power Corporation (FPC) received the above-referenced Intent to Issue Air Construction Permit. A review of the permit conditions has revealed that several issues remain to be resolved. Mr. Scott Osbourn of my staff has had discussions with Mr. Al Linero of the Department who agreed that an additional extension of time to discuss these issues is appropriate. Therefore, based upon the Department's concurrence and pursuant to Rules 62-103.050 and 28-106.111, Fla. Admin. Code, FPC respectfully requests an extension of time in which to file a petition for an administrative hearing under Sections 120.569 and 120.57, Fla. Stat., up to and including September 7, 1998.

If you should have any questions, please contact Mr. Scott Osbourn of FPC at (727) 826-4258.

Sincerely,

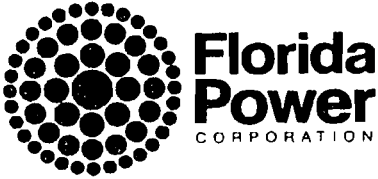
A handwritten signature in dark ink, appearing to read "W. Jeffrey Pardue", written over a horizontal line.

W. Jeffrey Pardue, C.E.P.
Director, Environmental Services Department
Title V Responsible Official

A handwritten signature in dark ink, appearing to read "Robert A. Manning", written in a cursive style.

Robert A. Manning, Esq.
Hopping Green Sams & Smith

cc: Al Linero, DEP
Jeffrey Brown, DEP OGC



RECEIVED

AUG 10 1998

BUREAU OF
AIR REGULATION

August 6, 1998

Ms. Kathy Carter, Clerk
Office of General Counsel
Florida Department of Environmental Protection
Room 638
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000

Dear Ms. Carter:

RE: Florida Power Corporation, Anclote Plant
REQUEST FOR EXTENSION OF TIME on the *Intent to Issue Air Construction Permit*
Draft Permit No. 1010017-004-AC

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If you should have any questions, please contact Mr. Scott Osbourn of FPC at (727) 826-4258.

Sincerely,

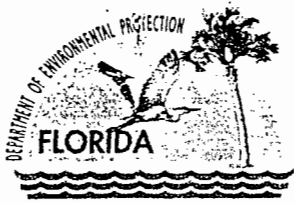
A handwritten signature in black ink, appearing to read "W. Jeffrey Pardue", written in a cursive style.

W. Jeffrey Pardue, C.E.P.
Director, Environmental Services Department
Title V Responsible Official

A handwritten signature in black ink, appearing to read "Robert A. Manning", written in a cursive style.

Robert A. Manning, Esq.
Hopping Green Sams & Smith

cc: Al Linero, DEP
Jeffrey Brown, DEP OGC



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

July 22, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

W. Jeffrey Pardue
Director of Environmental Services
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

Re: Anclote Power Plant Units 1 and 2
Natural Gas Co-Firing
DRAFT Permit No. 1010017-004-AC

Dear Mr. Pardue:

Enclosed is one copy of the Draft Air Construction Permit to install natural gas co-firing capability on Units 1 and 2 at the Anclote Power Plant located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida. The Department's Intent to Issue Air Construction Permit and the "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" are also included.

The "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT AND AMENDMENT" must be published in the legal advertisement section of a newspaper of general circulation in the area affected. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit amendment.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Martin Costello at the above letterhead address. If you have any other questions, please contact Mr. Martin Costello at 850/488-0114.

Sincerely,

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

/mc

Enclosures

In the Matter of an
Application for Permit by:

Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

DRAFT Permit No.: 1010017-004-AC
Anclote Power Plant Gas Co-firing
Pasco County

INTENT TO ISSUE CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit (copy of DRAFT AIR CONSTRUCTION PERMIT attached) for the proposed project, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Florida Power Corporation, applied on February 26, 1998 to the Department for a construction permit to modify two utility boilers, Units 1 and 2, by adding the capability to co-fire natural gas with fuel oil at the Anclote Power Plant located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-296, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that an air construction permit is required for the proposed work.

The Department intends to issue this Construction Permit based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue Air Construction Permit." The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/ 922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of 14 days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed 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. 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.

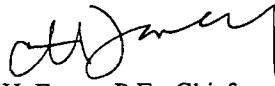
The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number 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.

Executed in Tallahassee, Florida.


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

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE CONSTRUCTION PERMIT (including the PUBLIC NOTICE, Technical Evaluation and Preliminary Determination, and the DRAFT permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 7/22/98 to the person(s) listed:

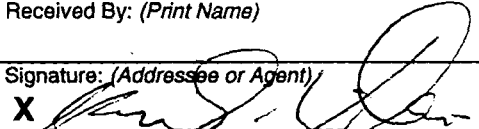
Mr. W. Jeffrey Pardue, FPC *
Mr. Brian Beals, EPA
Mr. John Bunyak, NPS
Mr. Bill Thomas, SWD

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.

Charlotte J. Hayes 7/22/98
(Clerk) (Date)

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. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Mr. W. G. Pardue Director of Eng. Serv. Fla. Power Corp. 3201 34th St. South St. Petersburg, FL 33733		4a. Article Number P 265 659 390	
		4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD	
		7. Date of Delivery APR 24 1998	
5. Received By: (Print Name)		8. Addressee's Address (Only if requested and fee is paid)	
6. Signature: (Addressee or Agent) X 			

Thank you for using Return Receipt Service.

PS Form 3811, December 1994 102595-97-B-0179 Domestic Return Receipt

P 265 659 390

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

Sent to		W. G. Pardue	
Street & Number		3201 34th St. South	
Post Office, State, & ZIP Code		St. Pet. 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		7-22-98	
		1010017-004-AC	
		anclote	

PS Form 3800, April 1995

PUBLIC NOTICE OF INTENT TO ISSUE CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DRAFT Permit No.: 1010017-004-AC
Florida Power Corporation
Anclote Power Plant Units 1 and 2
Pasco County

**NOTICE TO BE PUBLISHED
IN THE NEWSPAPER**

The Department of Environmental Protection (Department) gives notice of its intent to issue a construction permit to Florida Power Corporation for a project to install natural gas co-firing capability at the Anclote Power Plant Units 1 and 2 located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida.

A Best Available Control Technology (BACT) determination was not required pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21 Prevention of Significant Deterioration (PSD). The applicant's name and address are Florida Power Corporation, 3201 34th Street South, St. Petersburg, Florida 33733.

Florida Power Corporation applied for a construction permit to modify Units 1 and 2 to accommodate the firing of natural gas thus enabling either or both units to co-fire gas and No. 6 fuel oil. The applicant has estimated that emissions of regulated PSD air pollutants will not increase, therefore this project is exempt from PSD review and a BACT determination. Accordingly the Department has limited future emissions to past actual emission levels for nitrogen oxides (NO_x), sulfur dioxide (SO₂), particulate matter (PM), and carbon monoxide (CO).

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of 14 days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed 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. 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

NOTICE TO BE PUBLISHED

IN THE NEWSPAPER

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.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, Florida, 32301
Telephone: (850) 488-0114
Fax: (850) 922-6979

Department of Environmental Protection
SW District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone:(813) 744-6100
Fax: :(813) 744-6458

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 904/488-0114, for additional information.

**TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION**

Florida Power Corporation

**Anclote Power Plant, Units 1 and 2
Gas Co-firing Project
Pasco County**

Construction Permit No. 1010017-004-AC

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

July 22, 1998

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Florida Power Corporation submitted an application to modify Anclote Units 1 and 2 to accommodate the firing of natural gas. These modifications would enable one or both units to co-fire natural gas and fuel oil. Units 1 and 2 are utility boilers rated at nominally 530 megawatts which exhaust through a common stack. Emissions from the boilers are uncontrolled. The Anclote facility is located in Pasco County.

The modification will consist of adding gas spuds and new nozzle tips to the bottom two burner decks. Each tangential fired boiler has 5 burner decks and a total of 20 burners. Only one fuel (either gas or fuel oil) will be fired in these lower burner decks at a time. Natural gas piping will be added to the facility which will be capable of delivering approximately 40 to 44% of the heat input to each boiler. The total heat input to the boiler when cofiring natural gas will be higher due to the additional latent heat losses when firing natural gas. The increased heat input when firing natural gas is 2.2% higher (5% latent heat losses times the maximum fraction of gas, 44%). According to the 1997 annual operating report, the units currently burn 1% sulfur No. 6 fuel oil. After the gas modification, the boilers will co-fire natural gas and fuel oil of up to 2.5% sulfur content. When natural gas is not available or cost effective the currently permitted fuel oils will be fired. The burner manufacturer, Ansaldo Inc., has guaranteed that hourly emissions of NO_x, PM, CO and opacity will not increase when co-firing natural gas with No. 6 fuel oil.

In its application, FPC applied to fire used oil in quantities up to 10% of the annual heat input of the units. But it was mutually agreed that issues related to used oil are being addressed separately from this permitting action due to FPC's petition for an administrative hearing on the Anclote Title V operating permit.

Consideration was given to permitting the project as a pollution control project (PCP) in accordance with Rule 62-212.400(2)(a)2, F.A.C. because natural gas is an inherently clean fuel. However because the co-firing project will afford the firing of 2.5% sulfur fuel oil versus the 1% sulfur fuel oil currently fired, the Department has determined that the PCP exemption does not apply in this case. Further reasons that the PCP exemption does not apply include the uncertainty in co-firing with used oil which has higher ash content after the modification and the lack of quantification of any emissions reductions from the applicant. Future annual emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x), particulates (PM), and carbon monoxide (CO) (one time stack test) are limited in the draft construction permit to insure that PSD is not triggered.

Based on the foregoing technical evaluation of the application and additional information submitted by the applicant, the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations provided that vendor guarantees for emissions rates is implemented and certain conditions are met. The draft permit conditions are attached.

Engineer: Martin Costello, P.E.



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:

Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

Permit No.	1010017-004-AC
SIC No.	4911
Expires:	December 1, 1999

Authorized Representative:
W. Jeffrey Pardue
Director Environmental Services

PROJECT AND LOCATION:

Permit for the installation of natural gas burners and natural gas supply equipment at the Anclote Power Plant Units 1 and 2, located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida.

UTM: Zone 17 ; 324.4 km E ; 3118.7 km N

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-214, 62-296, 62-297. The above named Permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached Appendix made a part of this permit:

Appendix GC

Construction Permit General Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

AIR CONSTRUCTION PERMIT No. 1010017-004-AC

SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION

This permit authorizes the installation and testing of natural gas burners to utility boilers unit 1 and unit 2. Unit 1 is a nominal 535(summer)/540(winter) megawatt (electric) steam generator. Unit 2 is a nominal 525(summer)/530(winter) megawatt (electric) steam generator. Both units share a common 499 foot exhaust stack. There is no air pollution control equipment on these units.

REGULATORY CLASSIFICATION

The Anclote Generating Station is classified as a major air pollutant emitting facility. Units 1 and 2 are regulated under Rule 62-296.405 F.A.C., Fossil Fuel Steam Generators with more than 250 million Btu per Hour Heat Input.

This facility is regulated under Title IV and Title V of the Clean Air Act Amendments of 1990.

This facility is classified as a major source of Hazardous Air Pollutants (HAPs).

RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. They are specifically related to this permitting action but do not supersede the conditions given in this permit. These documents are on file with the Department.

Application received by DEP on 2/26/98
Department's letters dated 3/26/98, and 5/19/98
FPC response letters and faxes dated 3/23/98, 4/28/98, 6/5/98, and 6/23/98

AIR CONSTRUCTION PERMIT No. 1010017-004-AC

SECTION II. EMISSION UNITS ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to operate, and associated reports, tests, minor modifications and notifications or for permits to construct or modify an emission unit(s) should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (DEP) mailing address: 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, Mail Station 5505, and phone number (850) 488-0114.

The Permittee shall submit all compliance related notifications and reports required of this permit to the Department's Southwest District office:

Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6458

Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

U. S. Environmental Protection Agency - Region 4
Air, Pesticides & Toxics Management Division
Operating Permits Section
61 Forsyth Street
Atlanta, Georgia 32303
Telephone: 404/562-9099
Fax: 404/562-9095

2. General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in *Appendix GC* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]

3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.

4. Forms and Application Procedures: The Permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. [Rule 62-210.900, F.A.C.]

5. Expiration: This air construction permit shall expire on December 1, 1999.

SECTION III. SPECIFIC CONDITIONS

A. General Operation Requirements

1. Applicable Regulations: Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application and supplemental information referenced in Section I, Subsection C with the exception of used oil firing. As the Department is undergoing litigation from FPC on the availability of the alternative fuel exemption pursuant to Rule 62-212.400(2)(c) F.A.C., this permit does not authorize the firing of used oil. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]
2. Unit 1 is authorized to fire fuel oils No. 1 through No. 6 with a maximum heat input of 4964 MMBtu per hour. Unit 2 is authorized to fire fuel oils No. 1 through No. 6 with a maximum heat input of 4850 MMBtu per hour. Pipeline quality natural gas may be fired alone or cofired with fuel oil in either boiler and shall be limited to a maximum heat input of 44% of the total heat input per boiler. Unit 1 is authorized to co-fire natural gas with fuel oils No. 1 through No. 6 with a maximum heat input of 5073 MMBtu per hour. Unit 2 is authorized to co-fire natural gas with fuel oils No. 1 through No. 6 with a maximum heat input of 4957 MMBtu per hour.
3. Anclote Power Plant Units 1 and 2 may operate continuously (i.e., 8760 hours per year).
4. Only pipeline quality natural gas or No. 1 - 6 fuel oils with a maximum sulfur content of 2.5% by weight shall be fired in Units 1 and 2. The fuel ash content shall not exceed 0.1 percent by weight.
5. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Permitting Authority as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the Permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]
6. Operating Procedures: Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. [Rule 62-4.070(3), F.A.C.]

SECTION III. SPECIFIC CONDITIONS

B. Emission Limits and Standards

1. The following is a summary of emission limits applicable to Units 1 and 2:

Table 1. Emission Limits

Pollutant	Standard
SO ₂	2.75 lb/MMBtu 2.5% sulfur content by weight
PM/PM ₁₀	0.1 lb/MMBtu
Visible Emissions	40 percent opacity

2. Visible Emissions. Visible emissions (VE) shall not exceed 40 percent opacity. Owners or operators shall conduct a compliance test for particulate matter emissions and opacity annually. Failure to demonstrate compliance with the particulate matter standard or the opacity standard of this condition shall constitute grounds for immediate revocation of this 40% standard in which case the standard from Rule 62-296.405(1)(a) F.A.C. shall apply (20% opacity limit except for one six-minute period per hour during which opacity shall not exceed 27%). [Rule 62-296.405(1)(a), F.A.C.; and, OGC File Nos. 86-1574 and 86-1575/Orders dated December 11, 1986.]
3. Visible Emissions - Soot Blowing and Load Change. Excess emissions from existing fossil fuel steam generators resulting from boiler cleaning (soot blowing) and load change shall be permitted provided the duration of such excess emissions shall not exceed 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 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 by this subparagraph, for boiler cleaning and load changes on Units 1 and 2 which are required to operate continuous opacity monitors. [40 CFR 75 and Rule 62-210.700(3), F.A.C.]
4. Oxides of Nitrogen. Based on CEMS data, post-change NOx emissions from the two units shall not exceed 4,416 tons per year (the 1996 -1997 emissions rate when firing fuel oil as measured by CEMS). When monitoring data is not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate annual emissions. The owner or operator shall maintain and submit to the Department's Tallahassee office on an annual basis, for a period of 5 years representative of normal post-change operations of the unit, within the period not longer than 10 years following the change, information demonstrating that the physical or operational change did not result in an emissions increase by reporting these annual NOx emissions in the annual operating report (AOR). [62-212.400(2) and 62-210.200(12) F.A.C.]

SECTION III. SPECIFIC CONDITIONS

5. Sulfur Dioxide. Sulfur Dioxide emissions shall not exceed 2.75 lb/MMBtu as indicated by fuel sampling. Compliance shall be demonstrated through the exclusive use of fuel oil with less than 2.5% sulfur content by weight. Based on CEMS data, post-change SO₂ emissions from the two units shall not exceed the 1996 -1997 emissions rate when firing fuel oil as measured by CEMS. When monitoring data is not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate annual emissions. The owner or operator shall maintain and submit to the Department's Tallahassee office on an annual basis, for a period of 5 years representative of normal post-change operations of the unit, within the period not longer than 10 years following the change, information demonstrating that the physical or operational change did not result in an emissions increase by reporting these annual SO₂ emissions in the annual operating report (AOR). [Rule 62-296.405, 62-212.400(2) and 62-210.200(12) F.A.C.]
6. Particulate Matter. Particulate matter emissions shall not exceed 0.1 lb/MMBtu as measured by Method 5 or Method 17. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) or load change. Based on annual stack test data and actual fuel use, post-change annual particulate emissions shall not exceed 619 tpy (the 1996 - 1997 unit 1 and 2 average emissions rate). The owner or operator shall maintain and submit to the Department's Tallahassee office on an annual basis, for a period of 5 years representative of normal post-change operations of the unit, within the period not longer than 10 years following the change, information demonstrating that the physical or operational change did not result in an emissions increase by reporting these annual PM emissions in the annual operating report (AOR). [Rule 62-210.700(3), 62-296.405, 62-212.400(2) and 62-210.200(12) F.A.C.]

C. Excess Emissions

1. Excess emissions resulting from malfunction shall be permitted provided that best operational practices 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 DEP Southwest District Office for longer duration. 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.]
2. 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.]
3. Excess Emissions Report: If excess emissions occur due to malfunction, the owner or operator shall notify DEP's Southwest District office within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Excess emissions shall be reported in accordance with 40 CFR 60.7. [Rules 62-4.130 and 62-210.700(6), F.A.C.]

SECTION III. SPECIFIC CONDITIONS

D. Compliance Determination

1. Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate for natural gas firing, but not later than 180 days from the initial operation date on natural gas, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60, Appendix A (1998 version), and adopted by reference in Chapter 62-297, F.A.C.

Initial (I) compliance tests for VE and particulate emissions shall be performed on Units 1 and 2 while cofiring the maximum capacity of natural gas (approximately 40% to 44% of total heat input) and No. 6 Fuel oil. Annual (A) compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.340, F.A.C., on Units 1 and 2 as indicated. The following reference methods shall be used:

- DEP Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources (I, A).
- EPA Method 17 or Method 5. The minimum sample volume shall be 30 dry standard cubic feet.

For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. EPA Method 3A shall be used with the oxygen based F-factor and emission rates (lb/MMBtu) shall be computed according to EPA Method 19. Acetone wash shall be used with EPA Method 5 or 17. Stack testing shall be conducted using the fuel (and additive injection levels) which is representative of worst case for particulate emissions rate (i.e. using the fuel or fuel blend representative of that which has been fired during the past federal fiscal year which results in the highest potential emissions rate). (I, A) [Rules 62-213.440, 62-296.405(1)(e)2., and 62-297.401, F.A.C.]

Note: No other methods may be used for compliance testing unless prior DEP approval is received in writing. The DEP may request a special compliance test pursuant to Rule 62-297.340(2), F.A.C., when, after investigation (such as complaints, increased visible emissions, or questionable maintenance of control equipment), there is reason to believe that any applicable emission standard is being violated. The DEP's Southwest District office shall be notified, in writing, at least 30 days prior to the initial and annual compliance test(s)

2. Testing of emissions shall be conducted with each boiler operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the permit. If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. In this case, subsequent operation is limited by adjusting the heat input limit to 110 percent of the value reached during the test until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity.
3. EPA Method 6C may be used to determine compliance with the SO₂ emission limit. The following fuel sampling and analysis protocol may be used as an alternate sampling procedure authorized by this permit to demonstrate compliance with the sulfur dioxide standard: Determine and record the fuel sulfur content, percent by weight, for fuel oil delivered to the facility using

AIR CONSTRUCTION PERMIT: No. 1010017-004-AC

SECTION III. SPECIFIC CONDITIONS

either ASTM D2622-924, ASTM D4294-90, or both ASTM D4057-88 and ASTM D129-95 (or latest editions).

Co-firing natural gas with fuel oil having more than 2.5% sulfur content by weight is prohibited. [Rules 62-213.440(1), 62-4.070(3), 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C.]

4. An initial test for CO is required while co-firing No. 6 fuel oil and natural gas at the design maximum capacity for gas operation (approximately 40% to 44% of total heat input) and at within 10% of the permitted overall heat input rate for each unit. The initial CO test results shall be the average of three valid one-hour runs using EPA method 10. A second test for CO shall be conducted firing only No. 6 fuel oil at within 10% of the overall heat input rate for comparison. This test is not required annually.
5. All fuel oil delivered to the facility shall be analyzed using ASTM D240-76 (or equivalent) to record the gross heating value (HHV). ASTM D482-95 (or equivalent) shall be used to record the ash content of liquid fuels unless the fuel specifications limit ash content to 0.1 % by weight. Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

E. Notification, Reporting and Recordkeeping

1. All measurements, records, and other data required to be maintained by FPC shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These records shall be made available to DEP representatives upon request.
2. Compliance Test Reports: A test report indicating the results of the required compliance tests shall be filed with the DEP Southwest District Office as soon as practical, but no later than 45 days after the last sampling run is completed. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.

F. Monitoring Requirements

1. The Permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxides, sulfur dioxide emissions and opacity from Units 1 and 2. The continuous emission monitoring systems must comply with the certification and quality assurance, and other applicable requirements from 40 CFR 75. Periods of startup, shutdown, malfunction, and fuel switching shall be monitored, recorded, and reported as excess emissions when emission levels exceed the standards in Table 1 following the format of 40 CFR 60.7 (1998 version).
2. The following monitoring schedule for No. 1 - 6 fuel oil shall be followed: For all shipments of fuel oil received at the Anclote Power Plant Station, an analysis which reports the sulfur and ash content and heat content (HHV) of the fuel shall be provided by the fuel vendor or other sources

SECTION III. SPECIFIC CONDITIONS

which follow the appropriate fuel test methods listed in Specific Condition D1. The analysis record shall specify the origin of the fuel sample, the methods by which the analyses were conducted, the person conducting the sampling and analysis, and date of sampling and analysis.

4. Determination of Process Variables:
 - (a) The Permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
 - (b) Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh 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.]

G. Rule Requirements

1. The emission unit shall be operated in compliance with all applicable requirements of Rules 62-4, 204, 210, 212, 214, 296, and 297 except as otherwise specified herein. All notifications and reports specified in this section shall be submitted to the DEP's Southwest District office.
2. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (Rule 62-210.300(1), F.A.C.).
3. Except as otherwise specified herein, the emission unit shall be operated in compliance with all applicable provisions of Rule 62-210.700, F.A.C.: Excess Emissions; Chapter 62-297, F.A.C.: Stationary Sources - Emissions Monitoring; and, Rule 62-4.130, F.A.C.: Plant Operation - Problems.
4. Quarterly excess emission reports, in accordance with 40 CFR 60.7 (7) (c) (1998 version), shall be submitted to the DEP's Southwest District office.
5. Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the Permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports shall be sent to the DEP's Southwest District office by March 1st of each year.
6. Stack sampling facilities shall be available in accordance with Rule 62-297.310(6), F.A.C.
7. The Permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (Rule 62-4.090, F.A.C.).

SECTION III. SPECIFIC CONDITIONS

H. Modifications

1. The Permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.

DRAFT

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.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 or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and 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 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.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment 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.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- (a) Have access to and copy and records that must be kept under the conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
- Reasonable time may depend on the nature of the concern being investigated.
- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- (a) A description of and cause of non-compliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

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.

- G.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 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.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.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (a) Determination of Best Available Control Technology ()
 - (b) Determination of Prevention of Significant Deterioration (X) (*WEPCO rules apply*); and
 - (c) Compliance with New Source Performance Standards ().
- G.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 or 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; and
 - 6. The results of such analyses.
- G.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 corrected promptly.



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

P.E. Certification Statement

Permittee:
Florida Power Corporation

DRAFT Permit No. 1010017-004-AC

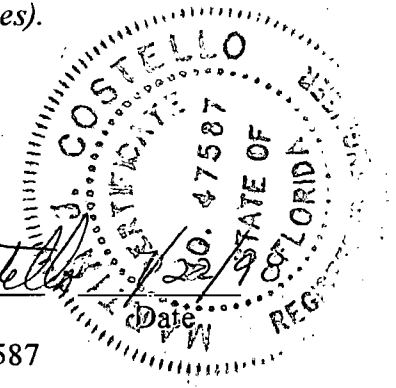
Facility ID No.: 1010017

Project type: Anclote Power Plant
Unit 1 and Unit 2 Gas Co-firing Project

I HEREBY CERTIFY that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).



Martin Costello, P.E.
Registration Number: 47587
Professional Engineer II



Department of Environmental Protection
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Phone (850) 488-01144
Fax (850) 922-6979

Memorandum

Florida Department of Environmental Protection

TO: Clair Fancy

FROM: Martin Costello *MC*

DATE: July 21, 1998

SUBJECT: FPC Anclote
Construction Permit To Add Natural Gas Firing

Attached is the public notice package and draft construction permit for the above referenced project.

The Anclote Units 1 and 2 currently fire 1% sulfur No. 6 fuel oil as evidenced in the 1997 AOR. Information submitted by FPC indicates that natural gas will be co-fired with the currently used low sulfur fuel oil (1%) or with high sulfur No. 6 fuel oil (2.5%). FPC had proposed using even higher sulfur fuel oil and achieving emissions equivalent to 2.5% sulfur oil by co-firing gas. That would clearly have triggered PSD. They agreed to limit the sulfur content to 2.5% sulfur.

This draft permit includes WEPCO language to report annual emissions for a five year period following the modification in order to insure that emissions do not increase as a result of this modification. An insufficient case was made by FPC that the project is a pollution control project because it is likely that they will use higher sulfur oil in the future.

