



Florida Gas Transmission Company

P. O. Box 945100 Maitland, Florida 32794-5100 (407) 875-5800

Mr. Jeff Koerner, PE
Palm Beach County Health Department
Environmental Health and Engineering Division, Air Pollution Control Section
901 Evernia St.
West Palm Beach, Florida 33401

**Re: Turbine Replacement Station No. 21 Request for Additional Information
Project No. 099-0333-003-AC**

VIA OVERNIGHT MAIL

Dear Mr. Koerner:

Enclosed is the long awaited letter from Solar Turbines Incorporated (Solar), the manufacturer of the turbine at Compressor Station 21. Solar's letter describes the company's turbine exchange program. As you can read in the Solar letter, Solar maintains a fleet of exchange rebuilt turbines because of the need to exchange their turbines on a routine basis. Because the Solar replacement turbines are part of an exchange turbine fleet, Solar is not able to supply the serial numbers of replacement turbines. Solar will however, guarantee that the replacement turbines are the same models and horsepower as the turbines currently install at Station 21. Furthermore Solar guarantees that the refurbished turbines will incorporate the latest emission control devices, assuring the refurbished units will not exceed the current permitted emission rates.

I agree with the permitting process you outlined in your October 23, 1997 letter. Hopefully this letter from Solar is all you will need to proceed with your permitting process. If you do need any additional information, please do not hesitate to give me a call me at (407) 875-5865.

Thank you,

Clayton A. Roesler
Division Environmental Specialist
Florida Gas Transmission Company

Enclosure (1)

cc: Alan Linero and Teresa Herron FDEP Air Bureau
Pedro Sobero C/S 21
Mike Teal
Wayne Daniels
Jeff Whippo

cc: J. Linero
a. Linero

RECEIVED

APR 15 1998

BUREAU OF
AIR REGULATION

Solar Turbines[®]

A Caterpillar Company

Solar Turbines Incorporated

6128 Jefferson Highway
New Orleans, LA 70123
(504) 734-8241
Fax: (504) 736-9186

March 30, 1998

Mr. Clayton A. Roesler
Florida Gas Transmission Company
1967 Commonwealth Lane
Tallahassee, Florida 32303

Subject: Exchange Program for Major Components

Dear Mr. Roesler:

This program was created to take advantage of the ability afforded by Solar's aeroderivative turbomachinery design to quickly change out engine assemblies when an exchange engine is available in our exchange fleet. The advantage of this design concept is that an operator who needs to have his machinery overhauled can change out the used assembly and be back in operation in a few hours. The customer will receive an Exchange Assembly that has undergone a Major Overhaul and that meets the same emission guarantees of the customer's used assembly. An Exchange Assembly comes with all of the latest updates for that model already incorporated, taking advantage of the latest technology in engine durability, reliability and emissions control. Each of Solar's Exchange Components receives a Major Overhaul. Each Component is tested and accepted based on conformance with the same engineering specifications, horsepower and heat rate.

Solar maintains a fleet of major assemblies for exchange at strategic locations around the world. Exchange Units are sent to the user upon request when available. The unit requiring overhaul is then returned to a designated Solar turbine overhaul center, where an overhaul will be performed on that assembly. Most models and configurations are available from stock or can be made available in a short period of time.

As always, we appreciate your interest in Solar's products and services. Please contact me at 504/734-8241 should you have any questions or require additional information.

Sincerely,



Monty L. Reed
District Manager
Customer Services

MLR/Isd

Check Sheet

Company Name: Florida Gas Transmission
Permit Number: AC 50-229440
PSD Number:
County:
Permit Engineer:
Others involved:

Application:

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

Intent:

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

Final Determination:

- Final Determination
- Signed Permit
- BACT Determination
- Other

Post Permit Correspondence:

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

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

Folder Name: Florida Gas Transmission Company

Permit(s) Numbered:

AC 50 -229440

Documents:

Period during Detailed Description
which
document was
received

- | | |
|-------------|---|
| Application | 1. Modeling Data Received 12 April 1994 |
| | 2. 22" x ^{32"} 25" B&W Drawing: Appendix B, COMPRESSOR STATION NO. 21 PLOT PLAN (Drawing Number SO-1) |
| Post Permit | 3. 22" x ^{32"} 25" B&W Drawing: Attachment B Revised Plot Plan, PHASE III EXPANSION COMPRESSOR STATION 21 AIR PERMIT SITE PLAN (Drawing Number SO-1AP) |