Co-firing with used oil has not been authorized in this construction permit since FPC petitioned for an administrative hearing on this issue in the draft Title V operating permit. If authorized, used oil firing has the potential of increasing particulate emissions due to the higher ash content in used oil. Emissions from the boilers are uncontrolled. The ash content of used oil fired over the past two years at the Anclote facility has been about six times higher than that of the No. 6 fuel oil (0.597 % ash vs. 0.1%). The volume of used oil fired at the Anclote power plant was about half a million gallons in 1996 (after the operating permit was amended in January 1996) and was about five and a half million gallons in 1997.

I recommend your approval and signature.

/mc



Environmental Services Department

FAX COVER SHEET

DATE: 4/23/98

TO: Martin Costello

FAX# (850) 922-6979

COMPANY: DEP

FROM: Sam Ostrom

PHONE# (913) 811-5158

FAX# _____

NUMBER OF PAGES TRANSMITTED 3

Please call number listed above for any transmission problems.

COMMENTS:

As you requested, attached is some info on the gas tunnels for the Anclote gas conversion. I will be meeting in Tallahassee on 4/30 and would like to stop by to discuss any draft permit that you might have available for review.

(Good luck on orientation!)

Sam



EPT is the project contractor. Ansaldo is the manufacturer of the burner hardware.

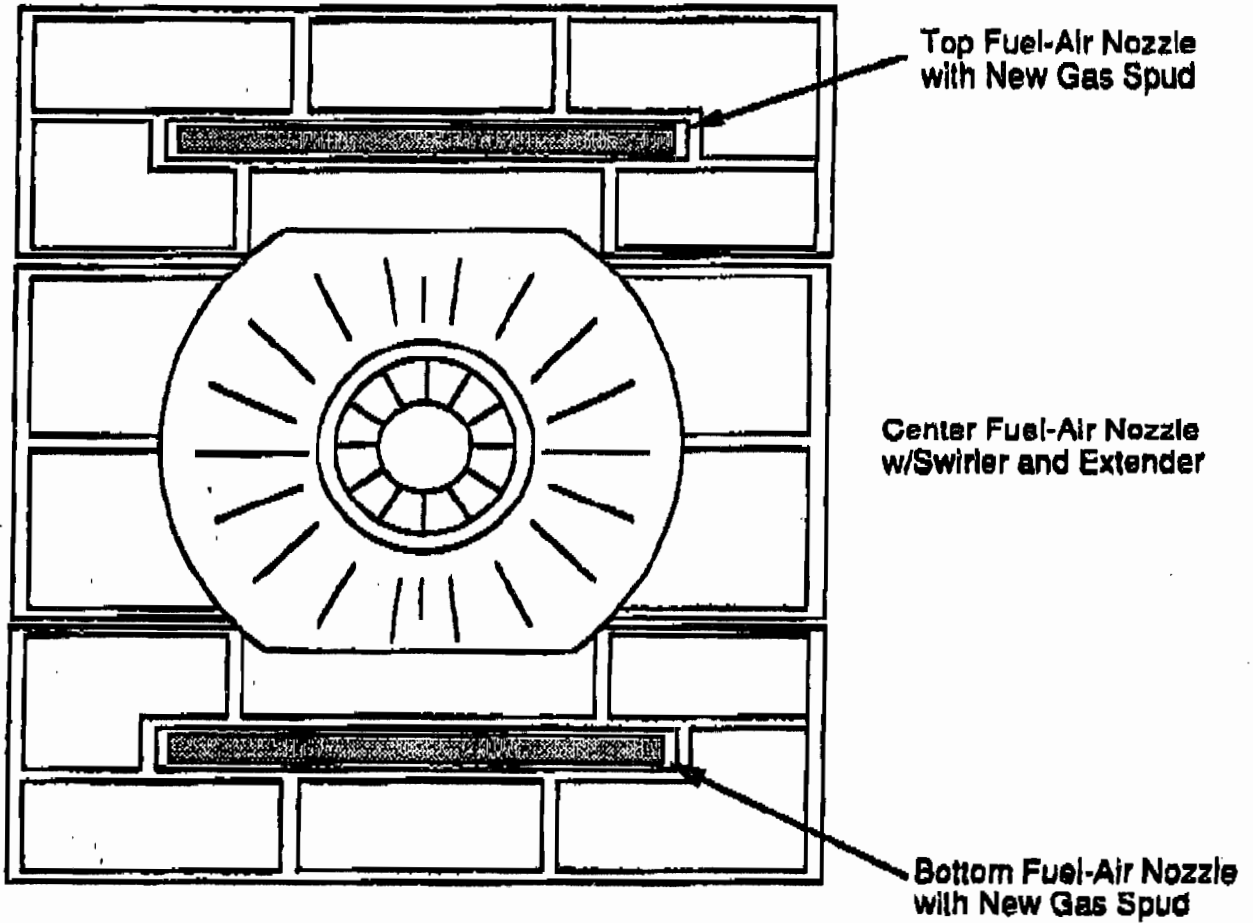


Figure 1. Schematic drawing of burner compartment showing location of new gas injector spuds in the top and bottom fuel-air nozzles (view from furnace).

At a burner gas pressure of 28 psig, heat input for each burner (2 spuds) will be at the design max. of 260 MBtu/hr.

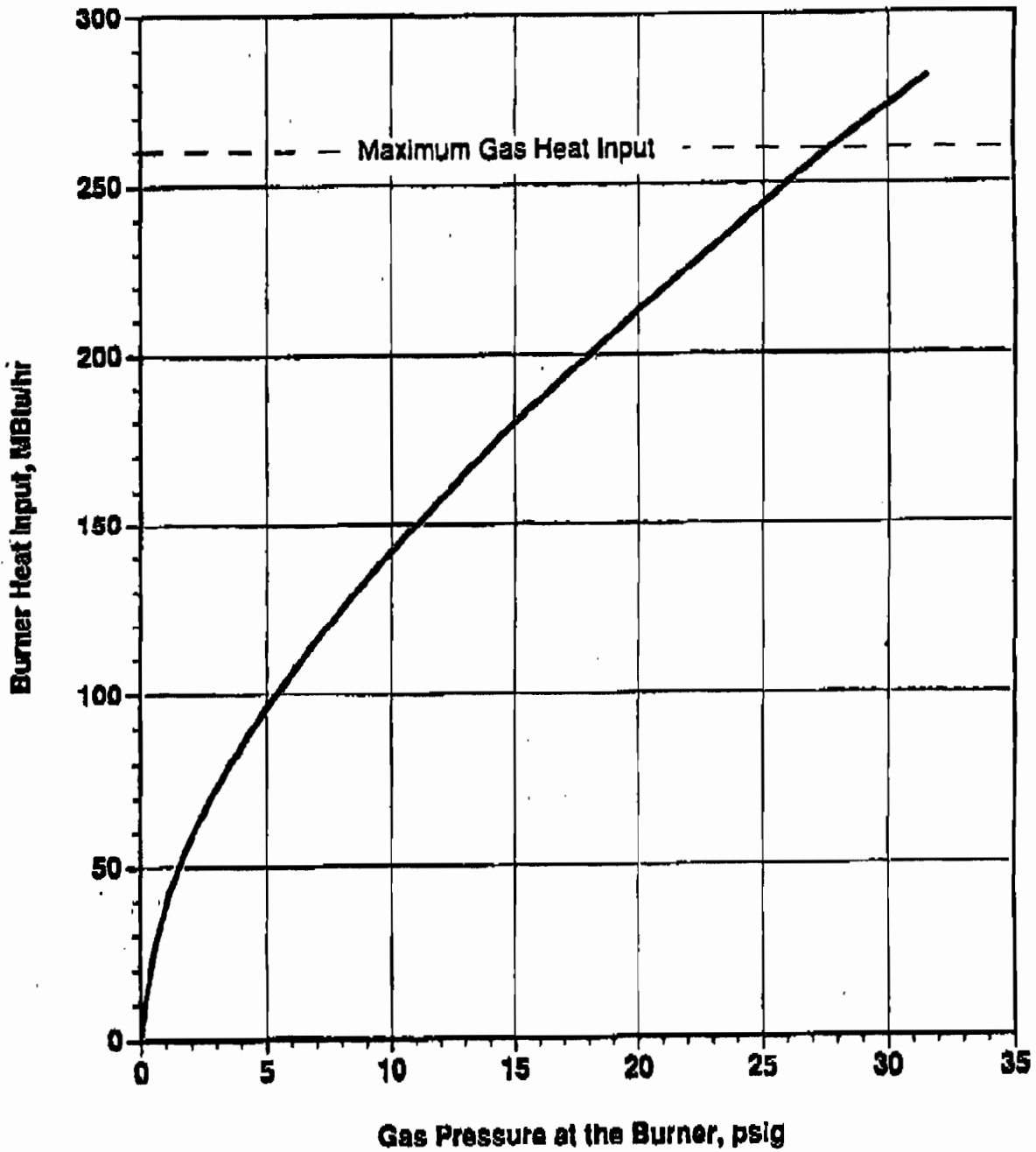


Figure 2. Gas heat input (MBtu/hr) vs. gas pressure (psig) at the burner for the gas spud design proposed for Anclote Units 1 and 2.



RECEIVED

JUN 11 1998

BUREAU OF
AIR REGULATION

June 5, 1998

Mr. Martin Costello, P. E.
New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Costello:

Re: Ancloste Plant Natural Gas Conversion Project

This letter serves to provide the additional information requested by the Department, in a letter dated May 19, 1998, that will enable the above-referenced application to be processed. Florida Power Corporation (FPC) has provided responses in the order that the comments were presented in the Department's letter.

Comment- According to the letter, FPC has no plans to burn higher sulfur fuel oil than presently allowed by the operation permits (2.75 lb/MMBtu heat input equal to approximately 2.5 percent sulfur). However, the letter requests the flexibility to co-fire natural gas with No. 6 fuel oil having a sulfur content greater than 2.5 percent. Please quantify maximum levels of sulfur, nitrogen, ash and vanadium for the higher sulfur fuel oil requested.

Response- FPC is classifying this as a pollution control project because the reduction in annual SO₂ emissions caused by the burning of gas is significant to FPC's acid rain compliance strategy and further, the use of gas at low loads will lessen the potential for acid smut formation, resulting in lower opacity and reduced local deposition. For this latter reason, the DEP's Southwest District is interested in this proposed gas conversion. Its positive impact on opacity and deposition would also serve to characterize it as a pollution control project.

FPC will be limited to a fixed number of SO₂ allowances systemwide in the year 2000 and it would be counter-productive to needlessly burn higher sulfur oil that would require the purchase of additional allowances. This is especially true if the incremental cost savings of the higher sulfur fuel oil are less than the cost of additional allowances. Due to all of these considerations, FPC is willing to accept a limitation on the fuel sulfur content to no higher than the current 2.5 percent permit limit. Therefore, there is no need to quantify the levels of sulfur, nitrogen, ash and vanadium associated with a higher sulfur fuel oil than is currently permitted.

Comment- Please specify how FPC will insure continuous compliance with applicable emission limits for SO₂ and particulate matter and demonstrate there are no future significant increase while co-firing gas with higher sulfur fuel oil. Please specify co-firing ratios when firing higher sulfur fuel oil and the method used to maintain minimum gas/oil heat input ratios.

Response- Based on the response to the previous comment (i.e., FPC will accept a fuel oil sulfur content limit of 2.5 percent), there should be no concern of future significant increases while co-firing gas with higher sulfur fuel oil. The methods to be used to demonstrate continuous compliance are currently being negotiated through the Title V permitting process. As you know, the Department and EPA Region IV are currently in discussions over appropriate continuous and periodic monitoring requirements.

Comment- Quantify any projected decreases in air pollutants (e.g., particulate matter, opacity, sulfur dioxide, nitrogen oxides) as a result of this project. The prior response ("It is clear that emissions of particulate matter, opacity, sulfur dioxides carbon monoxides, and VOCs will all be substantially reduced whenever gas is burned") did not quantify emission changes associated with the project. Please explain how these emissions will be reduced from current levels when high sulfur or high ash liquids are co-fired with natural gas. Please specify any restrictions (for incorporation into the construction permit) which will ensure that "substantial" emission reductions occur and are sustained. Provide the NO_x and CO emission rates in lb/MMBtu for natural gas firing and for co-firing gas with fuel oil.

Response- FPC is aware of the Department's concern that there could potentially be no real reduction in SO₂, particulates and opacity if the 2.75 lb/MMBtu SO₂ limit were to be the only restriction on fuel oil sulfur while co-firing with gas. For example, while co-firing at a rate of 60 percent oil/ 40 percent gas at full load, FPC would essentially be able to fire fuel oil with a sulfur content as high as 4.2 percent and still comply with the 2.75 lb/MMBtu SO₂ limit. Such a high fuel sulfur content, even if co-fired with gas could result in a higher opacity and, potentially greater particulate emissions. As previously stated, any time that gas is burned, the systemwide demand for SO₂ allowances will be reduced; it would be counterproductive to burn a higher sulfur fuel oil, especially if the incremental cost savings are less than the cost of additional allowances. FPC will, therefore, agree to the incorporation of a 2.5 percent sulfur limit into the construction permit.

FPC does not currently have specific information on the NO_x and CO emission rates in lb/MMBtu for natural gas firing and for co-firing gas with fuel oil, other than to say that the vendor has guaranteed that the rates will be less while firing gas than during the baseline case of oil firing only. Based on CEMS data, the annual average NO_x values for Units 1 and 2 for 1997 were 0.321 and 0.328 lb/MMBtu, respectively. Further, annual tons per year of NO_x for both units for the years 1996 and 1997 were previously supplied in correspondence to the Department, dated April 28, 1998. In addition, projected operation of both units five years into the future, both with and without gas (in terms of fuel fired, capacity factors and service hours) was provided to the Department in previous correspondence dated February 19, 1998. As an example, review the data submitted for the year 2000, the first full year that both units will be

Mr. Costello
June 5, 1998
Page 3

operating on gas. It's estimated that, with the gas conversion, Units 1 and 2 would burn less No. 6 oil (a delta of 438,000 bbls and 642,000 bbls, respectively) and that the capacity factor for both units would decrease. Similar trends are exhibited out to the year 2003. FPC believes that the Department now has adequate information to allow the processing and issuance of a construction permit for this environmentally beneficial project, as reasonable assurance has been provided that emissions will not increase significantly as a result of this natural gas conversion.

Comment- Which pollutants (including opacity), if any, will undergo a collateral increase considering the co-firing of natural gas and liquids with high sulfur and/or high ash content? Please quantify these increases (future projected actual emissions and potential to emit) in terms of lb/MMBtu and tons per year.

Response- Since FPC is willing to accept a permit limit on fuel sulfur of no greater than the current limit, any time that gas is co-fired with fuel oil, there will be no collateral increase in any pollutants, including opacity. In other words, FPC will not be taking advantage of its potential ability to burn fuel oils with sulfur contents greater than 2.5 percent while co-firing with gas. With a cap on fuel sulfur, instead of the limiting standard being 2.75 lb/MMBtu, **SO₂ emissions will be substantially reduced whenever gas is co-fired.**

Comment- The Department is reviewing the project as described on pages 1 through 7 which is to modify Units 1 and 2 to accommodate the co-firing of natural gas with the currently permitted No. 6 oil. Most of the rest of the application is a copy of the Title V application previously prepared by Golder Associates for FPC. Issues related to used fuel oil contained in the Title V application are being addressed separately from this permitting action based on FPC's petition for an administrative hearing. This matter was discussed by Mr. Fancy and Mr. Kennedy. This approach will expedite the project to use natural gas.

Response- The above comment confirms FPC's understanding of how the used oil issue is to be considered.

If you should have any questions concerning the above, please do not hesitate to contact me at (813) 866-5158.

Sincerely,



Scott H. Osbourn
Senior Environmental Engineer

cc: **Clair Fancy, DEP**
Al Linero, DEP
Dave Trudel, Parsons, Inc



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

May 19, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

W. Jeffrey Pardue, Director
Environmental Services Department
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

Re: DEP File No. 1010017-004-AC
Anclote Power Plant, Units 1 and 2
Natural Gas Firing Project

Dear Mr. Pardue:

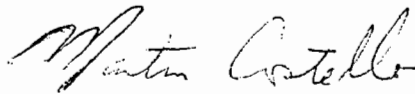
The Department has reviewed Mr. Osbourn's letter dated April 28 in response to the Department's request for information. In order to further process the application, we need the following information:

1. According to the letter, FPC has no plans to burn higher sulfur fuel oil than presently allowed by the operation permits (2.75 lb/mmBtu heat input equal to approximately 2.5 percent sulfur). However the letter requests the flexibility to co-fire natural gas with No. 6 fuel oil having a sulfur content greater than 2.5%. Please quantify maximum levels of sulfur, nitrogen, ash and vanadium for the higher sulfur fuel oil requested.
2. Please specify how FPC will insure continuous compliance with applicable emission limits for SO₂ and particulate matter and demonstrate there are no future significant increases while co-firing gas with higher sulfur fuel oil. Please specify co-firing ratios when firing higher sulfur fuel oil and the method used to maintain minimum gas/oil heat input ratios.
3. Quantify any projected decreases in air pollutants (e.g. particulate matter, opacity, sulfur dioxide, nitrogen oxides) as a result of the project. The prior response ("It is clear that emissions of particulate matter, opacity, sulfur dioxides, carbon monoxides, and VOCs will all be substantially reduced whenever gas is burned") did not quantify emissions changes associated with the project. Please explain how these emissions will be reduced from current levels when high sulfur or high ash liquids are co-fired with natural gas. Please specify any restrictions (for incorporation into the construction permit) which will ensure that "substantial" emission reductions occur and are sustained. Provide the NO_x and CO emission rates in lb/mmBtu for natural gas firing and for co-firing gas with fuel oil.

4. Which pollutants (including opacity), if any, will undergo a collateral increase considering the co-firing of natural gas and liquids with high sulfur and/or high ash content? Please quantify these increases (future projected actual emissions and potential to emit) in terms of lb/mmBtu and tons per year.
5. The Department is reviewing the project as described on pages 1 through 7 which is to modify Units 1 and 2 to accommodate the co-firing of natural gas with the currently permitted No. 6 oil. Most of the rest of the application is a copy of the Title V application previously prepared by Golder Associates for FPC. Issues related to used fuel oil contained in the Title V application are being addressed separately from this permitting action based on FPC's petition for an administrative hearing. This matter was discussed by Mr. Fancy and Mr. Kennedy. This approach will expedite the project to use natural gas.

If you have any questions, please contact me at 850/488-1344.

Sincerely,



Martin Costello, P.E.
New Source Review Section

MC/mc/c

cc: Brian Beals, EPA
John Bunyak, NPS
Bill Thomas, SWD
D.T. Buell, Anclote Plant Manager, FPC
Jennifer Tillman, P.E., FPC

Fold at line over top of envelope to

Is your RETURN ADDRESS completed on the reverse side?

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- Complete items 3, 4a, and 4b.
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- 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):

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- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Mr. Jeffrey Paudue, ESO
 Fla. Power Corp.
 3201 34th St. South
 St. Petersburg, FL

4a. Article Number
 P 265 659 351

4b. Service Type
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 Express Mail Insured
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7. Date of Delivery. MAY 22 1998

33733

5. Received By: (Print Name)

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

6. Signature: Addressee or Agent
 x Wilcox

PS Form 3811, December 1994

Domestic Return Receipt

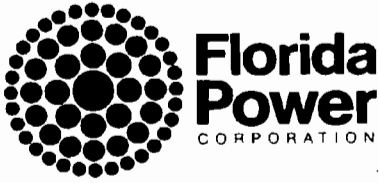
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P 265 659 351

US Postal Service
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Jeffrey Paudue	
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St. Pete, FL	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
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Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	5-19-98
1010017-004-AC Anchete Units 142	

PS Form 3800, April 1995



RECEIVED
APR 29 1998
BUREAU OF
AIR REGULATION

April 28, 1998

Mr. Martin Costello, P.E.
Florida Department of Environmental Protection
New Source Review Section
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Costello:

Re: Anclote Power Plant (DEP File No. 1010017-004-AC)
Natural Gas Firing Project

This letter serves to provide the additional information requested by the Department, in a letter dated March 26, 1998, that will enable the above-referenced application to be processed. Florida Power Corporation (FPC) has provided responses in the order that the comments were presented in the Department's letter.

Comment- Is the project, in the opinion of FPC, a "Pollution Control Project" (PCP) as defined in 40 CFR 52.21b(2)(iii)(h)?

Response- The so-called "WEPCo Rule" makes explicit in the new source review (NSR) regulations, though only for electric utility sources, the pollution control project exclusion and extends the "not less environmentally beneficial" test to the addition and use of a pollution control project. Specifically, the WEPCo rule provides, as relevant here, that a pollution control project is not a physical or operational change "unless the Administrator determines" that the project "renders the unit less environmentally beneficial." (See 40 CFR 51.21(b)(2)(iii)(h), emphasis added). Simply put, what this is saying is that a pollution control project is excluded from NSR, except in those circumstances where, on balance, the emissions unit would cause more harm to the environment with the pollution control project than without it.

FPC believes that there is no doubt that the natural gas conversion project at Anclote Plant would result in a net environmental benefit. The emissions of particulates, sulfur dioxides, carbon monoxide, VOCs and opacity will be reduced substantially in terms of both the rate (lb/hr) and total quantities of emissions (tons/yr). The NO_x emission *rate* will be lower on gas than on No. 6 oil; although, the respective NO_x levels will need to be determined through testing once the conversion is complete. Finally, the pollution control project definition is appropriately applied here because: 1) the reduction in annual SO₂ emissions caused by the

Mr. Costello
April 28, 1998
Page 2

burning of gas is significant to FPC's acid rain compliance strategy and 2) the use of gas at low loads will lessen the potential for acid smut formation, resulting in less internal corrosion, lower opacity and reduced deposition.

Comment- Provide any information which describes the primary reason for the project and other reasons for the project. Please describe when (i.e., during off-peak times when the unit is at low load) and how much gas will be used (i.e., co-fired with No. 6 oil at 40% of the heat input or fired alone at low load during off-peak times) and the overall environmental benefits. Please provide any documents (memoranda, Public Service Commission correspondence) which describe the justification for the project as a pollution control project.

Response- The primary reasons for the project are to provide fuel flexibility and to address the environmental concerns identified above. As utilities prepare for a competitive environment, fuel flexibility becomes important; however, as stated in previous correspondence to the Department (dated February 19, 1998), the Anclote units are considered to be intermediate load units. Consequently, the availability of gas, whenever it is at lower cost, would help the Anclote units be more competitive within the intermediate load category, but would not change the units' category by a significant increase in capacity factor. FPC anticipates that, at low loads, the units will be co-fired primarily on gas, although firing with gas only may be possible. At full load, as much as 40 percent of the total heat input may be supplied by gas. This maximum amount of gas is limited more by boiler design than gas availability.

The Department also requests that FPC provide any documents which describe the justification for the project as a pollution control project. The issue of acid smut formation has been discussed at length with the Department's Southwest District. Possible remedies, including the use of gas, are extensively documented in their files. Finally, FPC's acid rain compliance plan incorporates the increased use of natural gas within our generating system.

Comment- Quantify any projected decreases in air pollutants (e.g., particulate matter, opacity, sulfur dioxides, nitrogen oxides) as a result of the project.

Response- Using CEMS data, FPC had previously quantified NO_x emissions for both Anclote units for 1996 and 1997. This information was previously faxed to the Department and is provided here as an attachment. FPC's previous correspondence, dated February 19, 1998, included a detailed projection of Anclote operations in future years, both with and without gas. It is clear that emissions of particulate matter, opacity, sulfur dioxides, carbon monoxides, and VOCs will all be substantially reduced whenever gas is burned. This is true regardless of any potential increase in the capacity factor associated with systemwide demand growth. Emissions of NO_x are not projected to increase significantly and, in some future years, may actually decrease when compared to future operation without the gas conversion.

Comment- Which pollutants (including opacity), if any, will undergo a collateral increase? Please quantify these increases.

Mr. Costello
April 28, 1998
Page 3

Response- This comment was addressed above.

Comment- Will the annual average ash and/or sulfur concentrations of liquid fuels (including used oil) fired at the plant be greater than the concentrations in the historical fuel as a result of co-firing either No. 6 fuel oil with higher than 2.5% sulfur content or from firing larger quantities of used oil? Attachment AN-EU1-L2 to your application indicates that the specification for ash content from used oil procured from outside sources is about nine times higher than the specification for ash content from No. 6 fuel oil (0.9 vs 0.1% ash). If the actual levels of used oil ash content is several times higher than 0.1% ash, then any used oil fired may require substantial dilution with a low ash fuel in order to avoid exceeding opacity limits.

Response- FPC currently has no plans to burn higher sulfur fuel oils when co-firing with gas, but would like the flexibility to do so if the cost savings available would be significant. Regarding used oil, FPC has not experienced an increase in opacity levels as a result of burning used oil under our current authorization and, in fact, has seen a drop in SO₂ when burning used oil (0.5% sulfur vs. 1.5-2.5% sulfur in No. 6 oil). In addition, as the amount or method of used oil to be burned is a separate issue from this proposed project (i.e., FPC currently has an air operating permit amendment that allows the burning of used oil), it was mutually agreed in a teleconference with the Department that this issue need not be further addressed with regard to this gas conversion project.

Comment- Please describe how used oil has been fired in the past. Include quantities fired per year, blending ratios, typical load levels when firing used oil, opacity changes as a result of firing used oil compared to No. 6 fuel oil, and the average and the range of actual ash and sulfur contents of used oil fired. Estimate how much used oil will be fired per year following the gas conversion.

Response- As was indicated in the response above, it was mutually agreed with the Department that issues associated with the burning of used oil need not be further addressed with regard to this gas conversion project.

If you should have any questions concerning the above, please do not hesitate to contact me at (813) 866-5158.