DEC 21 1995

BUREAU OF
AIR REGULATION

CERTIFIED MAIL

NOTICE OF PERMIT

William E. Rome, Vice President of Operations
Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

ID NUMBER: 099-0333
AIR PERMIT NO.: 099-0333-002-AC
PROJECT: Compressor Station No. 21
West Palm Beach

Dear Mr. Rome:

Enclosed is Permit File Number 099-0333-002-AC to modify a source of air pollution located in Palm Beach County issued pursuant to Chapter 403.087, Florida Statutes. Any party to this Order (Permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Environmental Control Office at the Palm Beach County Public Health Unit, 901 Evernia Street, P.O. Box 29, West Palm Beach, Florida, 33402-0029; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within (30) days from the date this Notice is filed with the designated Health Unit Clerk.

Executed in West Palm Beach, Florida.

PALM BEACH COUNTY PUBLIC HEALTH UNIT

Frank J. Gargiulo, PE, Division Director
Environmental Health and Engineering

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF INTENT TO ISSUE PERMIT and all copies were mailed before the close of business on DEC 18 1995 to the listed persons.

FILING AND ACKNOWLEDGMENT: FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Health Unit Clerk, receipt of which is hereby acknowledged.

(Clerk)

DEC 18 1995
(Date)

cc: Joe Kahn, PE, Southeast District FDEP

Allan Weatherford, Division Environmental Specialist
Florida Gas Transmission Company
601 South Destiny Drive, Maitland, FL 32751

Al Linero, PE, Administrator of New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Road, Tallahassee, FL 32399-2400

DISTRICT IX

PALM BEACH COUNTY PUBLIC HEALTH UNIT • P.O. BOX 29 • WEST PALM BEACH, FLORIDA 33402

FINAL DETERMINATION

Palm Beach County Public Health Unit
Environmental Health and Engineering
Air Pollution Control Section
901 Evernia Street, P.O. Box 29
West Palm Beach, FL 33402-0029

December 18, 1995

FACILITY

Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

Authorized Representative: William E. Rome, Vice President of Operations

Location: UTM: Zone 17 ; 584.4 km E ; 2954.7 km N

Directions: Located on the east side of the Florida Turnpike and on the north side of Belvedere Road within the city limits of West Palm Beach.

PROJECT

Air Permit File Number 099-0333-002-AC
Air Construction Permit Modification
Compressor Station No. 21 supporting a natural gas transmission line. [SIC: 4922]
Synthetic (for NO_x and SO₂), Non-Title V, Minor Source of Air Pollution
Palm Beach County, Florida

COMMENTS, CORRECTIONS AND CHANGES

- 1.0. There were no comments from the public.
- 2.0 There were no comments from FDEP's New Source Review Section.
- 3.0 The applicant requested that the phrase "... described in this permit ..." be deleted from facility-wide specific condition number 2.1. This was acceptable to the Health Unit.
- 4.0 The Health Unit made the following changes:
 - 4.1 Section II. Specific Conditions:
 - (a) 2.1: Added the phrase "... Unless otherwise specified by rule or permit, ...".
 - 4.2 Section III. Emission Unit Specific Conditions. Subsection A:
 - (a) 1.1(b)(2): Deleted redundant condition on the NSPS sulfur content limit which was identical to condition number 2.1.
 - (b) 1.2(b): Moved state sulfur content limit to condition number 2.1(b) for consistency.
 - (c) 2.1: Incorporated changes as follows:

FINAL DETERMINATION

"2.1 Sulfur Content Limits for Fuel:

- (a) **New Source Performance Standards (NSPS):** Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG: The owner or operator shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight. [40 CFR 60.333(b)]
- (b) **State Limit:** In accordance with the original air construction permit [AC50-229440], the sulfur content of the fuel burned in each stationary gas turbine is limited to 10 grains per 100 standard cubic feet of natural gas on a monthly average."
- (d) **4.1(a)(3):** Added statement: "In addition, to show compliance with the state limit, NO_x emissions shall also be reported in parts per million by volume (ppmv) at 15% O₂ on a dry basis."
- (e) **Added the following condition:**

"4.4 **Testing Frequency** shall be established in the air pollution operation permit. [F.A.C. 62-297.340]"

4.3 Section III. Emission Unit Specific Conditions. Subsection B:

- (a) Conditions were changed to reflect the justification for exemption, the rule authority for the exemption, and the agency making the determination.