Sincerely,



Scott H. Osbourn
Senior Environmental Engineer

cc: Clair Fancy, DEP
Al Linero, DEP
Dave Trudel, Parsons, Inc.

cc: Jelle
EPA
NPS
SWD

**Anclote Plant
NOx Yearly Totals
(Based on CEM Hourly values - Tons)**

Unit	Quarter	NOx (tons)	Yearly Total (tons)
1	1Q96	605.4	4039.6
	2Q96	1268.8	
	3Q96	1453.4	
	4Q96	712.0	
	1Q97	566.9	3795.6
	2Q97	1127.5	
	3Q97	1448.6	
	4Q97	652.6	
2	1Q96	1054.9	4460.4
	2Q96	1712.7	
	3Q96	1549.5	
	4Q96	143.3	
	1Q97	939.5	4371.8
	2Q97	979.1	
	3Q97	1491.0	
	4Q97	962.2	

prepared by:
Jennifer L. Tillman
3/25/98

PROJECTED ANCLOTE OPERATIONS WITH AND WITHOUT GAS CONVERSION

UNIT	1998		1999		2000		2001		2002		2003	
	1	2	1	2	1	2	1	2	1	2	1	2
With Gas												
Cap. Factor	34.1	36.7	24.1	34.2	25.4	31.3	34.7	35.4	25.9	37.3	34.0	33.9
Service Hrs.	5653	5057	4676	5366	4345	4833	5564	5070	4834	5438	5289	4987
W/O Gas												
Cap. Factor	34.1	36.7	24.7	34.6	26.1	31.7	35.1	35.7	26.6	37.7	34.4	34.3
Service Hrs.	5653	5057	4676	5366	4345	4833	5586	5075	4840	5438	5298	4989
Delta (with-w/o)												
Cap. Factor	0.0	0.0	-0.6	-0.4	-0.7	-0.4	-0.4	-0.3	-0.7	-0.4	-0.4	-0.4
Service Hrs.	0	0	0	0	0	0	-22	-5	-6	0	-9	-2

PROJECTED ANCLOTE FUEL CONSUMPTION WITH AND WITHOUT GAS CONVERSION

With Gas (000 bbls)												
Distillate	243.6	206.9	234.0	279.6	205.2	252.6	249.7	232.1	230.5	260.0	233.1	231.1
Med. Sulfur oil (000 mcf)	2487.8	2469.4	1360.4	1537.8	1474.8	1573.0	2100.9	1885.4	1615.5	1998.0	2077.0	1967.0
Natural Gas	0	331.8	2942.2	5677.2	2656.2	4162.1	2832.1	3739.5	2091.7	3892.4	2607.8	2555.8
W/O Gas (000 bbls)												
Distillate	243.6	206.9	234.0	279.6	205.2	252.6	248.8	232.1	230.5	260.0	233.1	231.1
Med. Sulfur oil (000 mcf)	2487.8	2518.2	1837.0	2409.2	1912.9	2215.0	2554.4	2462.8	1969.2	2606.7	2494.6	2371.7
Natural Gas	0	0	0	0	0	0	0	0	0	0	0	0
Delta (000 bbls)												
Distillate	0	0	0	0	0	0	0.9	0	0	0	0	0
Med. Sulfur oil (000 mcf)	0	-48.8	-476.6	-871.4	-438.1	-642.0	-453.5	-577.4	-353.7	-608.7	-417.6	-404.7
Natural Gas	0	331.8	2942.2	5677.2	2656.2	4162.1	2832.1	3739.5	2091.7	3892.4	2607.8	2555.8

Projections are based on the following assumptions: Fuel Forecast FCP-9703
Demand and Energy Forecast L971201

Notes: The Andote units are considered as intermediate units with or without the conversion to natural gas.
Based on this fuel forecast, the operation of Andote would change very little. Medium sulfur oil is simply displaced by natural gas.



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APR 13 1998

**BUREAU OF
AIR REGULATION**

April 8, 1998

Mr. Cleve Holladay
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

Dear Mr. Holladay:

Re: Anclote Plant Stack and Building Heights

As we discussed over the telephone today, the following are the heights of the stack and the tallest building at the Florida Power Corporation (FPC) Anclote plant:

Stack Height 499 feet

Building Height 185 feet

The stack is a single stack through which both Units 1 and 2 are exhausted. The largest building is the plant powerhouse building. Using the heights given above, the stack/building height ratio is approximately 2.7. Therefore the stack is G.E.P. and no building downwash would occur.

Please feel free to contact me at (813) 866-4344 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Michael Kennedy". The signature is fluid and cursive, with a long horizontal stroke at the end.

J. Michael Kennedy, QEP
Manager, Air Programs



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

March 26, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

W. Jeffrey Pardue, Director
Environmental Services Department
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33733

Re: DEP File No. 1010017-004-AC
Anclote Power Plant, Units 1 and 2
Natural Gas Firing Project

Dear Mr. Pardue:

The Department has reviewed your request to co-fire natural gas with No. 6 fuel oil in Anclote Units 1 and 2. In order to process the application, we need the following information:

1. Is the project in the opinion of FPC a "Pollution Control Project" (PCP) as defined in 40 52.21b(2)(iii)(h)?
2. Provide any information which describes the primary reason for the project and other reasons for the project. Please describe when (i.e. during off peak times when the unit is at low load) and how much gas will be used (i.e. co-fired with No. 6 fuel oil at 40% of the heat input or fired alone at low load during off peak times) and the overall environmental benefits. Please provide any documents (memoranda, Public Service Commission correspondence) which describe the justification for the project as a pollution control project.
3. Quantify any projected decreases in air pollutants (e.g. particulate matter, opacity, sulfur dioxide, nitrogen oxides) as a result of the project.
4. Which pollutants (including opacity), if any, will undergo a collateral increase? Please quantify these increases.
5. Will the annual average ash and/or sulfur concentrations of liquids fuels (including used oil) fired at the plant be greater than the concentrations in the historical fuel as a result of co-firing either No. 6 fuel oil with higher than 2.5% sulfur content or from firing larger quantities of used oil? Attachment AN-EU1-L2 to your application indicates that the specification for ash content from used oil procured from outside sources is about nine times higher than the specification for ash content from No. 6 fuel oil (0.9 vs 0.1 percent ash). If the actual levels of used oil ash content is several times higher than 0.1 percent ash, then any used oil fired may require substantial dilution with a low ash fuel in order to avoid exceeding opacity limits.

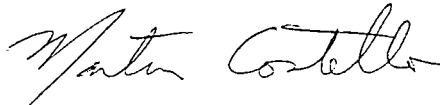
"Protect, Conserve and Manage Florida's Environment and Natural Resources"

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6. Please describe how used oil has been fired in the past. Include quantities fired per year, blending ratios, typical load levels when firing used oil, opacity changes as a result of firing used oil compared to No. 6 fuel oil, and the average and the range of actual ash and sulfur contents of used oil fired. Estimate how much used oil will be fired per year following the gas conversion.

In the event that the PCP exemption does not apply, then emissions from the boilers after the addition of natural gas will be held to past actual levels since a PSD application has not been submitted for this project. If you have any questions, please contact me at 850/488-1344.

Sincerely,



Martin Costello, P.E.
New Source Review Section

MC/mc/c

cc: Brian Beals, EPA
John Bunyak, NPS
Bill Thomas, SWD
Jennifer Tillman, P.E.

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

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- 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
 Environmental Services
 Fla. Power Corp
 3201 34th St. South
 St. Petersburg, FL
 33733

4a. Article Number
 P 265 659 322

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

7. Date of Delivery

5. Received By: (Print Name)

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

6. Signature: (Addressee or Agent).

X *Frank [Signature]*

PS Form 3811, December 1994

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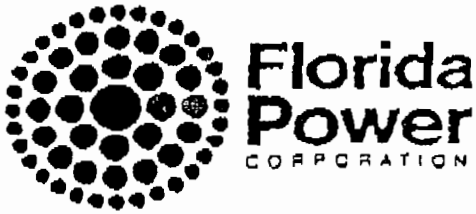
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St. Pete, FL	
Postage	\$
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Special Delivery Fee	
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TOTAL Postage & Fees	\$
Postmark or Date	
1010017-004-AC 3/26/98	

PS Form 3800 April 1995



Environmental Services Department

FAX COVER SHEET

DATE: 3/25/98

TO: Martin Costello

FAX# 850-922-6979

COMPANY: FDEP

FROM: Jennifer Tillman

PHONE# 813-866-5022

FAX# 813-866-4926

NUMBER OF PAGES TRANSMITTED 2

Please call number listed above for any transmission problems.

COMMENTS:

Anclote NOx #'s.



Jennifer

**Anclote Plant
NOx Yearly Totals
(Based on CEM Hourly values - Tons)**

Unit	Quarter	NOx (tons)	Yearly Total (tons)
1	1Q96	605.4	
	2Q96	1268.8	
	3Q96	1453.4	
	4Q96	712.0	4039.6
	1Q97	566.9	
	2Q97	1127.5	
	3Q97	1448.6	
	4Q97	652.6	3795.6
2	1Q96	1054.9	
	2Q96	1712.7	
	3Q96	1549.5	
	4Q96	143.3	4460.4
	1Q97	939.5	
	2Q97	979.1	
	3Q97	1491.0	
	4Q97	962.2	4371.8

prepared by:
Jennifer L. Tillman
3/25/98



Environmental Services Department

FAX COVER SHEET

DATE: 3/23/98

TO: Martin Costello

FAX# (850) 922-6979

COMPANY: DEP

FROM: Scott Costello

PHONE# (913) 866-5158

FAX# - 4926

NUMBER OF PAGES TRANSMITTED 15

Please call number listed above for any transmission problems.

COMMENTS:



Marty,
Attached is the info you requested for emission
guarantees and listing of changes to the Andote
units for the gas conversion.
Jennifer & I will call you this afternoon
about the Nex data.
Scott

PERFORMANCE PREDICTIONS, GUARANTEES, AND WARRANTIES

No exceptions are taken to the Performance Requirements contained in FPC Specification SP-6685 in Section 5.0, Section B - Technical Specification. However, EPT/Ansaldo provide the following information to clarify certain items in the Performance Requirements based on discussions with FPC at the pre-bid meeting on August 28, 1997, and in subsequent conversations with FPC.

NOx, PM, CO and Visual Opacity

A number of factors can impact emissions and opacity that are not under the direct control of the project team, and which may not be easily duplicated between the pre-outage baseline test and the post-outage acceptance test. Such factors include fuel oil properties (e.g., fuel nitrogen, coking index, and vanadium content), boiler cleanliness, main oil burner conditions, and damper and tilt positions. It is guaranteed that there will be no increase in NOx, PM, CO, and opacity compared to pre-outage levels for 100% oil firing and co-firing natural gas at MCR load, when the boiler is operated at the identical conditions, including parameters specified above and specified in FPC Specification, Section III-B, Item 5.1.

Firing Capacity and Turndown

Each gas burner will be sized for a heat input of 260 MBtu/hr. FPC Specification SP-6685 requests a burner turndown of 10:1. Based on the operating practices at the Anclote Plant, ignitors are used for flame stabilization when the heat input per elevation is ≤ 30 percent of maximum. Therefore, to meet a turndown requirement of 10:1, ignitors will be used.

Air Heater Exit Gas Temperature

No significant changes in the air heater exit gas temperature are expected when firing natural gas. However, achieving an exit gas temperature of at least 310°F at 100% MCR will depend on operating parameters beyond the project team's control, such as soot blower performance, boiler cleanliness, condition of air heater baskets,

use of steam coil air heaters, and excess oxygen. It is guaranteed that the air heater exit gas temperature will be comparable to pre-outage levels when the boiler is operated at the identical conditions.

Flame Impingement

It is guaranteed that there will be no flame impingement on furnace walls from burner elevations 1 and 2 when firing gas and oil fuel. However, flame impingement caused by burners in upper elevations 3, 4, and 5 is beyond EPT's control. No changes in flame impingement are expected on these elevations following installation of gas firing equipment. However, if flame impingement with upper burner elevations is a problem at Anclote, EPT will be pleased to work with FPC to eliminate the problem.

Boiler Efficiency

It is guaranteed that the change in boiler efficiency will be less than or equal to 3.0% at 100% MCR with 44% gas co-firing, compared to 100% oil firing at identical boiler conditions. For purposes of verifying attainment of this guarantee, boiler efficiency shall be measured according to ASME PTC 4.1 - Heat Loss Method, abbreviated form, and will be based on the following conditions:

- Higher heating value of the fuel
- Ambient air temperature of 48 degrees F
- Relative humidity of 70%
- Reference air temperature equal to the air temperature at the inlet to the air heaters.

EPT and Ansaldo are willing to make predictions of changes in boiler efficiency which will result when burning gas fuel. For example, boiler efficiency compared to No. 6 oil will be lower because of increased moisture loss in the flue gas. This is an artifact of the fuel composition which is independent of burner design. However, boiler efficiency is also affected by operating parameters such as excess oxygen, steam flow and temperature, exit gas temperature, boiler cleanliness, and unburned

combustibles (i.e., carbon monoxide emissions and unburned carbon). Consequently, the methods used to measure boiler efficiency (input/output or heat loss) and the conditions at which the tests will be performed must be carefully defined. If the new gas burners meet the FPC Specification for excess oxygen and unburned combustible emissions, any changes in boiler efficiency will result from parameters beyond the control of EPT such as fuel characteristics or boiler operations.

FPC Specification SP-6685 in Section B, 12.3 (Remedies) states that a penalty will be assessed in the amount of \$5,000 per 0.1% reduction in boiler efficiency below the guarantee level. EPT/Ansaldo predict that the boiler efficiency reduction at 100% MCR with 44% gas co-firing will be less than 3 percent. As an incentive, EPT/Ansaldo request that FPC consider payment of \$5,000 per 0.1% increase in boiler efficiency relative to the guarantee level.

Desuperheating and Pressure Part Temperatures

In the absence of a detailed study of the thermodynamic and heat transfer characteristics of Andote Units 1 and 2 performed by EPT/Ansaldo, and due to uncertainties in the measurement and reproducibility of steam temperature and tube metal measurements before and after the unit outages, EPT/Ansaldo can only guarantee that final superheat and reheat steam temperatures following the gas conversion and with up to 44% gas co-firing will be within \pm eight (8) degrees F of the final superheat and reheat steam temperatures with 100% oil-firing at 100% MCR, compared to at the equivalent total steam flow.

Desuperheating when co-firing gas and oil fuel will be determined by the heat distribution in the furnace and boiler cleanliness, and is not within the control of the burner supplier if combustion is good. The ABB-CE study of April 15, 1997 states that the maximum desuperheater system spray capacity is 269,000 lb/hr (7.5 percent of MCR steam flow). In Ansaldo's experience, desuperheater capacity equivalent to 10 percent of MCR steam flow is typically needed for gas conversion projects from 100% oil to 100% gas. It was not possible to perform the necessary calculations in the time available to prepare this proposal to confirm the desuperheating requirements

for the Anclote gas conversion project. However, since only two elevations of gas burners are being added at Anclote, EPT and Ansaldo do not expect significant changes in desuperheating. Therefore, it is recommended that the system be retained as is, with the understanding the possibility exists that additional desuperheating capability may be required, or that increased desuperheating will be required when co-firing compared to burning oil alone.

Significant changes in pressure part temperature are also not expected. Again, this is not within the control of the burner supplier in a gas conversion project of this nature. The FPC Specification SP-6685 states that there shall be no increase in pressure part temperature. However, the ABB-CE study indicated that FPC was willing to operate Anclote Units 1 and 2 at metal temperatures on existing tubing exceeding the recommended maximums by 20°F, or less. EPT requests clarification whether FPC considers this a viable option, and if any increase in pressure part temperature is allowable. Regardless, pressure part temperatures will be determined in the pre-retrofit and post-retrofit characterization tests with the new gas burners.

EPT/Ansaldo cannot accept the ABB-CE study as a basis for guaranteeing superheat and reheat temperatures, metal temperatures, desuperheater spray flows, and boiler efficiency at intermediate loads with specified rates of gas-co-firing. If FPC requires such guarantees, then Ansaldo would have to perform the boiler heat transfer analysis that is proposed as an optional task.

Sonic Vibration

Sonic vibration of Anclote Units 1 and 2 will be measured during pre-retrofit tests (baseline) and after retrofit of the gas burners (post-retrofit tests). According to drawings provided by FPC, Anclote Units 1 and 2 are equipped with vibration baffles in the convective sections. Further, combustion calculations shows that the increase in flue gas mass flow when co-firing natural gas will be small, but may increase turbulence in the convective pass. It is guaranteed that the EPT-supplied equipment will not produce combustion-induced vibration in the furnace chamber. If unacceptable vibration occurs in the convection pass, engineering design for

modifications to vibration baffles (but not baffle materials or installation) will be provided without cost to FPC.

Sound Requirements

FPC Specification SP-6685 specifies a maximum sound level of 85 dBA within three feet of the surface of each piece of equipment supplied by EPT. To satisfy this requirement, all piping furnished will be Schedule 80. Also, the use of 6-inch diameter gas supply piping and the 6-inch Skotch valve will minimize sound levels. However, as discussed in the pre-bid meeting at the Anclote Plant, sound can propagate to the burner front from upstream valves and piping. FPC has indicated that this will be considered when measuring sound levels.

Flame Scanners

Since the original ABB-CE visible-light "fireball" detection scanner will be retained, it is possible that the flame scanners will not adequately detect gas flames at low loads even with ignitors in service (especially with gas ignitors). EPT will furnish field engineers experienced with flame scanner technology to work with FPC to optimize scanner sighting and performance. However, EPT and Ansaldo cannot be responsible for reliability of the existing flame scanner equipment.

Workmanship

All parts supplied will be designed for a minimum 20-year life, except for normal wear or critical components listed as spare parts. Consistent with the FPC Materials Terms and Conditions that was faxed to EPT from FPC on September 24, 1997, EPT warrants that equipment supplied pursuant to this project will: (a) be new, (b) conform to drawings, specifications, and terms of the FPC Purchase Order, and (c) be free from defects in design, material, and workmanship for a 12-month period after placing the equipment into service.

SECTION B
TECHNICAL SPECIFICATION

1.0 SCOPE

1.1 Description of Work

- 1.1.1 This Specification sets forth the technical requirements for the design, fabrication, assembly, and delivery to the jobsite of equipment and design documentation to convert the existing fuel firing system from oil firing to oil/natural gas firing at Anclote Station Units 1 and 2 of Florida Power Corporation (FPC). The conversion project is based on the installation of gas firing equipment for load carrying on the two lowest burner elevations on each steam generator. The boilers shall retain their tilting burner arrangement to adjust furnace fireball.
- 1.1.2 Units 1 and 2 are Combustion Engineering (CE), corner-fired, forced circulation, pressurized furnace, drum-type steam generators utilizing a total of 20 No. 6 fuel oil guns arranged on five elevations and four No. 2 light oil warmup guns on the lower elevation. All burners have light oil side ignitors. Design conditions at MCR are 2,500 psi, 1005° F at the superheater outlet, and 551 psi and 1000° F at the reheater outlet. The maximum continuous steam flow is 3,558,662 lb/h. A complete description of the plant is presented in Attachment C. The units currently burn low-sulfur (1%) No. 6 fuel oil and will co-fire high-sulfur (2-1/2%) or low-sulfur No. 6 fuel oil with natural gas in the future. The unit operates with less than 1% excess O₂ within 10% of MCR.
- 1.1.3 The Company will replace the existing Furnace Safeguard Supervisory System (FSSS) with a new Distributed Control Burner Management System (BMS) for each steam generator, which will include the logic necessary to burn combination of No. 6 fuel oil and natural gas. The new burner shutoff valves shall be fail in place, energize-to-open or close. Only one fuel will be burned in each burner compartment at one time.

1.2 Equipment, Material, and Services to be Supplied by the Manufacturer

1.2.1 Base Proposal:

Each unit shall require the following components, as a minimum, to complete this modification to its tilting tangential firing system:

1. Eight permanently mounted, but tiltable, main load-carrying natural gas nozzle assemblies and auxiliaries, including:
 - a. Eight assembled double block and vent valve trains.
 - b. Piping between the double block and vent valves and the burners including supports, and flexible hoses.
 - c. Two vent valves for venting the common vent header.

2. All necessary material to incorporate natural gas nozzle assemblies into the existing boiler windbox, including new nozzle tips, and straightening-vanes, for fuel compartments.
3. Tilt components required to accommodate new gas equipment, such as pivot pins, bearing, linkages, platework, hardware, and fasteners, etc., to allow reuse of existing burner tilt drive.
4. One complete set of special tools required for installation, maintenance, testing, or operation.
5. Engineering services as follows:
 - a. Integration of existing No. 6 and No. 2 fuel oil guns and new gas nozzles and piping with the existing oil gun retracting mechanisms, tilting assemblies, windbox, waterwall, and nozzle tips.
 - b. Preparation of design drawings locating the new burner double block and vent valves and interconnecting piping to the burner components including all necessary field verification to prevent interferences with existing structures, equipment, piping and wiring.
 - c. Written description of operating logic with interlocks and design input necessary to operate the boiler according to burner Manufacturers' recommendations in accordance with NFPA-8502 for the new burner equipment supplied. The existing ABB-CE visible light scanners will not detect individual gas burner flame, but will detect furnace fireball flame when the respective elevation is above approximately 30% heat input.
 - d. Design, modeling, calculations, and testing as required to demonstrate and guarantee:
 - 1) The maximum ratio limits of co-firing natural gas and oil over the entire load range shall be as defined in attached ABB-CE Study 11090497 to prevent pressure part overheating without any pressure part modification.
 - 2) Sonic vibration not any higher than the present levels will not occur in any boiler area as a result of the conversion. (The noise level is not currently a problem). Manufacturer shall provide baffling designs and engineering as required to eliminate the vibration.
 - 3) Gas nozzle piping, valves, and component vibration shall not occur at any load points. Gas flow noise shall not exceed 85 dBA at 3 feet outside of the windbox.
 - 4) The fuel-firing equipment shall perform as specified, meeting heat release and turndown requirements with no adverse effect on existing performance capabilities.



- 5) The fuel-firing equipment shall meet the specified emissions performance guarantees.
- 6) Tilting burner nozzles and tips shall have a two year minimum life..
- e. Services of a qualified field representative, as specified in Paragraph 10.0.
- f. Drawings and documentation, as specified in Paragraph 4.0.
- g. Startup, test, and operating procedures, as specified in Paragraph 4.2.
- h. Training, as specified in Paragraph 11.0.
- i. System description of all systems.

ATTACHMENT A - EQUIPMENT DATA
FLORIDA POWER CORPORATION
ANCLOTE STATION - UNITS 1 AND 2

PARSONS POWER GROUP, INC.

GAS CO-FIRING BURNER ADDITION

(BIDDER'S NAME)

One copy of this form shall be returned with the bid, with all blanks filled in.

(QUOTATION NUMBER)

A. NATURAL GAS BURNERS

- 1. Model _____
- 2. Quantity Tips per Fuel Compartment _____
- 3. Heat Output MMBtu _____
- 4. Gas Consumption scfh _____
- 5. Required Gas Pressure psig _____
- 6. Design Turndown _____
- 7. Pipe Size Leaving Windbox in _____
- 8. Flexible Hoses:
 - a. Quantity per Burner _____
 - b. Diameter in _____
 - c. Length in _____
 - d. End connection type _____
- 9. Total Quantity of Burners Supplied per Unit _____
- 10. Acceptable Gas Pressure Fluctuations psi; sec _____

B. NATURAL GAS VALVE TRAIN

- 1. Double Block and Vent Valves:
 - a. Manufacturer _____
 - b. Model _____
 - c. Type _____
- 2. Size in _____
- 3. ANSI Pressure Class _____
- 4. Type of End Connections:
 - a. Gas inlet and outlet _____
 - b. Vent _____

ATTACHMENT A - EQUIPMENT DATA
FLORIDA POWER CORPORATION
ANCLOTE STATION - UNITS 1 AND 2

PARSONS POWER GROUP, INC.

GAS CO-FIRING BURNER ADDITION

(BIDDER'S NAME)

5. Material:

- a. Trim ASTM
- b. Body ASTM

6. Operator:

- a. Type
- b. Manufacturer
- c. Model

7. Solenoid Valve:

- a. Manufacturer
- b. Model

8. Limit Switches:

- a. Manufacturer
- b. Model

9. Quantity Supplied per Unit:

C. MAIN GAS VENT VALVES

1. Valves:

- a. Manufacturer
- b. Model
- c. Type

2. Size in

3. ANSI Pressure Class

4. Type of End Connections:

- a. Gas inlet and outlet
- b. Vent

5. Material:

- a. Trim ASTM
- b. Body ASTM

6. Operator:

- a. Type

ATTACHMENT A - EQUIPMENT DATA
FLORIDA POWER CORPORATION
ANCLOTE STATION - UNITS 1 AND 2

PARSONS POWER GROUP, INC.

GAS CO-FIRING BURNER ADDITION

(BIDDER'S NAME)

b. Manufacturer

c. Model

7. Solenoid Valve:

a. Manufacturer

b. Model

8. Limit Switches:

a. Manufacturer

b. Model

9. Quantity Supplied

D. BURNER COMPONENTS

1. Describe which burner tips must be changed?

2. Fully describe all other windbox components that will be supplied and are necessary to the installation of the gas burners.

E. IGNITORS AND ACCESSORIES (OPTION)

1. Model

2. Heat Output MMBtu/h

3. Fuel Oil Consumption lb/h

4. Required Fuel Oil Pressure at valve train psig

5. Fuel Oil Operating Viscosity Range ssu

6. Atomizing Air Pressure Range psig

7. Atomizing Air Consumption at valve train lb/h

8. Combustion Air Required (from fan) scfm

9. Cooling Air Requirement psig/scfm

ATTACHMENT A - EQUIPMENT DATA
FLORIDA POWER CORPORATION
ANCLOTE STATION - UNITS 1 AND 2

PARSONS POWER GROUP, INC.

GAS CO-FIRING BURNER ADDITION

		(BIDDER'S NAME)
10.	Total Number Supplied per elevation	_____
11.	Hoses:	
a.	Type	_____
b.	Length	_____ in
c.	Diameter	_____ in
12.	Quick Disconnects:	
a.	Manufacturer	_____
b.	Model	_____
c.	Size	_____
13.	Oil Flow Control Valve: (if required)	
a.	Manufacturer	_____
b.	Model	_____
c.	Size	_____ in
14.	Oil Shutoff Valve: (if required)	
a.	Manufacturer	_____
b.	Model	_____
c.	Size	_____ in
15.	Atomizing Air Valve: (if required)	
a.	Manufacturer	_____
b.	Model	_____
c.	Size	_____ in
16.	Air and Oil Isolation Valves: (if required)	
a.	Manufacturer	_____
b.	Model	_____
c.	Size	_____ in
17.	Air and Oil Pressure Clamps: (if required)	
a.	Manufacturer	_____
b.	Model	_____

ATTACHMENT A - EQUIPMENT DATA
FLORIDA POWER CORPORATION
ANCLOTE STATION - UNITS 1 AND 2

PARSONS POWER GROUP, INC.

GAS CO-FIRING BURNER ADDITION

(BIDDER'S NAME)

18. Ignitor Spark Ignition System: (if required)

- a. Spark Type _____
- b. Energy Release/Frequency Joules/cps _____
- c. Cooling Air Required scfm _____
- d. Equipment Temperature Limit °F _____
- e. Spark Ignition Rod Clearance in _____
- f. Removal Clearance in _____
- g. Ignition Cable:
 - 1) Voltage rating V dc _____
 - 2) Temperature rating °F _____
 - 3) Insulation material _____
 - 4) Limitation on length ft _____
 - 5) Manufacturer _____

F. MISCELLANEOUS INSTRUMENTATION

1. Gas Burner Pressure Gages:

- a. Manufacturer _____
- b. Model _____
- c. Quantity _____

2. _____ :

- a. Manufacturer _____
- b. Model _____
- c. Quantity _____

3. _____ :

- a. Manufacturer _____
- b. Model _____
- c. Quantity _____

ATTACHMENT A - EQUIPMENT DATA
FLORIDA POWER CORPORATION
ANCLOTE STATION - UNITS 1 AND 2

PARSONS POWER GROUP, INC.

GAS CO-FIRING BURNER ADDITION

(BIDDER'S NAME)

G. GUARANTEED PERFORMANCE VALUES WITH MAXIMUM ALLOWABLE RATIO OF GAS CO-FIRING WITH OIL AT MCR (as referenced to baseline test numbers)

- a. No_x (lb/MMBtu) (% change ±) _____
- b. Particulate (lb/MMBtu) , (% change ±) _____
- c. Visual Opacity % (% change ±) _____
- d. CO (corrected to 3% O₂) ppm (% change ±) _____
- e. O₂ % (% change ±) _____
- f. Boiler efficiency % (% change ±) _____

H. ONSITE TRAINING:

- 1. Duration
 - a. Number of Days _____
 - b. Number of Classes per day _____
- 2. Number of Copies of Training Material Provided _____
- 3. Number of Instructors Provided _____
- 4. Attach a description of the scope of the training program.

I. LIST OF SUB-SUPPLIERS. INCLUDE ENGINEERING, TESTING, AND MANUFACTURING ORGANIZATIONS AND RESPONSIBLE PERSONNEL.

<u>Name</u>	<u>Address</u>	<u>Scope</u>



RECEIVED

FEB 23 1998

BUREAU OF
AIR REGULATION

February 19, 1998

Mr. Al Linero, P.E.
Administrator, New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

BUREAU OF
AIR REGULATION

FEB 26 1998

RECEIVED

Dear Mr. Linero:

1010017-004-AC

Re: Request to Burn Natural Gas at FPC's Anclote Facility
DEP Permit Nos. AO51- 254492 and -169340; Draft Permit No. 1010017-003-AV

This letter serves to transmit Florida Power Corporation's (FPC) application for a *Permit to Construct* to facilitate the conversion of Anclote Units 1 and 2 to burn natural gas. Specifically, the pipeline under construction by Florida Gas Transmission (FGT) will have the capacity to bring approximately 99,840 MMBtu/day of natural gas to the Anclote site. This will enable either one or both units to co-fire gas and the currently permitted No. 6 oil.

Emissions of all air pollutants, on an hourly basis, will be lower while co-firing gas and oil than they would be while firing oil only. Further, potential annual emissions of all air pollutants will be comparable to historical annual levels. This is true because the Anclote units are considered to be *intermediate load* units (i.e., by definition, a range of 20 to 40 percent annual capacity factor) with or without the conversion to natural gas. In other words, the availability of gas, whenever it is lower cost, would help the Anclote units be more competitive within the intermediate load category, but would not change the units' category by an increase in capacity factor.

Enclosed are a table, presenting projected Anclote operations with and without the gas conversion, and a set of graphs, trending the price of various fuels (dollars per million Btu) over time. As the graphs show, the price of both gas and heavy oil are extremely volatile. In late 1996, the price of gas was higher than heavy oil. The projections attached are based on the most recent long-range fuel forecast (i.e., the annual forecast for 1998 showing the cost of gas and medium-sulfur heavy oil to be comparable), and the latest *Demand and Energy Forecast*. The bottom line is that the Anclote units will not operate significantly more when gas is available; in fact, at the current long-range forecast price, the units will operate less.

Mr. Linero
February 19, 1998
Page 2

Finally, FPC asks the Department to recognize that there is a five percent heat rate penalty when burning natural gas. This is due to the added hydrogen in the fuel; when oxidized, it leaves the stack as steam with a loss of the heat of vaporization. Therefore, FPC requests that the current allowable heat input limit be adjusted accordingly.

Enclosed please find four copies of the application for a *Permit to Construct* and a check in the amount of \$250.00 for the processing of this request. Currently, the project schedule anticipates commencement of construction on June 1, 1998; the estimated completion dates are November 1998 for Unit 2 and April 1999 for Unit 1. If you should have any questions concerning the enclosed, please do not hesitate to contact me at (813) 866-5158.

Sincerely,



Scott H. Osbourn
Senior Environmental Engineer

Enclosures

cc: Clair Fancy, P.E., DEP
Dave Trudel, Parsons, Inc.

cc: SWD

PROJECTED ANCLOTE OPERATIONS WITH AND WITHOUT GAS CONVERSION

UNIT	1998		1999		2000		2001		2002		2003	
	1	2	1	2	1	2	1	2	1	2	1	2
With Gas												
Cap. Factor	34.1	36.7	24.1	34.2	25.4	31.3	34.7	35.4	25.9	37.3	34.0	33.9
Service Hrs.	5653	5057	4676	5366	4345	4833	5564	5070	4834	5438	5289	4987
W/O Gas												
Cap. Factor	34.1	36.7	24.7	34.6	26.1	31.7	35.1	35.7	26.6	37.7	34.4	34.3
Service Hrs.	5653	5057	4676	5366	4345	4833	5586	5075	4840	5438	5298	4989
Delta (with-w/o)												
Cap. Factor	0.0	0.0	-0.6	-0.4	-0.7	-0.4	-0.4	-0.3	-0.7	-0.4	-0.4	-0.4
Service Hrs.	0	0	0	0	0	0	-22	-5	-6	0	-9	-2

PROJECTED ANCLOTE FUEL CONSUMPTION WITH AND WITHOUT GAS CONVERSION

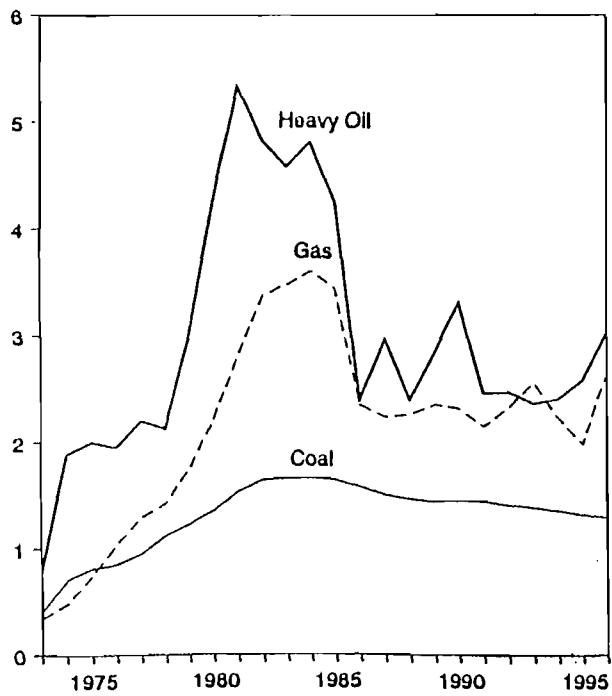
With Gas (000 bbls)												
Distillate	243.6	206.9	234.0	279.6	205.2	252.6	249.7	232.1	230.5	260.0	233.1	231.1
Med. Sulfur oil (000 mcf)	2487.8	2469.4	1360.4	1537.8	1474.8	1573.0	2100.9	1885.4	1615.5	1998.0	2077.0	1967.0
Natural Gas	0	331.8	2942.2	5677.2	2656.2	4162.1	2832.1	3739.5	2091.7	3892.4	2607.8	2555.8
W/O Gas (000 bbls)												
Distillate	243.6	206.9	234.0	279.6	205.2	252.6	248.8	232.1	230.5	260.0	233.1	231.1
Med. Sulfur oil (000 mcf)	2487.8	2518.2	1837.0	2409.2	1912.9	2215.0	2554.4	2462.8	1969.2	2606.7	2494.6	2371.7
Natural Gas	0	0	0	0	0	0	0	0	0	0	0	0
Delta (000 bbls)												
Distillate	0	0	0	0	0	0	0.9	0	0	0	0	0
Med. Sulfur oil (000 mcf)	0	-48.8	-476.6	-871.4	-438.1	-642.0	-453.5	-577.4	-353.7	-608.7	-417.6	-404.7
Natural Gas	0	331.8	2942.2	5677.2	2656.2	4162.1	2832.1	3739.5	2091.7	3892.4	2607.8	2555.8

Projections are based on the following assumptions: Fuel Forecast FCP-9703
Demand and Energy Forecast L971201

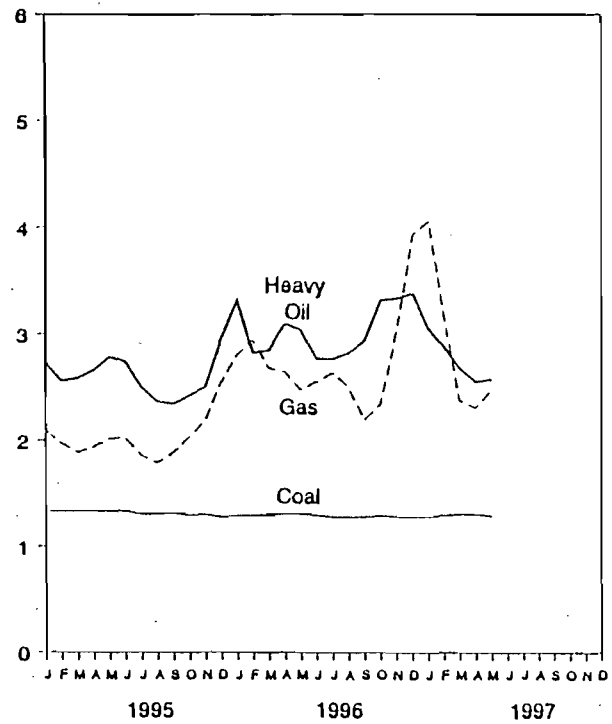
Notes: The Anclothe units are considered as intermediate units with or without the conversion to natural gas.
Based on this fuel forecast, the operation of Anclothe would change very little. Medium sulfur oil is simply displaced by natural gas.

Cost of Fossil-Fuel Receipts at Steam-Electric Plants (Dollars per Million Btu)

Costs, 1973-1996



Costs, Monthly





Florida Power
CORPORATION

ACCOUNTS PAYABLE DEPT. C2N

P. O. BOX 14042

ST. PETERSBURG, FL 33733-4042 **REMITTANCE ADVICE**

(813) 886-5257

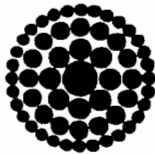
89

CHECK DATE 02/09/98 VENDOR FLA DEPT OF ENVIRONMENTAL VENDOR NO. 278473 CHECK NO. 1953199

INVOICE NO.	DATE	OUR ORDER NO.	VOUCHER	GROSS AMOUNT	DISCOUNT	NET AMOUNT
CK128091	02/04/98		9802189440	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 C2N
P.O. Box 14042
St. Petersburg, FL 33733-4042



Florida Power
CORPORATION

63-115
831

DATE 02/09/98 CHECK NO. 1953199

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

J. V. Smallwood
Treasurer





ACCOUNTS PAYABLE DEPT. C2N
 P. O. BOX 14042
 ST. PETERSBURG, FL 33733-4042 REMITTANCE ADVICE
 (813) 866-5257

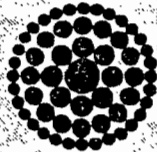
89

CHECK DATE 02/09/98 VENDOR FLA DEPT OF ENVIRONMENTAL VENDOR NO. 278473 CHECK NO. 1953199

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Accounts Payable Department C2N
 P.O. Box 14042
 St. Petersburg, FL 33733-4042



Florida Power
 CORPORATION

63-115
 631

DATE 02/09/98 CHECK NO. 1953199

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

J. V. Smallwood
 Treasurer

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
FEB 26 1998

BUREAU OF
AIR REGULATION

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

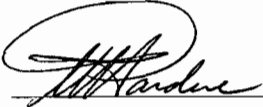
Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: Florida Power Corporation	
2. Site Name: Anclote Power Plant	
3. Facility Identification Number: 1010017 [] Unknown	
4. Facility Location Information: Street Address or Other Locator: Anclote Road, West of US 19 City: Tarpon Springs County: Pasco Zip Code: 33589	
5. Relocatable Facility? [] Yes [x] No	6. Existing Permitted Facility? [x] Yes [] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	<i>February 26, 1998</i>
2. Permit Number:	<i>1010017-004-AC</i>
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, CEP Dir. Environmental Service Dept
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: Florida Power Corporation Street Address: 3201 34th St. So. City: St. Petersburg State: FL Zip Code: 33711
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (813) 866-5151 Fax: (813) 866-4926
4. Owner/Authorized Representative or Responsible Official Statement: <p>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.</p> <p> _____ Signature</p> <p><u>2/20/98</u> _____ Date</p>

* 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	001	Oil Fired Steam Generator Unit 1	
2R	002	Oil Fired Steam Generator Unit 2	
3	---	Facility-wide Fugitive/De minimis Emissions	
4R	---	3 820 kW Diesel Generators (Relocatable)	

**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: A051-254492; A051-169340
Initial Title V Draft Permit No. 1010017-003-AV

-] 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: Anclote Units 1 and 2 will be modified to accommodate the firing of natural gas. This will enable either one or both units to co-fire gas and the currently permitted No. 6 oil.
2. Projected or Actual Date of Commencement of Construction : June 1, 1998
3. Projected Date of Completion of Construction : Unit 2 completion by November 1, 1998, Unit 1 by April 1999.

Professional Engineer Certification

1. Professional Engineer Name: Jennifer L. Tillman Registration Number: 52125
2. Professional Engineer Mailing Address: Organization/Firm: Florida Power Corporation Street Address: 3201 - 34th Street South City: St. Petersburg State: FL Zip Code: 33711
3. Professional Engineer Telephone Numbers: Telephone: (813) 866-5022 Fax: (813) 866-4926

4. Professional Engineer's Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

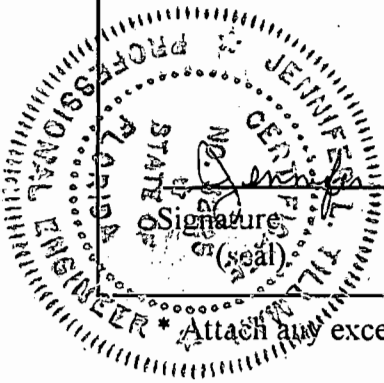
(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions 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.



Jennifer L. Sullivan
Signature

2/20/98
Date

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17 East (km): 324.4 North (km): 3118.7			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 28 / 48 / 17 Longitude: (DD/MM/SS): 82 / 47 / 8			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 49
7. Facility Comment (limit to 500 characters):			

Facility Contact

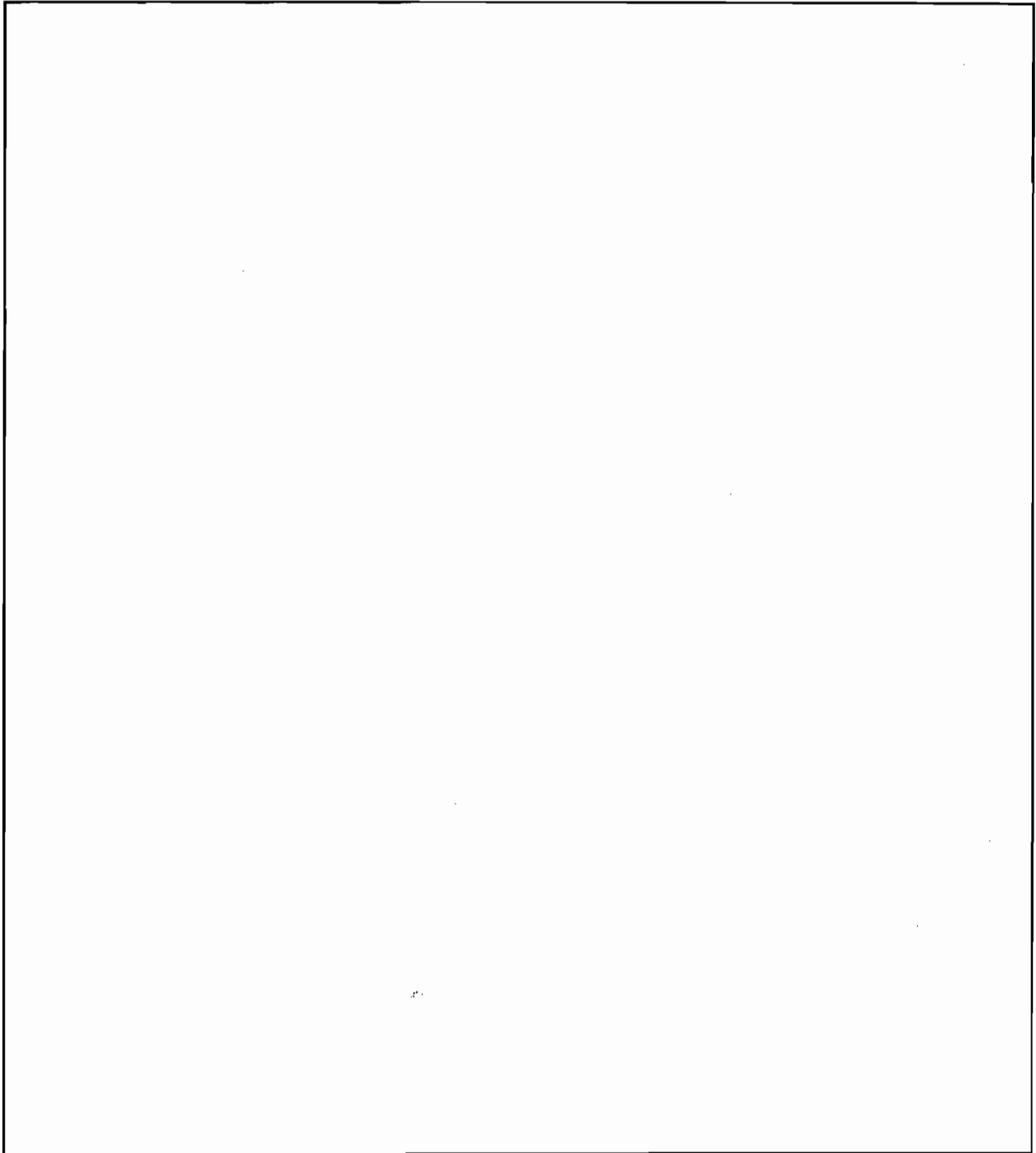
1. Name and Title of Facility Contact: D.T. Buell, Plant Manager			
2. Facility Contact Mailing Address: Organization/Firm: Florida Power Corporation Street Address: 1729 Baileys Bluff Road City: Holliday State: FL Zip Code: 34691			
3. Facility Contact Telephone Numbers: Telephone: (813) 938-2418 Fax: (813) 866-4972			

Facility Regulatory Classifications

1. Small Business Stationary Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
2. Title V Source? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3. Synthetic Non-Title V Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Synthetic Minor Source of Pollutants Other than HAPs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6. Major Source of Hazardous Air Pollutants (HAPs)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7. Synthetic Minor Source of HAPs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8. One or More Emissions Units Subject to NSPS? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
9. One or More Emissions Units Subject to NESHAP? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10. Title V Source by EPA Designation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11. Facility Regulatory Classifications Comment (limit to 200 characters):

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.)

Refer to Attachment AN-FE-B

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
VOC Volatile Organic Compounds	A
HCL Hydrogen Chloride	A
FL Fluorides - Total	A
SAM Sulfuric Acid Mist	A
H133 Nickel Compounds	A
HAPS Total Hazardous Air Pollutants	A
SO2 Sulfur Dioxide	A
PM Particulate Matter - Total	A
PM10 Particulate Matter - PM10	A
NOX Nitrogen Oxides	A
CO Carbon Monoxide	A
H107 Hydrogen fluoride	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>AN-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>AN-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>AN-FE-3</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input checked="" type="checkbox"/> Attached, Document ID: <u>AN-FE-4</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: <u>AN-FE-5</u> <input 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 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 checked="" type="checkbox"/> Not Applicable</p>
<p>15. Compliance Statement (Hard-copy Required)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>AN-FE-15</u></p> <p><input type="checkbox"/> Not Applicable</p>

ATTACHMENT AN-FE-B
FACILITY REGULATIONS

ATTACHMENT AN-FE-B
FACILITY REGULATIONS

Master Applicable Requirements Listing - Power Plants (5/13/96)

FACILITY: FPC Anclote 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 NESHP:

- 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 ft² or less surface area
- 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, limited to 32,000 gal/yr
- 62-210.300(3)(a)21. - general purpose engines, limited to 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/day or less, averaged month.
- 62-210.300(3)(a)24. - surface coating < 5% or less VOC
- 62-210.300(3)(b) - temporary exemptions
- 62-210.370(3) - AORs
- 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.

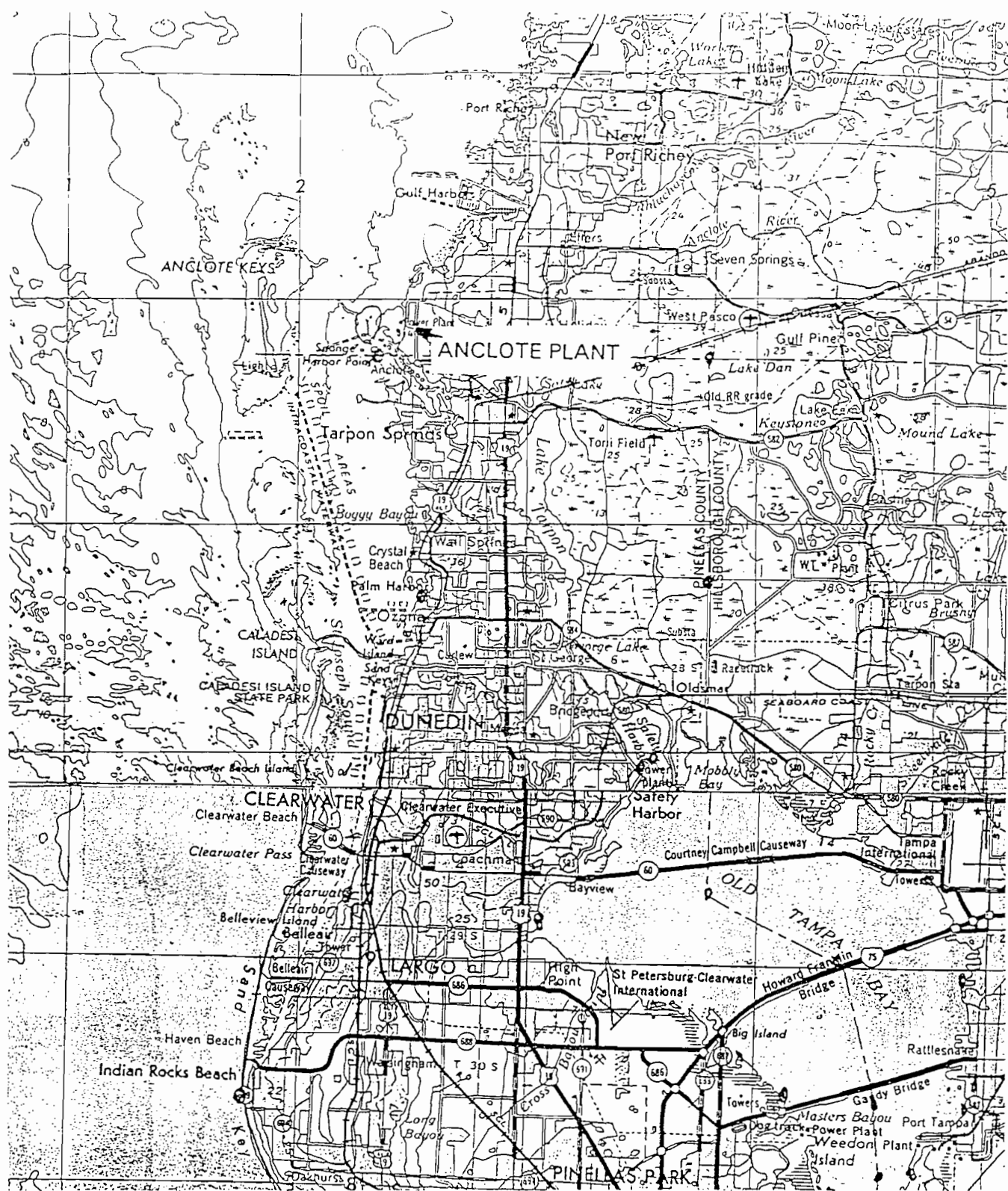
Federal Regulations:

Asbestos Removal:

- 40 CFR 61.05 - Prohibited Activities
- 40 CFR 61.12(b) - Compliance with work practice standard
- 40 CFR 61.19 - Circumvention
- 40 CRF 61.145 - Demolition and Renovation
- 40 CFR 61.148 - Standard for Insulating Material

ATTACHMENT AN-FE-1

AREA MAP

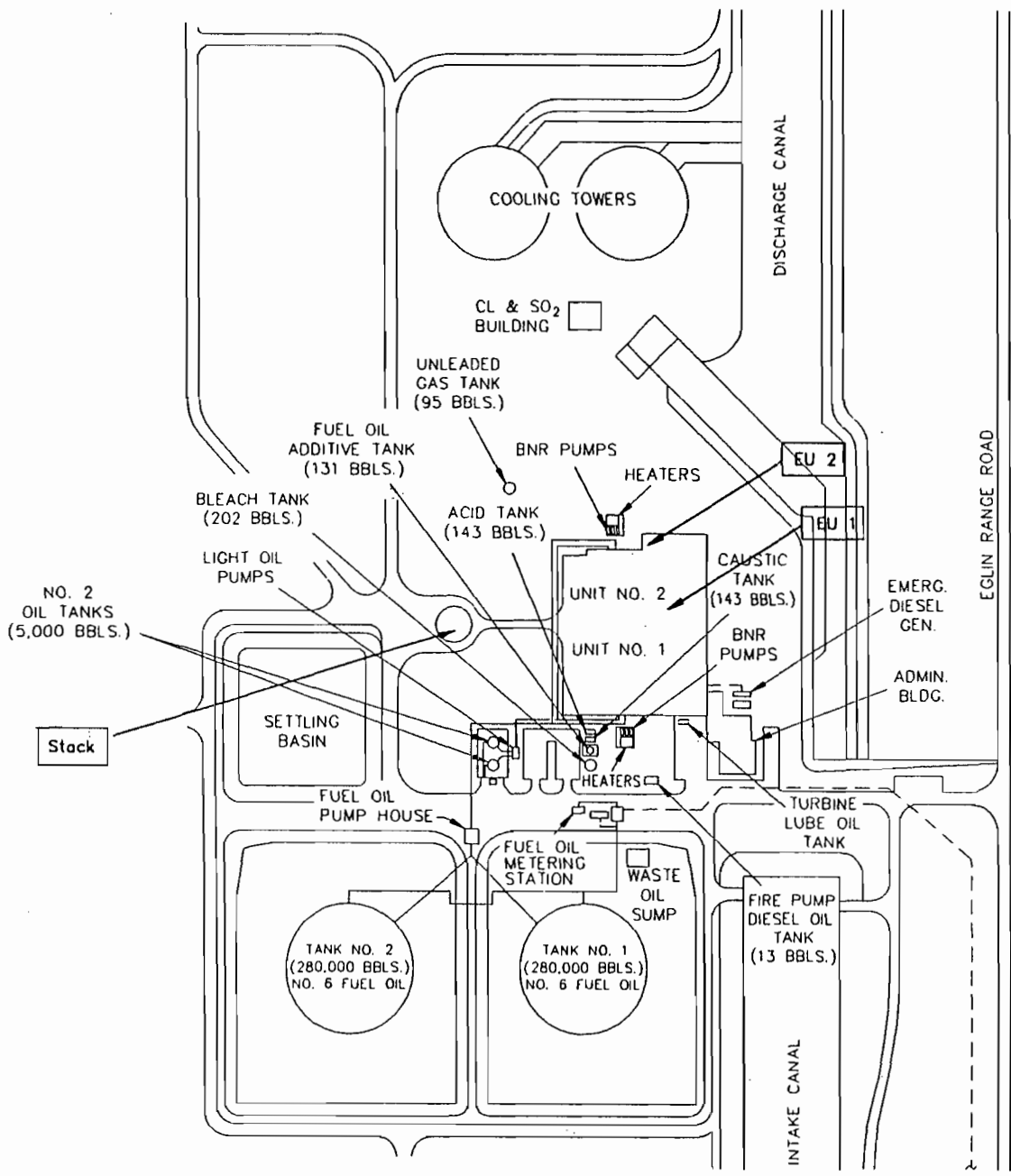


Attachment AN-FE-1
 Florida Power Corporation, Anclote Plant



ATTACHMENT AN-FE-2

FACILITY PLOT PLAN

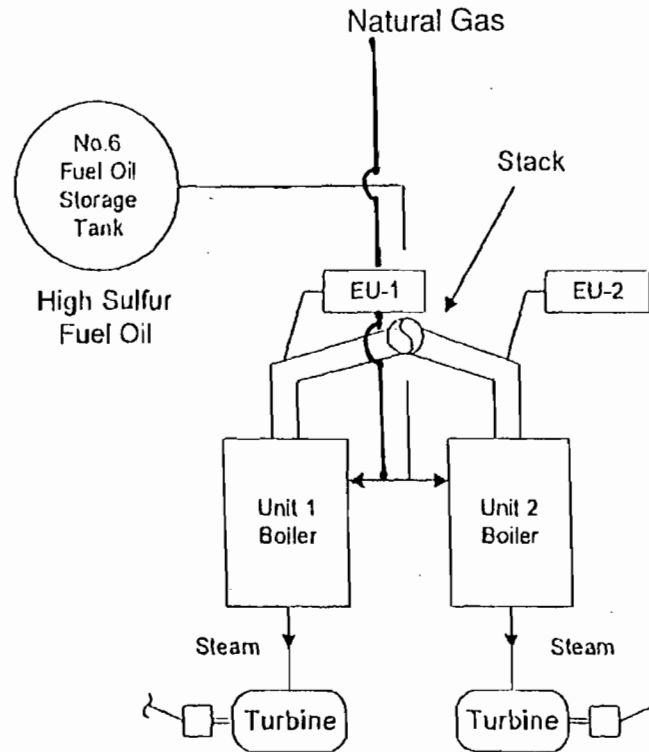


- Key**
- EU 1 - Fossil Fuel Steam Generator No. 1
 - EU 2 - Fossil Fuel Steam Generator No. 2
 - EU 3 - Facility-wide Fugitive/Minimum Emissions (not shown)
 - EU 4 - Diesel Generator (not shown)



ANCLOTE
ANCCOMP1.DWG

ATTACHMENT AN-FE-3
PROCESS FLOW DIAGRAM



Notes:

EU1 & EU2 share a common stack.

EU = Emission Unit Number

See segment section for the operating rate of each emission unit

Fuel Oil No.2, 3, 4, 5, and 6 and on-spec Used Oil are permitted for use in Units No. 1 and 2 boilers.

EU3- Facility-wide Fugitive/Deminimus Emissions

EU4- Diesel Generators (3)

ATTACHMENT AN-FE-4

**PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE
MATTER**

**ATTACHMENT AN-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 AN-FE-5
FUGITIVE EMISSIONS IDENTIFICATION

ATTACHMENT AN-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. 3. 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.

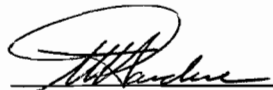
Nitric Acid - Nitric acid may be used in the chemistry laboratory for use in analytical procedures.

Acetylene - Present on the facility property in 250-lb cylinders which are used for plant maintenance (welding and cutting).

ATTACHMENT AN-FE-15
COMPLIANCE STATEMENT

ATTACHMENT AN-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

W. Jeffrey Pardue, C.E.P., Director, Environmental Services Department

2/20/98

Date

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): Oil Fired Steam Generator Unit 1		
2. Emissions Unit Identification Number: [] No Corresponding ID [] Unknown 001		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? <input checked="" type="checkbox"/> Yes [] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): 1. Tangential-fired unit. 2. Nameplate rating - winter rating dependent upon condenser cooling water intake temperature 540 MW; summer rating - 535 MW.		

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:	16 Oct 1974	
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	540 MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

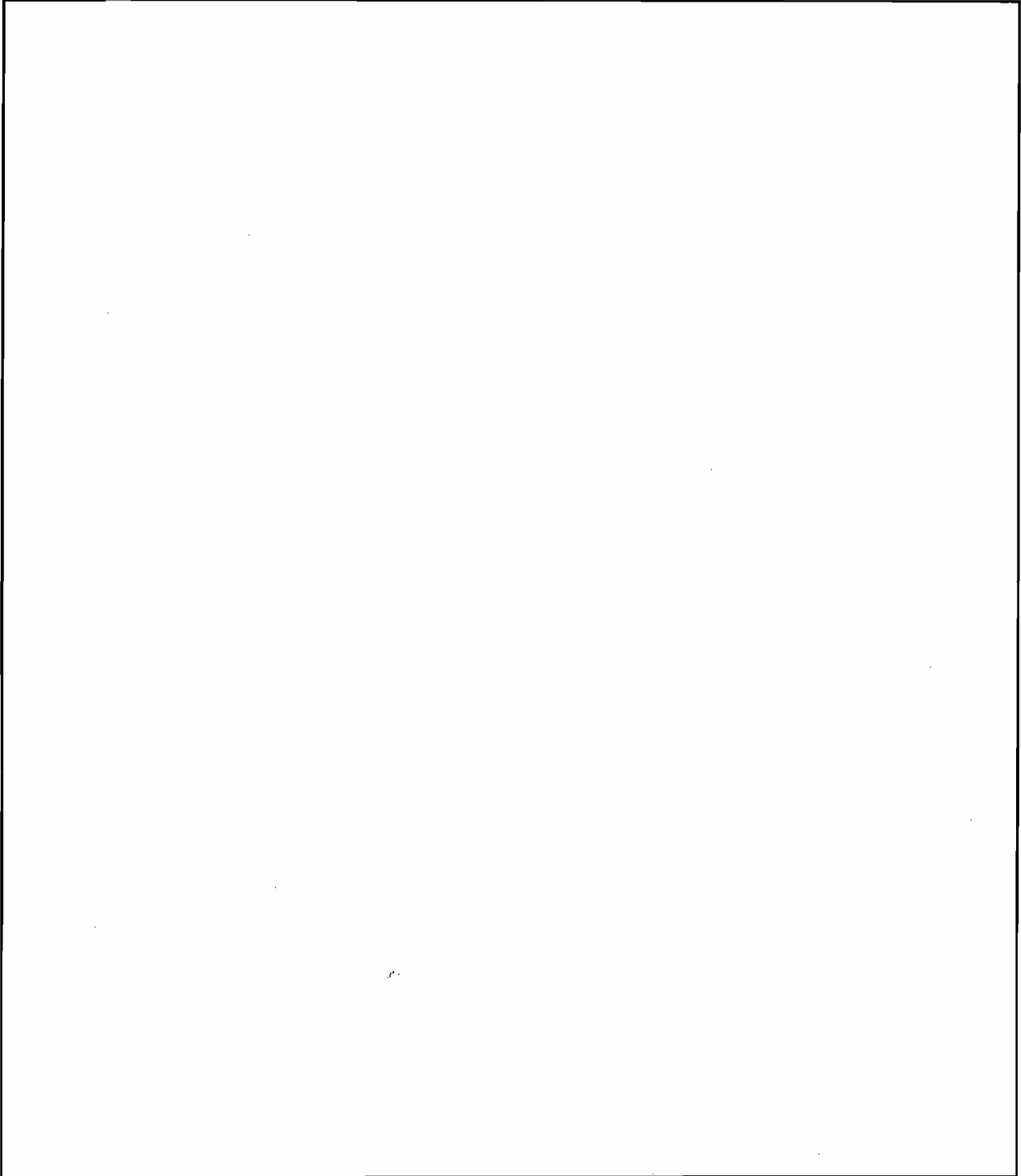
1. Maximum Heat Input Rate:	5,212	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
	Gen. Rating - Winter	

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.)



List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment AN-EU1-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: 01	
2. Emission Point Type Code: <input type="checkbox"/> 1 <input checked="" 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): Unit 1 and Unit 2 share a common stack.	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: 001, 002	
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:	499 feet
7. Exit Diameter:	24 feet
8. Exit Temperature:	320 °F

9. Actual Volumetric Flow Rate:	1,699,026 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): 324.4	North (km): 3118.7
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 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Ext. Comb. electric generating distillate oil No.1 and No.2	
2. Source Classification Code (SCC): 1-01-005-01	
3. SCC Units: Thousand Gallons Burned	
4. Maximum Hourly Rate: 35.97	5. Maximum Annual Rate: 315,106
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.5	8. Maximum Percent Ash: 0.1
9. Million Btu per SCC Unit: 138	
10. Segment Comment (limit to 200 characters): No. 2 fuel oil used during start-up and for boiler stabilization during startup/shutdown. Unit is tangentially fired. Heat content - HHV. Max. hour rate based on max. capacity.	

Segment Description and Rate: Segment 2 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Ext. Comb. Boiler, electric generating residual oil No. 6.	
2. Source Classification Code (SCC): 1-01-004-04	
3. SCC Units: Thousand Gallons Burned	
4. Maximum Hourly Rate: 32.66	5. Maximum Annual Rate: 286,080
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 2.5	8. Maximum Percent Ash: 0.1
9. Million Btu per SCC Unit: 152	
10. Segment Comment (limit to 200 characters): Unit is tangentially fired. Heat Content - HHV.	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Ext. Comb. Boiler, electric generating residual oil No. 5	
2. Source Classification Code (SCC): 1-01-004-06	
3. SCC Units: Thousand gallons burned	
4. Maximum Hourly Rate: 32.66	5. Maximum Annual Rate: 286,080
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 2.5	8. Maximum Percent Ash: 0.1
9. Million Btu per SCC Unit: 152	
10. Segment Comment (limit to 200 characters): 1) Unit is tangentially fired. 2) Heat content - HHV.	

Segment Description and Rate: Segment 4 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Ext. Comb. Boiler, electric generating residual oil No. 4	
2. Source Classification Code (SCC): 1-01-005-05	
3. SCC Units: Thousand gallons burned	
4. Maximum Hourly Rate: 34.472	5. Maximum Annual Rate: 301,977
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.7	8. Maximum Percent Ash: 0.1
9. Million Btu per SCC Unit: 144	
10. Segment Comment (limit to 200 characters): 1) Unit is tangentially fired. 2) Heat content - HHV. 3) Also, No. 3 fuel oil.	

F. SEGMENT (PROCESS/FUEL) INFORMATION
 (Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 5 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): On - specification used oil.	
2. Source Classification Code (SCC): 1-01-013-02	
3. SCC Units: Thousand gallons burned	
4. Maximum Hourly Rate: 35.97	5. Maximum Annual Rate: 31,511
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 2.5	8. Maximum Percent Ash: 0.9
9. Million Btu per SCC Unit: 138	
10. Segment Comment (limit to 200 characters): Heat content - HHV. Limited to 10% annual heat input.	

Segment Description and Rate: Segment 6 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Natural Gas	
2. Source Classification Code (SCC): 1-01-006-04	
3. SCC Units: Million Cubic Feet Burned	
4. Maximum Hourly Rate: 4.964	5. Maximum Annual Rate: 43,483
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1,050	
10. Segment Comment (limit to 200 characters): Heat content - HHV. Sulfur content - 1 grain/100cf. Based on a maximum heat input of 5,212 MMBtu/hr.	

**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			EL
PM10			NS
SO2			EL
NOX			NS
CO			NS
VOC			NS
H107			NS
H133			NS
HAPS			NS
FL			NS

**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:	0 %
3. Potential Emissions:	1,489.2 lb/hour 2,717.8 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:	0.3 lb/MMBtu Reference: FDEP Rule 62-210.700
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): See Attachment AN-EU1-H8	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): 1) Potential lb/hr based on sootblowing while burning oil. 2) Potential TPY based on 0.125 lb/MMBtu (0.1 lb/MMBtu during normal 21 hrs; 0.3 lb/MMBtu during sootblowing 3 hrs) in a 24-hr period.	

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.1 lb/MMBtu		
4. Equivalent Allowable Emissions:	496.4 lb/hour	2,174.2 tons/year
5. Method of Compliance (limit to 60 characters): Annual compliance test, EPA Method 5 or 17		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): 1) Based on oil firing during normal operations. 2) Rule 62-210.700		

B.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.3 lb/MMBtu		
4. Equivalent Allowable Emissions:	1,489.2 lb/hour	815.3 tons/year
5. Method of Compliance (limit to 60 characters): Annual compliance test, EPA Method 5 or 17		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): 1) Based on sootblowing while firing oil (3 hours in 24 hours). 2) Rule 62-210.700.		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: SO2	
2. Total Percent Efficiency of Control:	0 %
3. Potential Emissions:	13,651 lb/hour 59,791 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:	2.75 lb/MMBtu Reference: FDEP 62-296.405(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): See Attachment AN-EU1-H8.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): 1) Based on oil firing (No. 6).	

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 2.75 lb/MMBtu		
4. Equivalent Allowable Emissions:	13,651 lb/hour	59,791 tons/year
5. Method of Compliance (limit to 60 characters): Fuel analysis during emission testing.		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): 1) Firing No. 6 fuel oil. 2) Rule 62-296.405(1).		

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 4

1.	Visible Emissions Subtype: VE40
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 40 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9 - Annual Compliance Test.
5.	Visible Emissions Comment (limit to 200 characters): 1) 40% emission limit as specified in OGC File No. 82-0514 dated 11/7/82. 2) Visible emission limit at steady state. 3) Rule 62-296.405(1).

Visible Emissions Limitations: Visible Emissions Limitation 2 of 4

1.	Visible Emissions Subtype: VE60
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 60 % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 24 min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): 1) 60% opacity allowed during load changing and boiler cleaning for 3 hours in a 24-hour period. Unlimited opacity allowed for 4 six-minute periods during 3 hours. 2) Rule 62-210.700(3).

**I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)**

Visible Emissions Limitations: Visible Emissions Limitation 3 of 4

1.	Visible Emissions Subtype: VE
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour
4.	Method of Compliance: Best operational practices
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-210.700(1). Excess emissions allowed for 2 hr in 24 hr, malfunction.

Visible Emissions Limitations: Visible Emissions Limitation 4 of 4

1.	Visible Emissions Subtype: VE
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour
4.	Method of Compliance: Best operational practices
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-210.700(2). Excess emissions for startup/shutdown.

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor 1 of 5

1. Parameter Code: CO2	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: TECO Model Number: 41 H	Serial Number: 41 H-45737-274
5. Installation Date: 28 Dec 1994	
6. Performance Specification Test Date: 28 Dec 1994	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6	

Continuous Monitoring System Continuous Monitor 2 of 5

1. Parameter Code: EM	2. Pollutant(s): SO2
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: TECO Model Number: 43B	Serial Number: 43 B-46179-275
5. Installation Date: 28 Dec 1994	
6. Performance Specification Test Date: 28 Dec 1994	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6.	

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor 3 of 5

1. Parameter Code: EM	2. Pollutant(s): NOX
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: TECO Model Number: 42 Serial Number: 42-45969-274	
5. Installation Date: 28 Dec 1994	
6. Performance Specification Test Date: 28 Dec 1994	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6.	

Continuous Monitoring System Continuous Monitor 4 of 5

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: United Sciences Model Number: Ultra Flow 100 Serial Number: 9303413	
5. Installation Date: 28 Dec 1994	
6. Performance Specification Test Date: 28 Dec 1994	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6. Second monitor - Ser. No. 9303512	

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor 5 of 5

1. Parameter Code: VE	2. Pollutant(s):
3. CMS Requirement: [<input checked="" type="checkbox"/>] Rule [<input type="checkbox"/>] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number: 29849	
5. Installation Date: 28 Dec 1994	
6. Performance Specification Test Date: 28 Dec 1994	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6	

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: 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 ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
	NO ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO ₂	lb/hour		tons/year
	NO ₂			tons/year
5.	PSD Comment (limit to 200 characters):			
	Baseline emissions not known.			

**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>AN-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>AN-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 checked="" type="checkbox"/> Attached, Document ID: <u>AN-EU1-L4</u>	<input type="checkbox"/> Waiver Requested
		<input 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>4 Aug 1995</u>	
6.	Procedures for Startup and Shutdown	<input checked="" type="checkbox"/> Attached, Document ID: <u>AN-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 checked="" type="checkbox"/> Attached, Document ID: <u>AN-EU1-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 AN-EU1-D
EMISSION UNIT REGULATIONS

ATTACHMENT AN-EU1-D
EMISSION UNIT REGULATIONS

Master Applicable Requirements Listing - Power Plants (5/13/96)

EMISSION UNIT: EU1: Unit 1- FPC Ancloste Plant

FDEP Rules:

Air Pollution Control-General Provisions:

- 62-204.800(12) (State Only) - Acid Rain Program
- 62-204.800(13) (State Only) - Allowances
- 62-204.800(14) (State Only) - Acid Rain Program Monitoring

Stationary Sources-General:

- 62-210.700(1) - Malfunction only for FFSG
- 62-210.700(2) - FFSG; startup/shut down
- 62-210.700(3) - FFSG; sootblowing/load change
- 62-210.700(4) - maintenance
- 62-210.700(6)

Acid Rain:

- 62-214.300 - Acid Rain Units (Applicability)
- 62-214.320 - Acid Rain Units (Application Shield)
- 62-214.330 - Compliance Options (if 214.430)
- 62-214.340 - Exemptions (new units, retired units)
- 62-214.350(2);(3);(6) - Acid Rain Units (Certification)
- 62-214.370 - Acid Rain Units (Revisions; correction; potentially applicable if a need arises)
- 62-214.430 - Acid Rain Units (Compliance Options)

Stationary Sources-Emission Standards/RACT:

- 62-296.405(1)(a) - FFSG;VE
- 62-296.405(1)(b) - FFSG; PM
- 62-296.405(1)(c)1.j. - FFSG;Oil-SO2 (general limit)
- 62-296.405(1)(e) - FFSG;Test Methods
- 62-296.405(1)(f)1.a.(i) - FFSG; Opacity CEMS exempted for oil/gas units
- 62-296.405(1)(f)1.b. - FFSG; SO2 CEMS exempted for non-controlled units (oil/gas)

Stationary Sources-Emission Monitoring (where stack test is required):

- 62-297.310(1) - Test Runs-Mass Emission
- 62-297.310(2)(b) - Operating Rate; other than CTs
- 62-297.310(3) - Calculation of Emission
- 62-297.310(4)(a) - Applicable Test Procedures;Sampling time
- 62-297.310(4)(b) - Sample Volume
- 62-297.310(4)(c) - Required Flow Rate Range-PM/H2SO4/F

- 62-297.310(4)(d) - Calibration
- 62-297.310(4)(e) - EPA Method 5-only
- 62-297.310(5) - Determination of Process Variables
- 62-297.310(6)(a) - Permanent Test Facilities-general
- 62-297.310(6)(c) - Sampling Ports
- 62-297.310(6)(d) - Work Platforms
- 62-297.310(6)(e) - Access
- 62-297.310(6)(f) - Electrical Power
- 62-297.310(6)(g) - Equipment Support
- 62-297.310(7)(a)2. - FFSG excess emissions
- 62-297.310(7)(a)3. - Permit Renewal Test Required
- 62-297.310(7)(a)4.
- 62-297.310(7)(a)5. - PM exemption if < 400 hrs/yr
- 62-297.310(7)(a)9. - FDEP Notification - 15 days
- 62-297.310(7)(c) - Waiver of Comp. Tests (Fuel Sampling)
- 62-297.310(8) - Test Reports

Federal Rules:

Acid Rain-Permits:

- 40 CFR 72.9(a) - Permit Requirements
- 40 CFR 72.9(b) - Monitoring Requirements
- 40 CFR 72.9(c)(1) - SO2 Allowances-hold allowances
- 40 CFR 72.9(c)(2) - SO2 Allowances-violation
- 40 CFR 72.9(c)(3)(iii) - SO2 Allowances-Phase II Units (listed)
- 40 CFR 72.9(c)(4) - SO2 Allowances-allowances held in ATS
- 40 CFR 72.9(c)(5) - SO2 Allowances-no deduction for 72.9(c)(1)(i)
- 40 CFR 72.9(e) - Excess Emission Requirements
- 40 CFR 72.9(f) - Recordkeeping and Reporting
- 40 CFR 72.9(g) - Liability
- 40 CFR 72.20(a) - Designated Representative; required
- 40 CFR 72.20(b) - Designated Representative; legally binding
- 40 CFR 72.20(c) - Designated Representative; certification requirements
- 40 CFR 72.21 - Submissions
- 40 CFR 72.22 - Alternate Designated Representative
- 40 CFR 72.23 - Changing representatives; owners
- 40 CFR 72.30(a) - Requirements to Apply (operate)
- 40 CFR 72.30(c) - Requirements to Apply (reapply before expiration)
- 40 CFR 72.30(d) - Requirements to Apply (submittal requirements)
- 40 CFR 72.32 - Application Shield
- 40 CFR 72.33(b) - Dispatch System ID;unit/system ID
- 40 CFR 72.33(c) - Dispatch System ID;ID requirements
- 40 CFR 72.33(d) - Dispatch System ID;ID change
- 40 CFR 72.40(a) - General; compliance plan
- 40 CFR 72.40(b) - General; multi-unit compliance options
- 40 CFR 72.40(c) - General; conditional approval
- 40 CFR 72.40(d) - General; termination of compliance options
- 40 CFR 72.51 - Permit Shield

- 40 CFR 72.90 - Annual Compliance Certification

- Monitoring Part 75:
 - 40 CFR 75.4 - Compliance Dates
 - 40 CFR 75.5 - Prohibitions
 - 40 CFR 75.10(a)(1) - Primary Measurement; SO₂; except 75.11&.16; Subpart D
 - 40 CFR 75.10(a)(2) - Primary Measurement; NO_x; except 75.12&.17; Subpart E
 - 40 CFR 75.10(a)(3)(i) - Primary Measurement; CO₂; monitor
 - 40 CFR 75.10(a)(4) - Primary Measurement; Opacity; except 75.14&.18

 - 40 CFR 75.10(b) - Primary Measurement; Performance Requirements
 - 40 CFR 75.10(c) - Primary Measurement; Heat Input; Appendix F
 - 40 CFR 75.10(d) - Primary Measurement; Hourly Operating ; Opacity; SO₂
 - 40 CFR 75.10(f) - Primary Measurement; Minimum Measurement
 - 40 CFR 75.10(g) - Primary Measurement; Minimum Recording
 - 40 CFR 75.11(d) - SO₂ Monitoring; Gas- and Oil-fired units
 - 40 CFR 75.11(e) - SO₂ Monitoring Gaseous Firing
 - 40 CFR 75.12(b) - NO_x Monitoring; Determination of NO_x emission rate; Appendix F

 - 40 CFR 75.13(a) - CO₂ Monitoring; Continuous monitor
 - 40 CFR 75.14(a) - Opacity Monitoring; Coal and oil units
 - 40 CFR 75.20(a)(5) - Initial Certification Approval Process; Loss of Certification
 - 40 CFR 75.20(b) - Recertification Procedures
 - 40 CFR 75.20(c) - Certification Procedures
 - 40 CFR 75.20(g) - Exceptions to CEMS; oil/gas/diesel; Addendix D & E
 - 40 CFR 75.21 - QA/QC; CEMS
 - 40 CFR 75.21(b) - QA/QC; Opacity
 - 40 CFR 75.21(c) - QA/QC; Calibration Gases
 - 40 CFR 75.21(d) - QA/QC; Notice of RATA
 - 40 CFR 75.21(e) - QA/QC; Audits
 - 40 CFR 75.21(f) - QA/QC; CEMS
 - 40 CFR 75.22 - Reference Methods
 - 40 CFR 75.24 - Out-of-Control Periods; CEMS
 - 40 CFR 75.30(a)(1) - General Missing Data Procedures; SO₂
 - 40 CFR 75.30(a)(2) - General Missing Data Procedures; flow
 - 40 CFR 75.30(a)(3) - General Missing Data Procedures; NO_x
 - 40 CFR 75.30(a)(4) - General Missing Data Procedures; CO₂
 - 40 CFR 75.30(d) - General Missing Data Procedures; SO₂
 - 40 CFR 75.32 - Monitoring Data Availability for Missing Data
 - 40 CFR 75.33 - Standard Missing Data Procedures
 - 40 CFR 73.35 - Missing Data Procedures for CO₂ Data
 - 40 CFR 75.36 - Missing Data Procedures for Heat Input
 - 40 CFR 75.53 - Monitoring Plan
 - 40 CFR 75.54(a) - Recordkeeping-general
 - 40 CFR 75.54(b) - Recordkeeping-operating parameter
 - 40 CFR 75.54(c) - Recordkeeping-SO₂
 - 40 CFR 75.54(d) - Recordkeeping-NO_x
 - 40 CFR 75.54(e) - Recordkeeping-CO₂

- 40 CFR 75.54(f) - Recordkeeping-Opacity
- 40 CFR 75.55(c);(e) - Recordkeeping (Appendix D)
- 40 CFR 75.56 - Certification; QA/QC Provisions
- 40 CFR 75.60 - Reporting Requirements-General
- 40 CFR 75.61 - Reporting Requirements-Notification cert/recertification
- 40 CFR 75.63 - Reporting Requirements-Certification/Recertification
- 40 CFR 75.64(a) - Reporting Requirements-Quarterly reports; submission
- 40 CFR 75.64(b) - Reporting Requirements-Quarterly reports; DR statement
- 40 CFR 75.64(c) - Rep. Req.; Quarterly reports; Compliance Certification
- 40 CFR 75.64(d) - Rep. Req.; Quarterly reports; Electronic format
- 40 CFR 75.65 - Opacity Reports
- 40 CFR 77.3 - Offset Plans (Future)
- 40 CFR 77.5(b) - Deductions of Allowance (Future)
- 40 CFR 77.6 - Excess Emissions Penalties SO₂ and NO_x
- Appendix A-3. - Performance Specifications
- Appendix A-4. - Data Handling and Acquisition Systems
- Appendix A-5. - Calibration Gases
- Appendix A-6. - Certification Tests and Procedures
- Appendix B - QA/QC Procedures
- Appendix C-1. - Missing Data; SO₂/NO_x for controlled sources
- Appendix C-2. - Missing Data; Load-Based Procedure; NO_x & flow
- Appendix F - Conversion Procedures
- Appendix G-2. - Determination of CO₂; from combustion sources
- Appendix H - Traceability Protocol

ATTACHMENT AN-EU1-H8
CALCULATION OF EMISSIONS

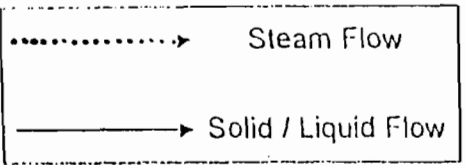
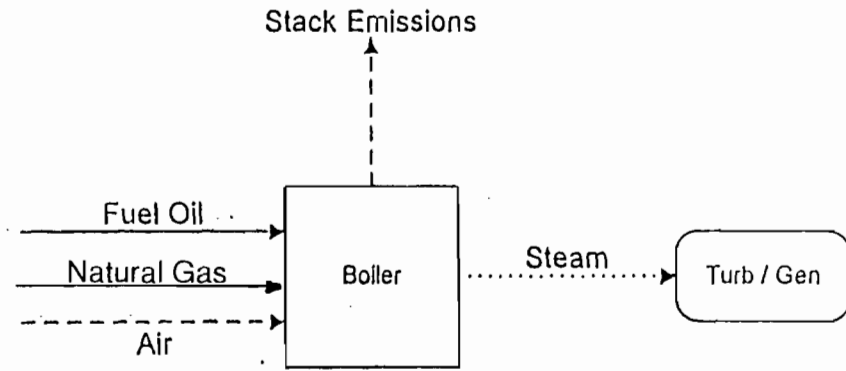
ATTACHMENT AN-EU1-H8

Table 1. Maximum Emissions for Emissions Limited Pollutants for Ancote Unit 1 and 2.

Pollutant	No. 6 Fuel Oil	
	Unit 1	Unit 2
Hours of Operation	8760	8760
Sulfur Dioxide (lb/hr) (Oil) = EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
Basis	DEP Rules	DEP Rules
EF (lb/MMBtu)	2.75	2.75
HIR (MMBtu/hr)	4964	4850
lb/hr	13651	13338
TPY	59791	58418
Particulate Matter (lb/hr) (Oil) = EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
TPY(normal+sootblowing) = lb/hr(normal) x 21/24 + lb/hr(sootblowing) x 3/24		
Basis (1)	DEP Rules	DEP Rules
EF (lb/MMBtu) (Oil; Sootblowing, load changing; annual)	0.3	0.3
EF (lb/MMBtu) (Oil; normal; annual)	0.1	0.1
HIR (MMBtu/hr)	4964	4850
lb/hr (normal)	496.4	485
lb/hr (sootblowing)	1489.2	1455
TPY (normal + sootblowing)	2717.8	2655.4

(1) FDEP Rule 62-296.405(1) and 62-296.800; 0.3 and 0.1 lb/MMBtu for soot-blowing and normal operations.

ATTACHMENT AN-EU1-L1
PROCESS FLOW DIAGRAM



ATTACHMENT AN-EU1-L2
FUEL ANALYSIS OR SPECIFICATION

ATTACHMENT AN-EU1-L2

Fuel Analysis

Fuel	Density (lb/gal) ^a	Maximum % Weight Content			Heat Capacity
		Sulfur	Nitrogen	Ash ^b	
No. 1, 2 Fuel Oil	7.1	0.5	0.025 - 0.03	0.1	19,500 BTU/lb 138,000 Btu/gal
No. 3, 4 Fuel Oil	7.6	0.7	0.18	0.1	19,000 BTU/lb 144,000 Btu/gal
No. 5, 6 Fuel Oil	8.12	2.5	0.25 - 0.50	0.1	18,300 BTU/lb 152,000 BTU/gal
On-specification used oil	7.4	2.5	0.3	0.9	18,700 Btu/lb 138,000 Btu/gal

^a At 60 degrees F; data from laboratory analysis

^b Data from FPC procurement specification.

Source: The values are based upon information gathered by laboratory analysis and FPC's fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any point in time may vary from those listed.

Attachment AN-EU1-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 ¹	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.

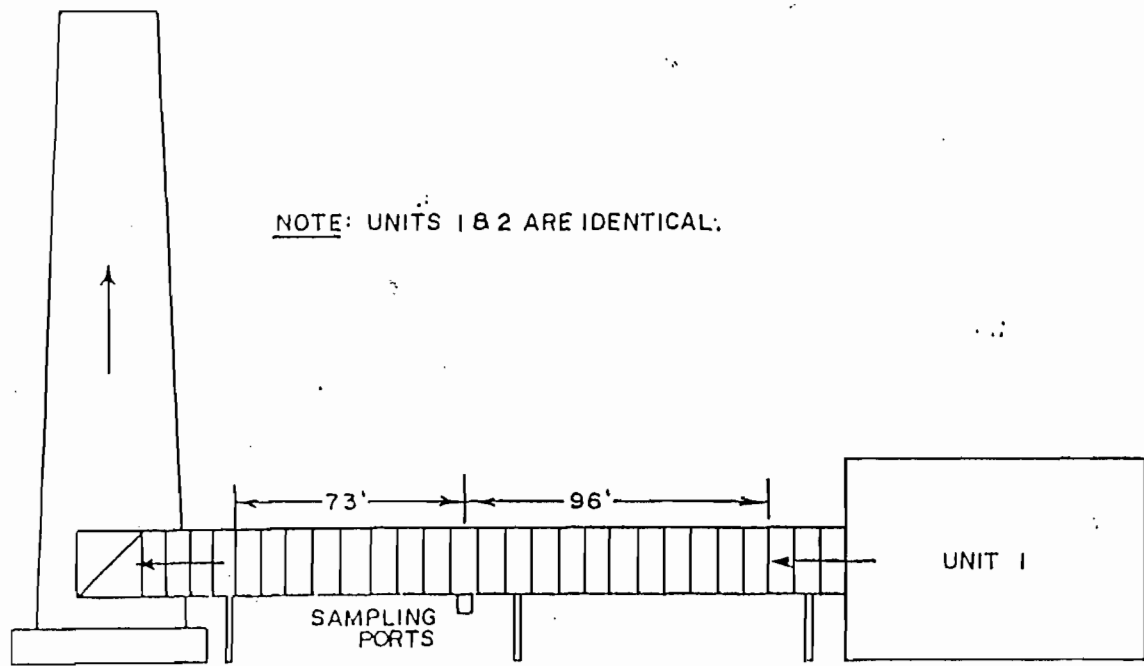
¹ Data from laboratory analysis

ATTACHMENT AN-EU1-L4
DESCRIPTION OF STACK SAMPLING FACILITIES

**ATTACHMENT AN-EU1-L4
DESCRIPTION OF STACK SAMPLING FACILITIES**

The Anclothe Plant Steam Generator Unit No. 1 and 2 are required by Permit AO51-254492A and AO51-169340 to perform annual stack testing in accordance with standard EPA reference methods. Pursuant to FAC 62-297.345, the annual stack test required is performed with the required stack sampling facilities. A diagram depicting stack sampling facilities is presented as an attachment. As specified by rule, the permanent test facilities meet the following:

- The sampling ports have a minimum effective diameter of 3 inches.
- The location of the sampling ports meet FAC 297-345 (3)(a)(3) requirements (i.e., 2 stack diameters downstream and 0.5 stack diameters upstream of flow disturbances).
- At least two sampling ports, 90 degrees apart have been installed on the circular stack.
- The working platform is at least 24 square feet in area, at least three feet wide, extends 180 degrees around the stack, has safety rails, toeboards, and a hinged floor opening attached to it. There are no obstructions 14 inches below the port and 6 inches on either side of the port.
- The platform access ladder is equipped with a safety cage.

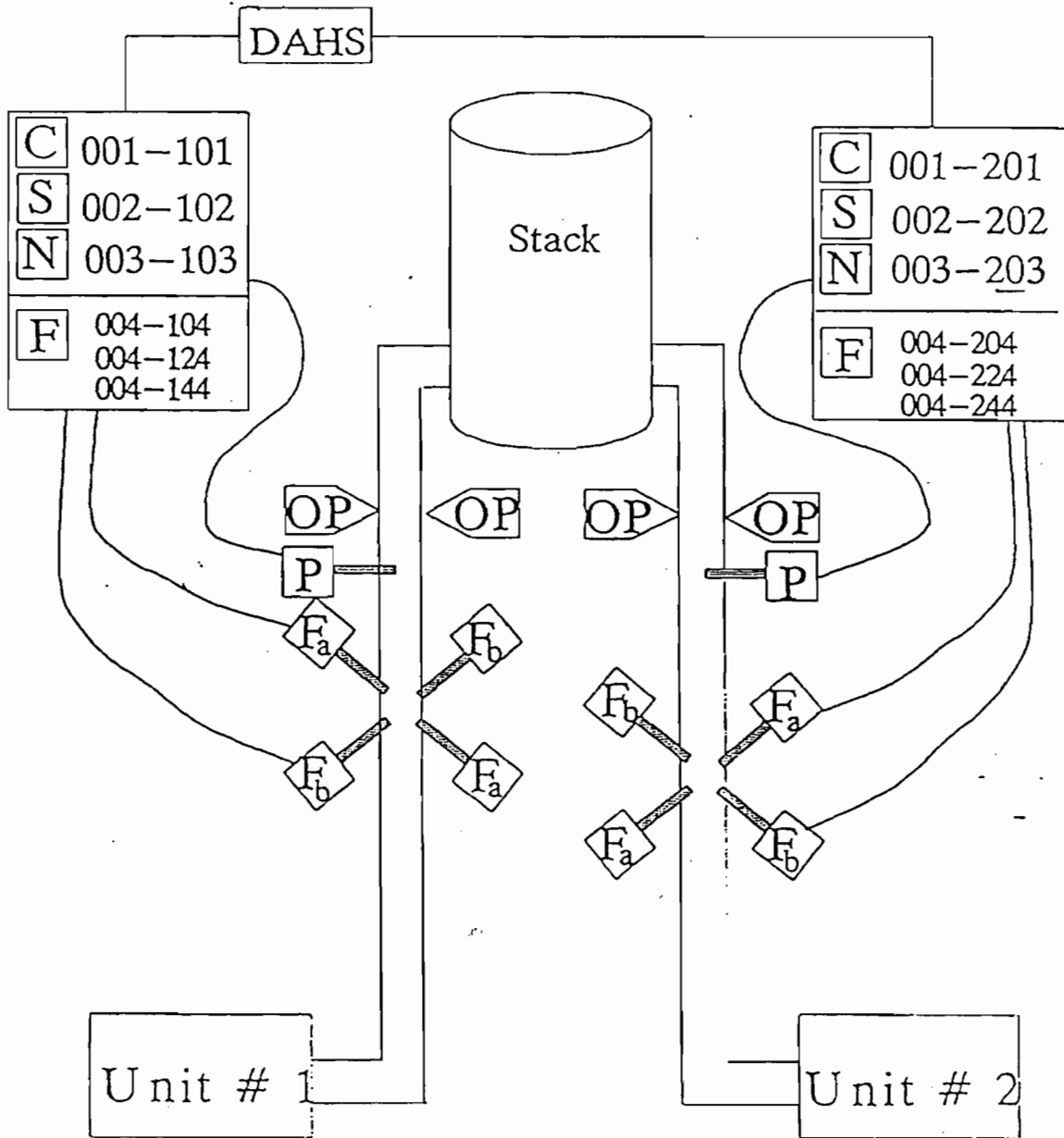


TRAVERSE POINT NUMBER	INCHES INSIDE STACK WALL
1	32.4
2	97.2
3	162.0
4	226.8
5	291.6

FIGURE I.
 EXHAUST SYSTEM SCHEMATIC
 ANCLOTE PLANT UNITS 1 & 2
 FLORIDA POWER CORPORATION
 TARPON SPRINGS, FLORIDA

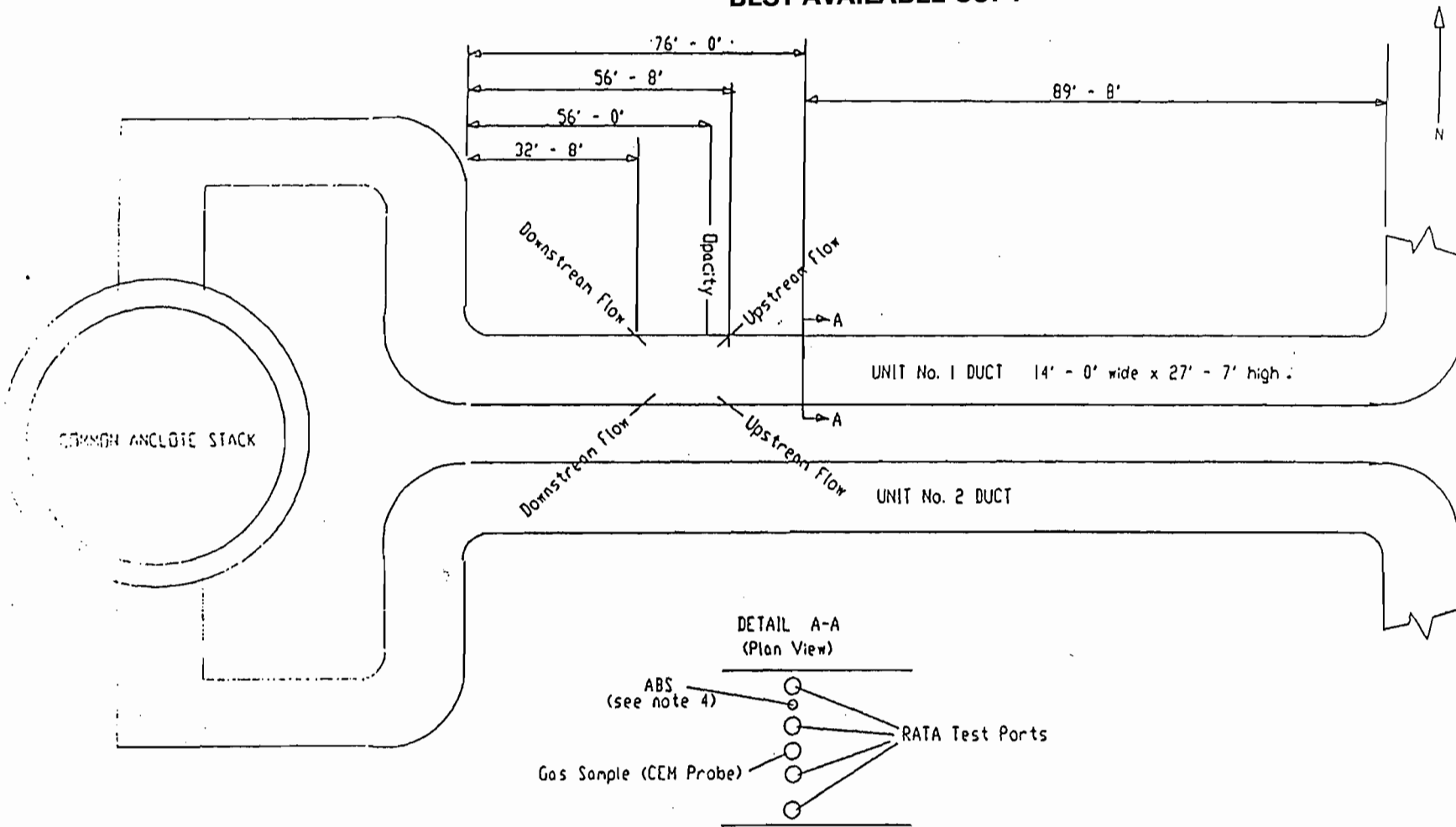
AIR CONSULTING
 and
 ENGINEERING

ANCLOTE Units No. 1 & 2
Florida Power Corp., Tarpon Springs, FL
EPA Monitoring Plan Location Information (Part 2)



ORIS code : 8048
NADB Boiler ID : **1, & **2

BEST AVAILABLE COPY



ATTACHMENT NO. 2

NOTES

1. DUCT LINER CROSS SECTIONAL AREA AT FLOW PROBE LOCATION IS 386.2 SQFT.
2. EXIT OF DUCT CROSS SECTIONAL AREA IS 386.2 SQFT.
3. CEM MEASUREMENT POINT IS > 1.0 METER FROM THE LINER WALL.
4. ABS = ATMOSPHERIC PRESSURE PORT.

FLORIDA POWER CORPORATION ANCLOTE UNIT No. 1
DRIS NO. 8048
NADB NO. **1

ATTACHMENT AN-EU1-L6
PROCEDURES FOR STARTUP AND SHUTDOWN

**ATTACHMENT AN-EU1-L6
PROCEDURES FOR STARTUP AND SHUTDOWN
MINIMIZING EXCESS EMISSIONS**

Startup of the fossil-fuel boilers begins when fuel (No. 2 and No. 6 fuel oil) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable and above 10 percent load.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased to below 10 percent of maximum and continues until the final burner gun is removed from service.

Emissions may be detected during all modes of boiler operation by various continuous emissions monitors. Continuous monitors are currently in place for NO_x, CO₂, and opacity. Audible and visual alarms are activated whenever the permitted value for opacity is approached.

Countermeasures which may be taken in the event of excess emissions include, but are not limited to:

- burner elevation loading
- proper excess air adjustments
- recognizing and removal of faulty burners
- fuel oil temperature adjustments
- proper and timely operation of boiler cleaning devices
- removal of the unit from system-dispatch mode (load control)
- reduction of unit megawatt load
- stopping and restarting of boiler cleaning devices
- lowering load ramp rate
- pressure rate changes
- placing boiler controls on manual
- adjusting burner dampers to increase windbox/furnace air pressure

Knowledge of the appropriate countermeasures to take when excess emissions occur is a part of the routine operator training for those who operate the boilers. Topics include current permit

limits, maximum allowable duration of excess emissions, appropriate countermeasures for excess emissions, duty to notify, and fuels and combustion training.

ATTACHMENT AN-EU1-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).

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): Oil Fired Steam Generator Unit 2		
2. Emissions Unit Identification Number: [] No Corresponding ID [] Unknown 002		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [X] Yes [] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): Tangential-fired unit		

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:	31 Oct 1978	
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	525 MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

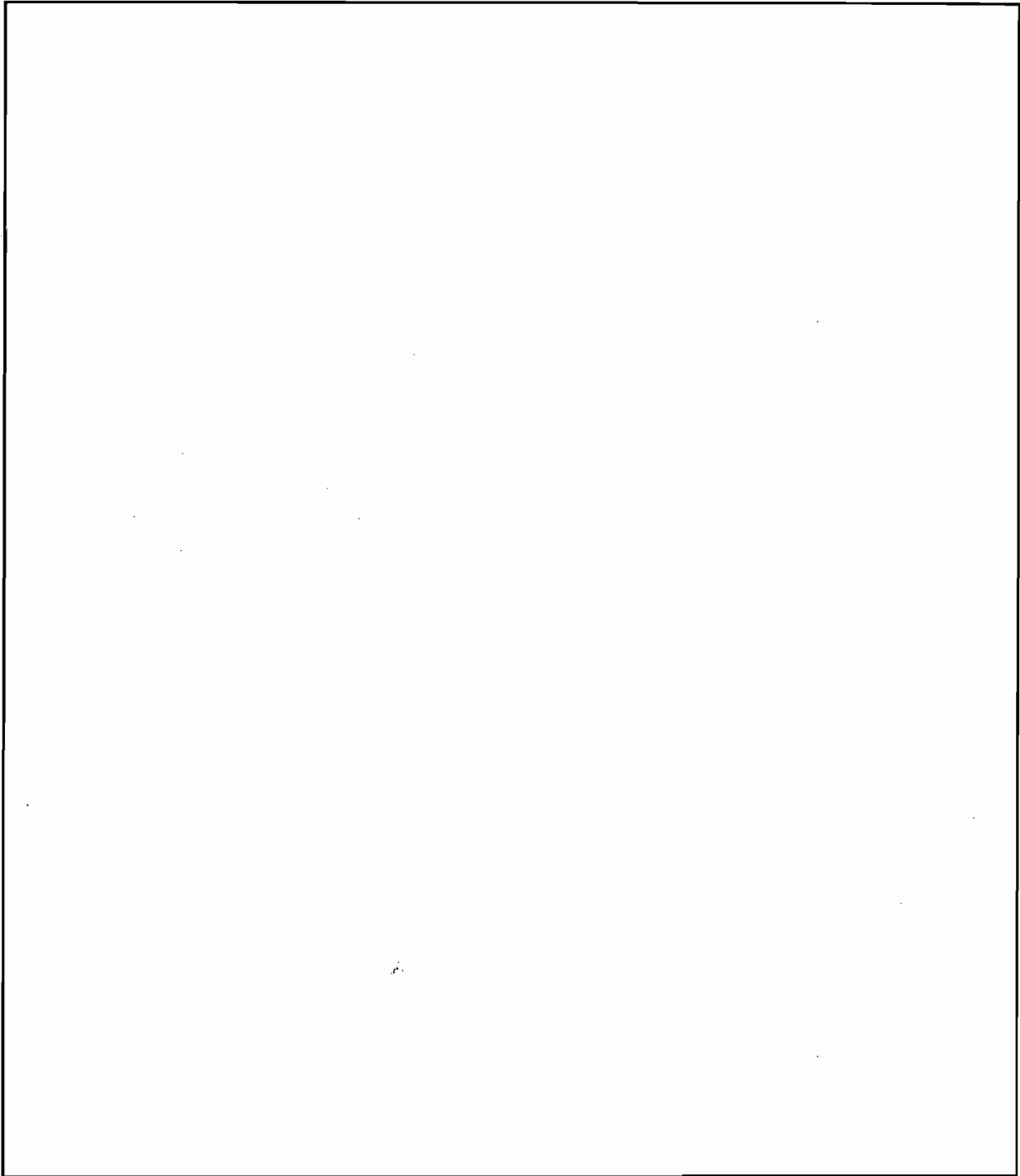
1. Maximum Heat Input Rate:	5,092	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):	Gen. rating - Summer. Winter rating - 530 MW	

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.)



List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment AN-EU2-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: 01	
2. Emission Point Type Code: <input type="checkbox"/> 1 <input checked="" 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): Unit 1 and Unit 2 share a common stack.	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: 001, 002	
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:	499 feet
7. Exit Diameter:	24 feet
8. Exit Temperature:	320 °F

9. Actual Volumetric Flow Rate:	1,692,307 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): 324.4 North (km): 3118.7
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 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Ext. Comb. boiler electric generating distillate oil No. 1 and No. 2.	
2. Source Classification Code (SCC): 1-01-005-01	
3. SCC Units: Thousand Gallons Burned	
4. Maximum Hourly Rate: 35.15	5. Maximum Annual Rate: 307,870
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.5	8. Maximum Percent Ash: 0.1
9. Million Btu per SCC Unit: 138	
10. Segment Comment (limit to 200 characters): 1) No. 2 distillate oil is burned during startup and for boiler stabilization during load changes. 2) Unit is tangentially fired. 3) Heat Content - HHV.	

Segment Description and Rate: Segment 2 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Ext. Comb. Boiler electric generating residual oil No. 6.	
2. Source Classification Code (SCC): 1-01-004-04	
3. SCC Units: Thousand Gallons Burned	
4. Maximum Hourly Rate: 31.91	5. Maximum Annual Rate: 279,513
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 2.5	8. Maximum Percent Ash: 0.1
9. Million Btu per SCC Unit: 152	
10. Segment Comment (limit to 200 characters): 1) Unit is tangentially fired. 2) Heat Content - HHV.	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Ext. Comb. Boiler, electric generating residual oil No. 5	
2. Source Classification Code (SCC): 1-01-004-06	
3. SCC Units: Thousand gallons burned	
4. Maximum Hourly Rate: 31.91	5. Maximum Annual Rate: 279,513
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 2.5	8. Maximum Percent Ash: 0.1
9. Million Btu per SCC Unit: 152	
10. Segment Comment (limit to 200 characters): 1) Unit is tangentially fired. 2) Heat content - HHV.	

Segment Description and Rate: Segment 4 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Ext. Comb. Boiler, electric generating residual oil No. 4	
2. Source Classification Code (SCC): 1-01-005-05	
3. SCC Units: Thousand gallons burned	
4. Maximum Hourly Rate: 33.681	5. Maximum Annual Rate: 295,042
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.7	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 144	
10. Segment Comment (limit to 200 characters): Maximum Percent Ash: 0.01. 1) Unit is tangentially-fired. 2) Heat content - HHV. 3) Also, No. 3 fuel oil.	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 5 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): On - specification used oil	
2. Source Classification Code (SCC): 1-01-013-02	
3. SCC Units: Thousand gallons burned	
4. Maximum Hourly Rate: 35.15	5. Maximum Annual Rate: 30,787
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 2.5	8. Maximum Percent Ash: 0.9
9. Million Btu per SCC Unit: 138	
10. Segment Comment (limit to 200 characters): Heat content - HHV. Limited to 10% annual heat input.	

**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			EL
PM10			NS
SO2			EL
NOX			NS
CO			NS
VOC			NS
H107			NS
H133			NS
HAPS			NS
FL			NS

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:	%
3. Potential Emissions:	1,455.1 lb/hour 2,655.4 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: 0.3 lb/MMBtu Reference: FDEP Rule 62-210.700	
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): See Attachment AN-EU1-H8	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): 1) Potential lb/hr based on sootblowing while burning oil. 2) Potential TPY based on 0.125 lb/MMBtu (0.1 lb/MMBtu during normal 21 hrs; 0.3 lb/MMBtu during sootblowing 3 hrs) in a 24-hr period.	

Emissions Unit Information Section 2 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.1 lb/MMBtu		
4. Equivalent Allowable Emissions:	485 lb/hour	2,124.3 tons/year
5. Method of Compliance (limit to 60 characters): Annual compliance test, EPA Method 5 or 17		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): 1) Based on oil firing during normal operations. 2) Rule 62-210.700.		

B.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.3 lb/MMBtu		
4. Equivalent Allowable Emissions:	1,455 lb/hour	796.6 tons/year
5. Method of Compliance (limit to 60 characters): Annual compliance test, EPA Method 5 or 17		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): 1) Based on oil firing during sootblowing operations (3 hours in 24 hours). 2) Rule 62-210.700.		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: SO2	
2. Total Percent Efficiency of Control:	0 %
3. Potential Emissions:	13,338 lb/hour 58,418 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: 2.75 lb/MMBtu Reference: FDEP 62-296.405(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): See Attachment AN-EU1-H8	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): 1) Based on No. 6 oil firing.	

Emissions Unit Information Section 2 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 2.75 lb/MMBtu		
4. Equivalent Allowable Emissions:	13,338 lb/hour	58,418 tons/year
5. Method of Compliance (limit to 60 characters): Fuel Analysis during emission test.		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): 1) Firing No. 6 fuel oil. 2) Rule 62-296.405(1).		

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 4

1.	Visible Emissions Subtype: VE40
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 40 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9 - annual compliance test.
5.	Visible Emissions Comment (limit to 200 characters): 1) 40% opacity allowed by OGC File No. 86-1575 dated 12/11/86. 2) Visible emission limit at steady state. 3) Rule 62-296.405(1).

Visible Emissions Limitations: Visible Emissions Limitation 2 of 4

1.	Visible Emissions Subtype: VE60
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 60 % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 24 min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): 1) 60% opacity is allowed during load changing and boiler cleaning 3 hours in a 24-hour period and unlimited opacity allowed for 4 six-minute periods during 3 hours. 2) Rule 62-210.700(3).

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 3 of 4

1.	Visible Emissions Subtype: VE
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour
4.	Method of Compliance: Best operational practices
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-210.700(1). Excess emissions allowed for 2 hr/24 hr, malfunction.

Visible Emissions Limitations: Visible Emissions Limitation 4 of 4

1.	Visible Emissions Subtype: VE
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour
4.	Method of Compliance: Best operational practices
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-210.700(2). Excess emissions for startup and shutdown.

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor 1 of 5

1. Parameter Code: CO2	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: TECO Model Number: 41 H	Serial Number: 41 H-45741-274
5. Installation Date: 02 Dec 1994	
6. Performance Specification Test Date: 02 Dec 1994	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6	

Continuous Monitoring System Continuous Monitor 2 of 5

1. Parameter Code: EM	2. Pollutant(s): SO2
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: TECO Model Number: 43B	Serial Number: 43B-46127-275
5. Installation Date: 02 Dec 1994	
6. Performance Specification Test Date: 02 Dec 1994	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6.	

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor 3 of 5

1. Parameter Code: EM	2. Pollutant(s): NOX
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: TECO Model Number: 42 Serial Number: 42-45964-275K	
5. Installation Date: 02 Dec 1994	
6. Performance Specification Test Date: 02 Dec 1994	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6.	

Continuous Monitoring System Continuous Monitor 4 of 5

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: United Sciences Model Number: Ultra Flow 100 Serial Number: 9303515	
5. Installation Date: 02 Dec 1994	
6. Performance Specification Test Date: 02 Dec 1994	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6. Second Monitor - Ser. No. 9303514.	

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor 5 of 5

1. Parameter Code: VE	2. Pollutant(s):
3. CMS Requirement: [<input checked="" type="checkbox"/>] Rule [<input type="checkbox"/>] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number: 29857	
5. Installation Date: 02 Dec 1994	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): 40 CFR 72.6	

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: 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 ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
	NO ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO ₂	lb/hour		tons/year
	NO ₂			tons/year
5.	PSD Comment (limit to 200 characters):			
	Baseline emissions not known			

**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>AN-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>AN-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 checked="" type="checkbox"/> Attached, Document ID: <u>AN-EU1-L4</u>	<input type="checkbox"/> Waiver Requested
		<input 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>4 Aug 1995</u>	
6.	Procedures for Startup and Shutdown	<input checked="" type="checkbox"/> Attached, Document ID: <u>AN-EU1-L6</u>	<input type="checkbox"/> Not Applicable
		<input type="checkbox"/> Not Applicable	
7.	Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input type="checkbox"/> Not Applicable	
8.	Supplemental Information for Construction Permit Application	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input type="checkbox"/> Not Applicable	
9.	Other Information Required by Rule or Statute	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<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 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>AN-EU2-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 AN-EU2-D
EMISSION UNIT REGULATIONS

ATTACHMENT AN-EU2-D
EMISSION UNIT REGULATIONS

Master Applicable Requirements Listing - Power Plants (5/13/96)

EMISSION UNIT: EU2: Unit 2- FPC Anclote Plant

FDEP Rules:

Air Pollution Control-General Provisions:

- 62-204.800(12) (State Only) - Acid Rain Program
- 62-204.800(13) (State Only) - Allowances
- 62-204.800(14) (State Only) - Acid Rain Program Monitoring

Stationary Sources-General:

- 62-210.700(1) - Malfunction only for FFSG
- 62-210.700(2) - FFSG; startup/shut down
- 62-210.700(3) - FFSG; sootblowing/load change
- 62-210.700(4) - maintenance
- 62-210.700(6)

Acid Rain:

- 62-214.300 - Acid Rain Units (Applicability)
- 62-214.320 - Acid Rain Units (Application Shield)
- 62-214.330 - Compliance Options (if 214.430)
- 62-214.340 - Exemptions (new units, retired units)
- 62-214.350(2);(3);(6) - Acid Rain Units (Certification)
- 62-214.370 - Acid Rain Units (Revisions; correction; potentially applicable if a need arises)
- 62-214.430 - Acid Rain Units (Compliance Options)

Stationary Sources-Emission Standards/RACT:

- 62-296.405(1)(a) - FFSG;VE
- 62-296.405(1)(b) - FFSG; PM
- 62-296.405(1)(c)1.j. - FFSG;Oil-SO2 (general limit)
- 62-296.405(1)(e) - FFSG;Test Methods
- 62-296.405(1)(f)1.a.(i) - FFSG; Opacity CEMS exempted for oil/gas units
- 62-296.405(1)(f)1.b. - FFSG; SO2 CEMS exempted for non-controlled units (oil/gas)

Stationary Sources-Emission Monitoring (where stack test is required):

- 62-297.310(1) - Test Runs-Mass Emission
- 62-297.310(2)(b) - Operating Rate; other than CTs
- 62-297.310(3) - Calculation of Emission
- 62-297.310(4)(a) - Applicable Test Procedures;Sampling time
- 62-297.310(4)(b) - Sample Volume
- 62-297.310(4)(c) - Required Flow Rate Range-PM/H2SO4/F

- 62-297.310(4)(d) - Calibration
- 62-297.310(4)(e) - EPA Method 5-only
- 62-297.310(5) - Determination of Process Variables
- 62-297.310(6)(a) - Permanent Test Facilities-general
- 62-297.310(6)(c) - Sampling Ports
- 62-297.310(6)(d) - Work Platforms
- 62-297.310(6)(e) - Access
- 62-297.310(6)(f) - Electrical Power
- 62-297.310(6)(g) - Equipment Support
- 62-297.310(7)(a)2. - FFSG excess emissions
- 62-297.310(7)(a)3. - Permit Renewal Test Required
- 62-297.310(7)(a)4. - PM exemption if < 400 hrs/yr
- 62-297.310(7)(a)9. - FDEP Notification - 15 days
- 62-297.310(7)(c) - Waiver of Comp. Tests (Fuel Sampling)
- 62-297.310(8) - Test Reports

Federal Rules:

Acid Rain-Permits:

- 40 CFR 72.9(a) - Permit Requirements
- 40 CFR 72.9(b) - Monitoring Requirements
- 40 CFR 72.9(c)(1) - SO2 Allowances-hold allowances
- 40 CFR 72.9(c)(2) - SO2 Allowances-violation
- 40 CFR 72.9(c)(3)(iii) - SO2 Allowances-Phase II Units (listed)
- 40 CFR 72.9(c)(4) - SO2 Allowances-allowances held in ATS
- 40 CFR 72.9(c)(5) - SO2 Allowances-no deduction for 72.9(c)(1)(i)
- 40 CFR 72.9(e) - Excess Emission Requirements
- 40 CFR 72.9(f) - Recordkeeping and Reporting
- 40 CFR 72.9(g) - Liability
- 40 CFR 72.20(a) - Designated Representative; required
- 40 CFR 72.20(b) - Designated Representative; legally binding
- 40 CFR 72.20(c) - Designated Representative; certification requirements
- 40 CFR 72.21 - Submissions
- 40 CFR 72.22 - Alternate Designated Representative
- 40 CFR 72.23 - Changing representatives; owners
- 40 CFR 72.30(a) - Requirements to Apply (operate)
- 40 CFR 72.30(c) - Requirements to Apply (reapply before expiration)
- 40 CFR 72.30(d) - Requirements to Apply (submittal requirements)
- 40 CFR 72.32 - Application Shield
- 40 CFR 72.33(b) - Dispatch System ID;unit/system ID
- 40 CFR 72.33(c) - Dispatch System ID;ID requirements
- 40 CFR 72.33(d) - Dispatch System ID;ID change
- 40 CFR 72.40(a) - General; compliance plan
- 40 CFR 72.40(b) - General; multi-unit compliance options
- 40 CFR 72.40(c) - General; conditional approval
- 40 CFR 72.40(d) - General; termination of compliance options
- 40 CFR 72.51 - Permit Shield

- 40 CFR 72.90 - Annual Compliance Certification

- Monitoring Part 75:
- 40 CFR 75.4 - Compliance Dates
- 40 CFR 75.5 - Prohibitions
- 40 CFR 75.10(a)(1) - Primary Measurement; SO₂; except 75.11&.16; Subpart D
- 40 CFR 75.10(a)(2) - Primary Measurement; NO_x; except 75.12&.17; Subpart E
- 40 CFR 75.10(a)(3)(i) - Primary Measurement; CO₂; monitor
- 40 CFR 75.10(a)(4) - Primary Measurement; Opacity; except 75.14&.18

- 40 CFR 75.10(b) - Primary Measurement; Performance Requirements
- 40 CFR 75.10(c) - Primary Measurement; Heat Input; Appendix F
- 40 CFR 75.10(d) - Primary Measurement; Hourly Operating ; Opacity; SO₂
- 40 CFR 75.10(f) - Primary Measurement; Minimum Measurement
- 40 CFR 75.10(g) - Primary Measurement; Minimum Recording
- 40 CFR 75.11(d) - SO₂ Monitoring; Gas- and Oil-fired units
- 40 CFR 75.11(e) - SO₂ Monitoring Gaseous Firing
- 40 CFR 75.12(b) - NO_x Monitoring; Determination of NO_x emission rate; Appendix F

- 40 CFR 75.13(a) - CO₂ Monitoring; Continuous monitor
- 40 CFR 75.14(a) - Opacity Monitoring; Coal and oil units
- 40 CFR 75.20(a)(5) - Initial Certification Approval Process; Loss of Certification
- 40 CFR 75.20(b) - Recertification Procedures
- 40 CFR 75.20(c) - Certification Procedures
- 40 CFR 75.20(g) - Exceptions to CEMS; oil/gas/diesel; Addendix D & E
- 40 CFR 75.21 - QA/QC; CEMS
- 40 CFR 75.21(b) - QA/QC; Opacity
- 40 CFR 75.21(c) - QA/QC; Calibration Gases
- 40 CFR 75.21(d) - QA/QC; Notice of RATA
- 40 CFR 75.21(e) - QA/QC; Audits
- 40 CFR 75.21(f) - QA/QC; CEMS
- 40 CFR 75.22 - Reference Methods
- 40 CFR 75.24 - Out-of-Control Periods; CEMS
- 40 CFR 75.30(a)(1) - General Missing Data Procedures; SO₂
- 40 CFR 75.30(a)(2) - General Missing Data Procedures; flow
- 40 CFR 75.30(a)(3) - General Missing Data Procedures; NO_x
- 40 CFR 75.30(a)(4) - General Missing Data Procedures; CO₂
- 40 CFR 75.30(d) - General Missing Data Procedures; SO₂
- 40 CFR 75.32 - Monitoring Data Availability for Missing Data
- 40 CFR 75.33 - Standard Missing Data Procedures
- 40 CFR 73.35 - Missing Data Procedures for CO₂ Data
- 40 CFR 75.36 - Missing Data Procedures for Heat Input
- 40 CFR 75.53 - Monitoring Plan
- 40 CFR 75.54(a) - Recordkeeping-general
- 40 CFR 75.54(b) - Recordkeeping-operating parameter
- 40 CFR 75.54(c) - Recordkeeping-SO₂
- 40 CFR 75.54(d) - Recordkeeping-NO_x
- 40 CFR 75.54(e) - Recordkeeping-CO₂

- 40 CFR 75.54(f) - Recordkeeping-Opacity
- 40 CFR 75.55(c);(e) - Recordkeeping (Appendix D)
- 40 CFR 75.56 - Certification; QA/QC Provisions
- 40 CFR 75.60 - Reporting Requirements-General
- 40 CFR 75.61 - Reporting Requirements-Notification cert/recertification
- 40 CFR 75.63 - Reporting Requirements-Certification/Recertification
- 40 CFR 75.64(a) - Reporting Requirements-Quarterly reports; submission
- 40 CFR 75.64(b) - Reporting Requirements-Quarterly reports; DR statement
- 40 CFR 75.64(c) - Rep. Req.; Quarterly reports; Compliance Certification
- 40 CFR 75.64(d) - Rep. Req.; Quarterly reports; Electronic format
- 40 CFR 75.65 - Opacity Reports
- 40 CFR 77.3 - Offset Plans (Future)
- 40 CFR 77.5(b) - Deductions of Allowance (Future)
- 40 CFR 77.6 - Excess Emissions Penalties SO₂ and NO_x
- Appendix A-3. - Performance Specifications
- Appendix A-4. - Data Handling and Acquisition Systems
- Appendix A-5. - Calibration Gases
- Appendix A-6. - Certification Tests and Procedures
- Appendix B - QA/QC Procedures
- Appendix C-1. - Missing Data; SO₂/NO_x for controlled sources
- Appendix C-2. - Missing Data; Load-Based Procedure; NO_x & flow
- Appendix F - Conversion Procedures
- Appendix G-2. - Determination of CO₂; from combustion sources
- Appendix H - Traceability Protocol

ATTACHMENT AN-EU2-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).

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): Facility-wide Fugitive/De minimis Emissions		
2. Emissions Unit Identification Number: <input checked="" type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): See Attachment AN-EU3-B6.		

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:

**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): Petroleum Product Storage - Fugitive Emissions (storage).	
2. Source Classification Code (SCC): 4-03-888-01	
3. SCC Units: Thousand gallons stored	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor: 21,500	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Segment refers to combined storage capacity of various petroleum product storage tanks contained in emission unit at time permit appl. submittal. See Attachment AN-EU3-B6 for list.	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Petroleum Product Storage - Fugitive Emissions (Throughput)	
2. Source Classification Code (SCC): 4-03-999-99	
3. SCC Units: Thousand gallons throughput	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor: 581,300	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Segment refers to combined throughput of various petroleum product storage tanks contained in emission unit at time permit appl. submittal. See Attachment AN-EU3-B6 for list.	

**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

**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 ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
	NO ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO ₂	lb/hour		tons/year
	NO ₂			tons/year
5.	PSD Comment (limit to 200 characters):			
	Baseline emissions not known.			

ATTACHMENT AN-EU3-B6
EMISSIONS UNIT COMMENT

TRIVIAL ACTIVITIES

The trivial activities identified in this application are provided for information only and are identified as examples of, but not limited to, the trivial activities identified by the Division of Air Resources Management's (DARM's) guidance. It is understood that such activities do not have to be included in with the Title V Application. The trivial activities identified herein are consistent, in terms of amounts of emissions and types, with those activities listed in DARM's guidance.

NOTIFICATION OF TEMPORARY EXEMPTIONS

Pursuant to Rule 62-210.300(3)(b)1., notice is herein provide that the emissions units listed below are not subject to a permit issued by the Department of Environmental Protection and are exempt from permitting until a final determination is made under the Title V permitting requirements (Rule 62-213 F.A.C.). These units would not have triggered review under Rules 62-212.400 or 62-212.500 or any new source performance standard listed in Rule 62-204.800 F.A.C.

Attachment AN-EU3-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Anclote Plant, Unregulated Emissions Unit

Area	Emission Unit Description	Status
Machine shop	Sand blaster, drill press, lathes, hand-held tools, etc.	ER/TR
	Parts washer- light oil	TR
General Boiler Building-	Fuel oil tank- oil additives	TR
	Lube oil system (1/unit)- vent to roof	TR
	Boiler chemicals (e.g., degreasers, etc.)	TR
	Machine shop Sand blaster, drill press, welding, lathes, hand-held tools, etc.	TR
	Parts washer- citrus based	TR
	I & C shop parts washer- safety kleen	TR
	Electric shop drill press, grinding equipment, lathes, hand-held tools, etc.	TR
Labor room	Sand blaster	TR
Unit 1, 2 Building	Turbine lube oil reservoir tank	TR
	Waste oil sump and recovery tank	TR
	Oil gun cleaning station (No. 2 oil used)	TR
Water Treatment	Sulfuric acid tank	TR
Lube oil storage building	lube oil	TR
Fuel oil pump house	fuel filter cleaning (No. 2 oil- open tank)	TR
Fire pump	No. 6 fuel oil pump	ER/TR
	No. 2 fuel oil pump	
General area-west	No. 2 diesel oil 200 gal. tank	UR
No. 2 Warehouse	Sand blaster, drill press, welding, lathes, hand-held tools, etc.	ER/TR
	Parts cleaning- citrus based	TR
	Waste oil storage tank	TR
	I & C shop parts washer- safety kleen	TR

Attachment AN-EU3-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Anclote Plant, Unregulated Emissions Unit

Area	Emission Unit Description	Status
	sand blasting system	
	Electric shop cutting and grinding equipment	TR
Garage area	mobile equipment front-end loader, boat, crane, etc.	ER/TR
No. 1 Warehouse	Vapor extractor- former underground gas tank	TR
Helper Cooling Tower Area	Natural-draft helper cooling towers	UR
	Storage area chlorine use SO ₂ from cyclinders for dechlorination	TR
Diesel generator (north of admin. build.)	1 MW diesel generator- emergency blackstart located in stationary railcar, No. 2 oil pipe in	UR
Fire pump	No. 2 diesel oil tank	ER/TR
Water Treatment	Sulfuric acid tank	TR
Fuel Storage	Tank No. 1- No. 6 Fuel Oil (280,000 bbbs)	UR
	Tank No. 2- No. 6 Fuel Oil (280,000 bbbs)	UR
General Site	Oil water separators	TR
Parking Lot	Vehicles	ER/TR

Status Key: TR = Trivial; ER = Exempt by Rule 62-210.300(3)(a); UR = Unregulated

Attachment AN-EU3-B6
General Emissions Unit Information

Table 2. FPC, Anclote Plant, Petroleum Product Storage and Throughput Operations

FPC Tank No.	Storage Product	Storage Tank Size (gallons)	Potential Annual Throughput (gallons)
#01	Turbine lube oil	16,000	32,000
#03	No. 2 fuel oil	211,680	4,000,000
#04	No. 2 fuel oil	211,680	4,000,000
#05	No. 6 fuel oil	10,512,306	286,568,800
#06	No. 6 fuel oil	10,536,792	286,568,800
#12	Diesel- equipment	168	2,400
#13-R	Fuel oil additive	173	60,000
#14	Unleaded gas	4,000	18,000
#22	Diesel- equipment (Train car- emergency gen.)	420	10,000
	TOTAL	21,493,219	581,260,000

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): 3 820 kW Diesel Generators (Relocatable)		
2. Emissions Unit Identification Number: [] No Corresponding ID [x] Unknown		
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): Generators may be located at one of seven FPC plants.		

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:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer: Caterpillar	Model Number: 3508-DITA	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

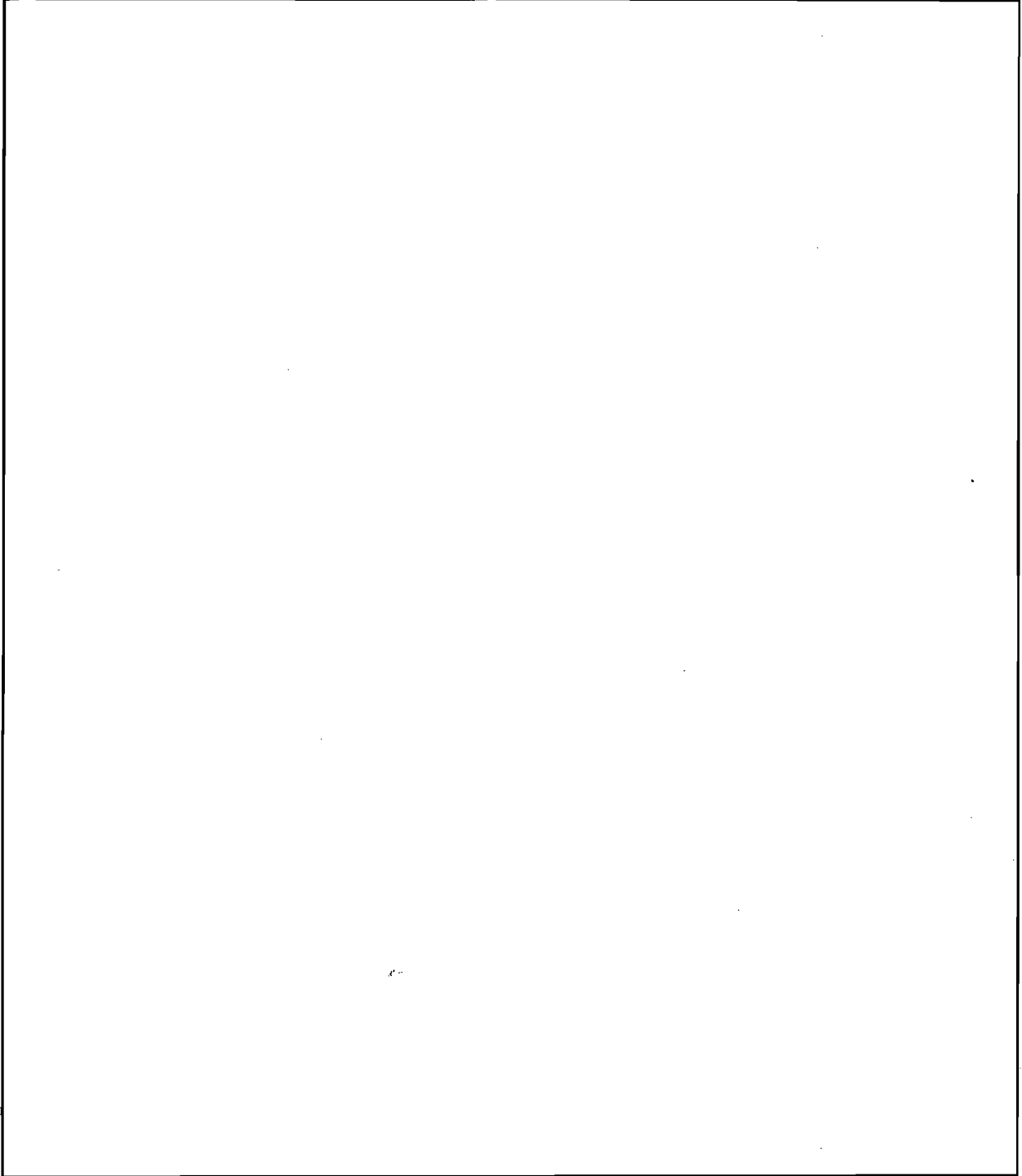
1. Maximum Heat Input Rate:	9	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
<p>Maximum Heat Input: 8.58(rounded to 9). Per unit; hours of operation is sum of individual hours of each generator. Generator Nameplate Rating: 0.82.</p>		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	2,970 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.)



List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment AN-EU4-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:	
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):	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
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:	15 feet
7. Exit Diameter:	1 feet
8. Exit Temperature:	1,004 °F

9. Actual Volumetric Flow Rate:	7,283 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):	

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): Internal combustion engine, industrial, distillate oil(diesel)	
2. Source Classification Code (SCC): 2-02-001-02	
3. SCC Units: Thousand gallons burned	
4. Maximum Hourly Rate: 62.1	5. Maximum Annual Rate: 184
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.5	8. Maximum Percent Ash: 0
9. Million Btu per SCC Unit: 138	
10. Segment Comment (limit to 200 characters): Max annual rate based on total for 3 units(2,970 hours). Maximum Percent Ash: 0.01(rounded to 0). Million Btu per SCC Unit: 138.24(rounded to 138).	

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
SO2			EL
NOX			NS
CO			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: SO2		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	4.47 lb/hour	6.64 tons/year
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:		0.5 %Sulfur content
Reference: Permit Limit		
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 checked="" type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):		
From manufacturer		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
Lb/hr - 1 unit; Tons/yr - 1 unit at 2,970 hours (total limit for 3 units).		

Emissions Unit Information Section 4 of 4
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: 0.5 %Sulfur Content		
4. Equivalent Allowable Emissions:	4.47 lb/hour	6.64 tons/year
5. Method of Compliance (limit to 60 characters): Fuel Analysis		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Permit Limit.		

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: VE20
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9, Annual
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-296.320(4)(b)1.

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 ₂	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
	NO ₂	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO ₂	lb/hour		tons/year
	NO ₂			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>AN-EU4-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>AN-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 type="checkbox"/> Attached, Document ID: _____	<input checked="" 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 checked="" type="checkbox"/> Attached, Document ID: <u>AN-EU4-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 AN-EU4-D
EMISSION UNIT REGULATIONS

ATTACHMENT AN-EU4-D
EMISSION UNIT REGULATIONS

Applicable Requirements Listing - Power Plants Non-Acid/NSPS Rain Units

EMISSION UNIT ID: EU4: Unit 4- FPC Anclote Plant

FDEP Rules:

Stationary Sources-General:

- 62-210.700(1) - Excess Emissions (startup/shutdown/malfunction)
- 62-210.700(4) - Poor Maintenance
- 62-210.700(6) - Notification

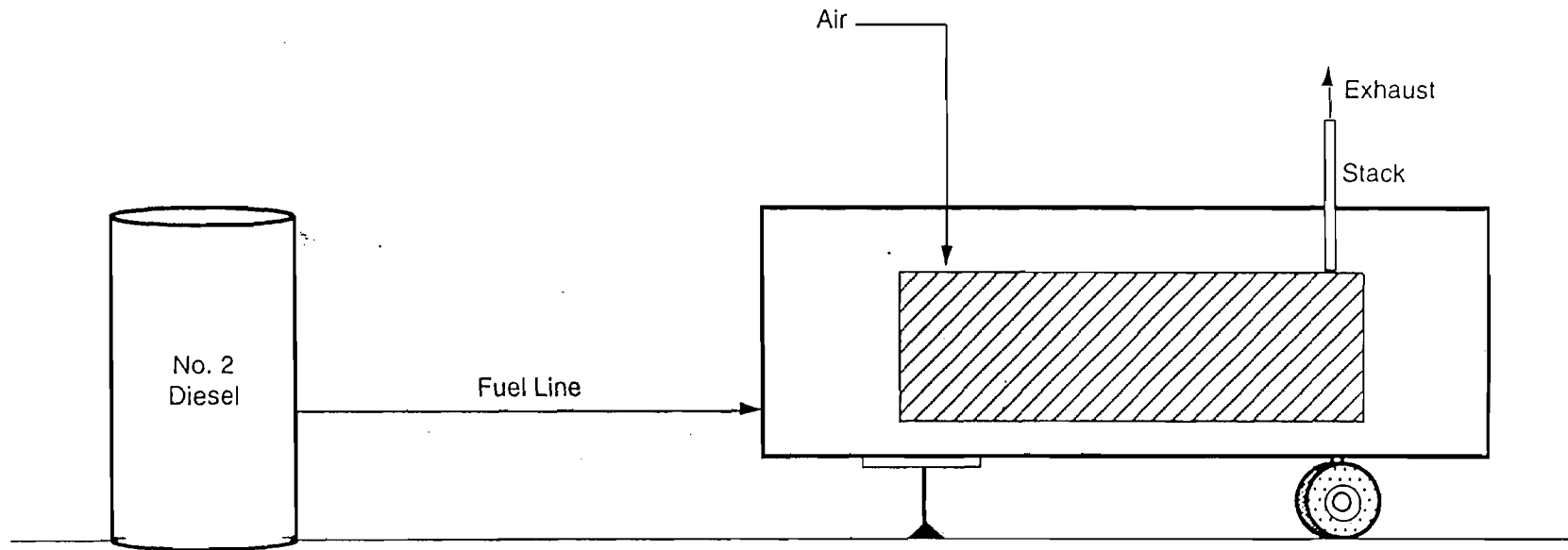
Stationary Sources-Emission Standards/RACT:

- 62-296.320(4)(b) - General VE Standard

Stationary Sources-Emission Monitoring:

- 62-297.310(2)(a) - Operating Rate; reserved for CTs
- 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

ATTACHMENT AN-EU4-L1
PROCESS FLOW DIAGRAM



Caterpillar Model 3508-DITA, 820 kW, 1220 hp at 1,800 rpm

Attachment AN-EU4-L1
Flow Diagram of Diesel Engine/Generator Set





News Release

Media Contact:
Melodye Hendrix
813/866-4282

Florida Gas Transmission (FGT)
Elaine Thomas
713/853-6814

Florida Power Corporation's Partial Conversion Of Plant To Natural Gas To Save Customers Money

St. Petersburg, FL (November 13, 1997) -- Florida Power Corporation announced today that it will partially convert two generating units at its Anclote power plant near Tarpon Springs to burn natural gas. This is expected to save customers from \$1 million to \$2 million annually in fuel expenses. The conversion project is part of Florida Power's commitment to provide competitively priced electricity to its customers.

One unit of the Anclote Plant will be capable of burning natural gas by fall of 1998. The second unit will be completed by spring of 1999. The units will be converted consecutively so that both are not out of operation at the same time. The two units have a capacity of generating a total of 1,050 megawatts.

The dual capability of burning natural gas or fuel oil allows Florida Power the flexibility of selecting the most competitively-priced fuel and taking advantage of the environmental aspects of the clean-burning natural gas. Florida Power currently has 20 generating units capable of burning natural gas.

Florida Gas Transmission (FGT) will install, own and operate a 22-mile connecting pipeline to deliver natural gas to the plant. Construction, for the most part using existing Florida Power right of way, is expected to begin in July, 1998 and to be completed in 90 days. The pipeline to the Anclote Plant will connect with FGT's existing pipeline near State Road 52 in Pasco County.

Florida Power Corporation and FGT will jointly sponsor an educational forum about the conversion project during the first week of December. Details about the forum will be announced later this month.

Florida Power Corporation is the primary subsidiary of St. Petersburg-based Florida Progress Corporation (NYSE:FPC) and serves 1.3 million customers in central and northern Florida.

Florida Gas Transmission Company is a wholly owned subsidiary of Citrus Corp. which is jointly owned 50 percent by an Enron Corp. subsidiary and 50 percent by Sonat Inc.

###



INTEROFFICE CORRESPONDENCE

Executive
OFFICE

A8A
MAC

231-5720
TELEPHONE

DATE: April 8, 1996

TO: W. Jeffrey Pardue

FROM: Joseph H. Richardson

SUBJECT: Confirmation of Appointment as Acid Rain Program Designated Representative

You are hereby appointed as the Designated Representative for all Florida Power Corporation facilities which are currently, or may become in the future, affected sources or units within the meaning of those terms as defined in Title IV of the Clean Air Act Amendments of 1990 and the implementing regulations thereunder.

You are hereby delegated all necessary authority to allow you to carry out your duties and responsibilities under the Acid Rain Program on behalf of Florida Power Corporation, as owner, and on behalf of the operators of all affected sources and each unit at any such affected source owned by Florida Power Corporation. Florida Power Corporation, as owner, and each operator shall be fully bound by your actions, inactions and submissions.

You are directed to comply fully with the duties of a Designated Representative as prescribed in the current law and implementing regulations and any successor provisions thereto.

In the event of your unavailability to perform your duties as Designated Representative, due to illness, absence from your normal place of work due to personal or work-related travel or for other reasons which may prevent you from properly performing your duties, the Alternate Designated Representative is authorized to assume the duties of designated representative, with all the authority and with the same responsibilities as the primary Designated Representative. The Alternate Designated Representative shall continue to serve in this capacity until such time as you are capable of resuming your duties.

You shall, in the event of illness or other factor which may prevent you from performing your duties, inform the Alternate Designated Representative of when he/she is to assume your duties and for approximately how long. You shall also insure that the Alternate Designated Representative is fully briefed on any matters which may require his/her particular attention during your absence. You will also advise the Senior Vice President for Energy Supply of any period in which the Alternate Designated

Representative is assuming your duties, as well as notify him/her when you resume them.

You are required to timely notify the Senior Vice President for Energy Supply of any matter which may arise that in any way prevents you from complying with your duties as Designated Representative or that might prevent Florida Power Corporation from complying with Title IV of the Clean Air Act Amendments of 1990 or the implementing regulations. In the unlikely event that a sudden illness or other emergency occurrence prevents you from informing the Alternate Designated Representative of the need to assume his duties, the Alternate Designate Representative shall assume the duties of Designated Representative upon being informed of the need to do so by the Manager of Air Programs of Florida Power Corporation's Environmental Services Department. In such circumstances, the Alternative Designated Representative shall notify the Senior Vice President for Energy Supply that he has assumed the duties of the Designated Representative.

You are similarly to timely advise the Florida Power Corporation Compliance Officer of any actual violation of the Clean Air Act Amendments of 1990 (or the implementing regulations) of which you may become aware, in addition to making any and all required reports of such violations to regulatory authorities.

This appointment and agreement shall remain in effect until any successor Designated Representative is appointed to relieve you and the appropriate Certificates of Representation are filed and publication made for any such successor.



Receipt Acknowledged:



W. Jeffrey Pardue

4-17-96
Date

cc: James R. Stitt
Alternate Designated Representative

ATTACHMENT SU-FI-E15

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

W. Jeffrey Pardue, Director, Environmental Services Dept.

6-13-96

Date



**Metal Container
Corporation**

ONE OF THE ANHEUSER-BUSCH COMPANIES

August 3, 1995

Ms. Teresa Heron
Bureau of Air Regulation
Florida Department of Environmental Protection
Mail Stop #5500
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

AUG 9 1995

Bureau of
Air Regulation

Re: Metal Container Corporation - Gainesville Lid Plant
Permit Number AC01-265409

Dear Ms. Heron:

Thank you for the opportunity to meet with you and Al Linero yesterday to discuss the proposed permit for MCC. Listed below are the specific changes we discussed and would request in the permit prior to issuance.

Specific Condition #5:

The second bullet point in this condition should be deleted, it is not necessary to include an annual usage limit if a production limit is set. The second condition was not included in the first draft and in fact was only included at our request when it was believed that a production limit was not necessary. The new condition should read:

"5. The permitted materials and utilization rates are as stated in the application.

These rates include the following:

- A maximum annual production of 10.049 billion lids.***
- A maximum usage rate (all coatings and solvents) of 0.019 gallons/1000 lids."***

Specific condition #9:

The second sentence of this condition should be deleted in its entirety. The reason for this change is that MCC no longer takes credit for any VOC shipped off-site as waste and therefore this condition is no longer necessary. MCC now uses a more conservative estimate in that all solvents used are considered to be lost. This change is due to the fact that a recycling program has been instituted and the quantity of waste generated will be greatly reduced. Furthermore, changes in clean-up methodology have also reduced the quantities of solvents used. The new condition should read:

"9. The permittee shall maintain a record of the clean-up solvents used on a six month basis."

Specific Condition #17

The third sentence of this condition references production by modules. All other references to modules has been deleted from this permit. As we discussed, it is extremely difficult and also unnecessary to track production in this manner. The sentence currently reads:

" The quantity of lids processed per module shall be included in the report."

it should be changed to read:

" The quantity of lids processed by the facility shall be included in the report. "

We appreciate your assistance in this matter and as discussed anything that can be done to expedite the issuance of the final permit will be greatly appreciated. If you have any questions regarding this request, please call me at (314) 957-0769.

Sincerely,

METAL CONTAINER CORPORATION



Robert M. Lanham, P.E.
Manager, Environmental Engineering

cc: A. A. Linero - FDEP
J. Meling - ECT

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. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Mr. W. Jeffrey Pardue FPC 3201 34th St. South St. Pete, FL 33733		4a. Article Number Z 333 612 529	
		4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD	
		7. Date of Delivery OCT 11 5 1994	
5. Received By: (Print Name)		8. Addressee's Address (Only if requested and fee is paid)	
6. Signature: (Addressee or Agent) X [Signature]			
PS Form 3811, December 1994		102595-97-B-0179 Domestic Return Receipt	

Thank you for using Return Receipt Service.

Z 333 612 529

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

Sent to		Jeffrey Pardue	
Street or P.O. Box		FPC	
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		10-13-98	
1010017-004-AC			

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 would like the following services (for an extra fee):

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

Consult postmaster for fee.

3. Article Addressed to:
*W. Jeffrey Pardue
 Director of Env. Services
 Fla. Power Corp.
 3201 34th St. South
 St. Petersburg, FL
 33733*

4a. Article Number
P265 659 412

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

7. Date of Delivery
SEP 08 1998

5. Received By: (Print Name)
Kathy DeLong

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

6. Signature: (Addressee or Agent)
X Kathy DeLong for W. Pardue

PS Form 3811, December 1994

102595-97-B-0179

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 265 659 412

US Postal Service

Receipt for Certified Mail

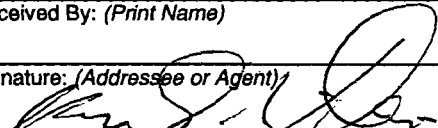
No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to <i>W. Jeffrey Pardue</i>	
Street & Number <i>34th St</i>	
Post Office, State, & ZIP Code <i>St. Pete, FL</i>	
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 <i>9-4-98</i>	
<i>1010017-004-AC</i>	

PS Form 3800, April 1995

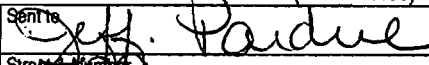
Is your RETURN ADDRESS completed on the reverse side?

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. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
3. Article Addressed to: Mr. W. J. Pardue Director of Engr. Serv. Fla. Power Corp. 3201 34th St. South St. Petersburg, FL 33733	4a. Article Number P 265 659 390	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD
5. Received By: (Print Name)	7. Date of Delivery JUL 24 1998	8. Addressee's Address (Only if requested and fee is paid)
6. Signature: (Addressee or Agent) X 		

Thank you for using Return Receipt Service.

P 265 659 390

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

Sent to	
Street Number	3201
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	7-22-98
	1010017-004-AC anclote

PS Form 3800, April 1995

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. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
3. Article Addressed to: Mr. Jeffrey Pardue, ESO Fla. Power Corp. 3201 34th St. South St. Petersburg, FL 33733	4a. Article Number P 265 659 351	
	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD	
	7. Date of Delivery MAY 22 1998	
5. Received By: (Print Name) X Wilcox	8. Addressee's Address: (Only if requested and fee is paid)	
6. Signature: Addressee or Agent X Wilcox		

Thank you for using Return Receipt Service.

PS Form 3811, December 1994

Domestic Return Receipt

P 265 659 351

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

Sent to		Jeffrey Pardue
Street Number		1000
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	5-19-98	
1010017-004-AC Ancote Units 1+2		

PS Form 3800, April 1995

Fold all in envelope to the right of the return address

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 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
 Environmental Services
 Fla. Power Corp
 3201 34th St. South
 St. Petersburg, FL
 33733

4a. Article Number
 P 265 659 322

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

7. Date of Delivery

5. Received By: (Print Name)

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

6. Signature: (Addressee or Agent)

X *Jeffrey Pardue*

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 265 659 322

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to	<i>Jeffrey Pardue</i>
Street & Number	<i>EP</i>
Post Office, State, & ZIP Code	<i>St. Pete, FL</i>
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	<i>1010017-004-AC 3/26/98</i>

PS Form 3800 April 1995



September 21, 1998

Mr. Al Linero, P.E.
Division of Air Resource Management
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

Re: FPC Anclote Facility, Natural Gas Co-Firing Project
DEP Permit No. 1010017-004-AC

Enclosed please find the notarized proof of publication received from the Pasco Times for the Florida Department of Environmental Protection *Notice of Intent to Issue Construction Permit* referenced to the above request. The notice was published on September 10, 1998.

It is our understanding that a final permit could be issued by the Department as early as October 12, 1998, assuming no adverse comments were received.

If you should have any questions concerning this correspondence, please do not hesitate to contact me at (727) 826-4258.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott H. Osbourn", written in a cursive style.

Scott H. Osbourn
Senior Environmental Engineer

cc: Bill Thomas, DEP SW District (w/attach)

Attachment

982600346

STATE OF FLORIDA }
COUNTY OF PASCO } S.S.

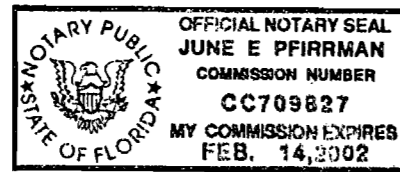
pasco times
Published Daily
Port Richey, Pasco County, Florida

Before the undersigned authority personally appeared M. Hipple
who on oath says that he is Legal Clerk
of the Pasco Times - South Edition
a daily newspaper published at Port Richey, in Pasco County, Florida: that the
attached copy of advertisement, being a Legal Notice
in the matter RE: Public Notice of Intent

_____ in the _____ Court
was published in said newspaper in the issues of September 10, 1998

Affiant further says the said Pasco Times is a newspaper
published at Port Richey, in said Pasco County, Florida, and that the said newspa-
per has heretofore been continuously published in said Pasco County, Florida,
each day and has been entered as second class mail matter at the post office in
New Port Richey, in said Pasco 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 corpora-
tion any discount, rebate, commission or refund for the purpose of securing
this advertisement for publication in the said newspaper.

Sworn to and subscribed before
me this 17th day of
September, A.D. 1998
June E. Pfirman
SEAL Notary Public



My commission expires _____ 19 _____

PERSONALLY KNOWN OR
PRODUCED IDENTIFICATION _____
TYPE OF IDENTIFICATION PRODUCED _____

CL 402-W-P

LEGAL NOTICE

**PUBLIC NOTICE OF INTENT TO ISSUE CONSTRUCTION PERMIT
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DRAFT Permit No.: 1010017-004-AC**

**Florida Power Corporation
Anclote Power Plant Units 1 and 2
Pasco County**

The Department of Environmental Protection (Department) gives notice of its intent to issue a construction permit to Florida Power Corporation for a project to install natural gas co-firing capability at the Anclote Power Plant Units 1 and 2 located at Anclote Road, West of US 19, Tarpon Springs, Pasco County, Florida. A Best Available Control Technology (BACT) determination was not required pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21 3201 34th Street South, St. Petersburg, Florida 33733.

Florida Power Corporation (FPC) applied for a construction permit to modify Units 1 and 2 to accommodate the firing of natural gas thus enabling either or both units to co-fire gas and No. 6 fuel oil. Based on information submitted by FPC, the project will substantially reduce emissions of acid smut fallout related to load changes following low load operation. Additionally, FPC has provided reasonable assurance that the project will not substantially change the use of the units by making them more economical to operate and thus increasing annual emissions. The company has certified and the Department has accepted that the project is primarily for the purpose of controlling emissions.

The company has also agreed to take a lower sulfur limit on the fuel oil co-fired with natural gas. This will provide additional assurance that emissions will not increase. With these facts, as detailed in the Department's determination, this project is exempt from PSD requirements and has been determined to be a pollution control project (PCP) pursuant to Rule 62-212.400(2)(a)2, F.A.C. and 40 CFR 52.21.

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for a public meeting concerning the proposed permit issuance action for a period of 30 days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection, if written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceedings.

A person whose substantial interests are affected by the proposed 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. 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 upon 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 the 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 petitioner 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.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 5
Tallahassee, Florida 32301
Telephone: (850) 488-0114
Fax: (850) 922-6979

Department of Environmental Protection
SW District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: (813) 744-6100
Fax: (813) 744-6458

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Chief Bureau of Air Regulation at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114 for additional information.

(982) 9/10/98

70870m

Check Sheet

Company Name: Florida Power Corp. (Anclote)
Permit Number: 1010017-004-AC
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

Appendix H-1, Permit History/ID Number Changes

Florida Power Corporation
Anclote

FINAL Permit No.: 1010017-003-AV
Facility ID No.: 1010017

Permit History (for tracking purposes):

E.U. ID No	Description	Permit No.	Issue Date	Expiration Date	Extended Date	Revised Date(s)
-001	Steam Turbine Generator	AO51-254492	03/7/1995	03/6/1999		
		AO51-254492A	1/31/1996	03/6/2000		
-002	Oil Fired Steam Generator	AO51-169340	12/21/1989	12/18/1994	08/14/1996	01/31/1996
		1010017-001-AO	01/31/1996			

ID Number Changes (for tracking purposes):

From: **Facility ID No.:** 40TPA510017

To: **Facility ID No.:** 1010017

Permit #:1010017-001-A0 PATS:

Issue:31-JAN-1996 Expire:18-DEC-1994

Project #/Name	Owner/Company	Type/Sub	Receive
001/ANCLOTE UNIT NO. 2 USED O	FLORIDA POWER CORP.	AO /MM	07-NOV-1995
002/ANCLOTE UNIT NO. 1 RENEWA	FLORIDA POWER CORP.	AO /06	15-JUL-1994
003/ANCLOTE UNIT 1 &2	FLORIDA POWER CORP.	AV /00	14-JUN-1996
004/ANCLOTE UNITS 1 & 2	FLORIDA POWER CORP.	AC /1F	26-FEB-1998
005/ANCLOTE UNITS 1 & 2	FLORIDA POWER CORP.	AV /02	11-FEB-2000
/ANCLOTE PLANT UNIT 2	FLORIDA POWER CORP.	AO /2A	29-AUG-1989
/ANCLOTE POWER PLANT UNIT	FLORIDA POWER CORP.	AO /1A	15-JUL-1994
/		/	
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/		/	
/		/	

Working...

Please acknowledge message. (Ok)



News Release

Media Contact:
Melodye Hendrix
813/866-4282

Florida Gas Transmission (FGT)
Elaine Thomas
713/853-6814

Florida Power Corporation's Partial Conversion Of Plant To Natural Gas To Save Customers Money

St. Petersburg, FL (November 13, 1997) -- Florida Power Corporation announced today that it will partially convert two generating units at its Anclote power plant near Tarpon Springs to burn natural gas. This is expected to save customers from \$1 million to \$2 million annually in fuel expenses. The conversion project is part of Florida Power's commitment to provide competitively priced electricity to its customers.

One unit of the Anclote Plant will be capable of burning natural gas by fall of 1998. The second unit will be completed by spring of 1999. The units will be converted consecutively so that both are not out of operation at the same time. The two units have a capacity of generating a total of 1,050 megawatts.

The dual capability of burning natural gas or fuel oil allows Florida Power the flexibility of selecting the most competitively-priced fuel and taking advantage of the environmental aspects of the clean-burning natural gas. Florida Power currently has 20 generating units capable of burning natural gas.

Florida Gas Transmission (FGT) will install, own and operate a 22-mile connecting pipeline to deliver natural gas to the plant. Construction, for the most part using existing Florida Power right of way, is expected to begin in July, 1998 and to be completed in 90 days. The pipeline to the Anclote Plant will connect with FGT's existing pipeline near State Road 52 in Pasco County.

Florida Power Corporation and FGT will jointly sponsor an educational forum about the conversion project during the first week of December. Details about the forum will be announced later this month.

Florida Power Corporation is the primary subsidiary of St. Petersburg-based Florida Progress Corporation (NYSE:FPC) and serves 1.3 million customers in central and

northern Florida.

Florida Gas Transmission Company is a wholly owned subsidiary of Citrus Corp. which is jointly owned 50 percent by an Enron Corp. subsidiary and 50 percent by Sonat Inc.

###