The final action of the Health Unit is to issue the air pollution construction permit with the above noted changes.

Filename: \0333002.FD

AIR POLLUTION CONSTRUCTION PERMIT

PALM BEACH COUNTY PUBLIC HEALTH UNIT
ENVIRONMENTAL HEALTH AND ENGINEERING
P.O. Box 29, West Palm Beach, Florida 33402-0029
Telephone: (407) 355-3070

ISSUED TO:

Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

ARMS No.:	099-0333
Permit No.:	099-0333-002-AC
Issued:	December 18, 1995
Expires:	December 18, 1996

Authorized Representative:
William E. Rome, Vice President of Operations

LOCATED AT:

Florida Gas Transmission Company
Description: Compressor field station No. 21 supporting a natural gas transmission line. [SIC: 4922]
UTM: Zone 17 ; 584.4 km E ; 2954.7 km N
Directions: *Located on the east side of the Florida Turnpike and on the north side of Belvedere Road within the city limits of West Palm Beach.*

STATEMENT OF BASIS:

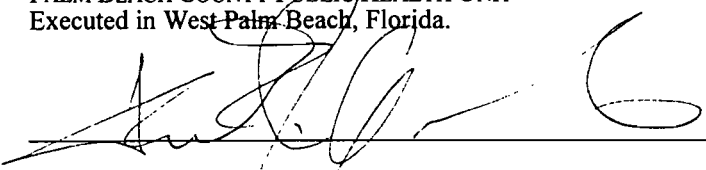
The Palm Beach County Public Health Unit (Health Unit) issues this permit under the provisions of: Chapter 403 of the Florida Statutes; the Florida Administrative Code Chapters 62-4, 62-103, 62-210, 62-296, and 62-297; and the Code of Federal Regulations Title 40, Part 60, Subpart GG. The above named permittee is authorized to construct 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 Health Unit and the Department of Environmental Protection (Department). The Department has permitting jurisdiction, under Florida Statutes 403.087, to issue or deny permits for sources of air pollution in the state of Florida. However, The Department and the Health Unit have entered into a Specific Operating Agreement which designates the Health Unit as the approved local air pollution control program in Palm Beach County. In this agreement, the Department delegated the authority to issue or deny permits to the Health Unit for this type of air pollution source located in Palm Beach County.

NOTE:

This permit revises and supersedes the original air construction permit number AC50-229440.

ISSUED BY:

PALM BEACH COUNTY PUBLIC HEALTH UNIT
Executed in West Palm Beach, Florida.



Frank J. Gargiulo, PE, Division Director
Environmental Health and Engineering

SECTION I. SUMMARY INFORMATION

PERMIT CONTENT

- Permit Section I - Summary Information
- Permit Section II - Facility-Wide Specific Conditions
- Permit Section III - Emission Unit Specific Conditions
- Appendix A - General Permit Conditions
- Appendix B - Definitions, Abbreviations, and Citation Format
- Appendix C - Forms and Application Procedures
- Appendix D - Summary of Testing Requirements
- Appendix E - Summary of NSPS Requirements
- Appendix F - Exempt and Insignificant Activities

EMISSION UNITS

This permit addresses the following emission units:

EMISSIONS UNIT NO.	EMISSIONS UNIT DESCRIPTION
01	Unit No. 2101 - Combustion turbine with compressor
02	Unit No. 2102 - Combustion turbine with compressor
03	Support equipment

REGULATORY CLASSIFICATION

This facility is subject to the requirements of F.A.C. 62-296.800(2)(a) which incorporates 40 CFR 60, Subpart GG, the New Source Performance Standards (NSPS) for Stationary Gas Turbines. Originally, this facility was designated as a Title V source because the Florida Administrative Code defined all facilities subject to NSPS as Title V sources. In mid 1995, the Florida legislature determined that a facility subject to NSPS must also trigger a Title V emissions threshold in order to be subject to Title V. Therefore, although subject to NSPS, this facility is classified as a minor, synthetic, non-Title V source based on the capacity of the equipment and the federally enforceable limitations of this air construction permit. During review of the application for an operation permit, the applicant requested: removal of emission limiting standards placed on several pollutants for which there was no rule basis; removal of the requirement to test these pollutants; removal of the requirement for annual testing; and a custom fuel monitoring schedule. The Bureau of Air Regulation approved these changes and authorized the Health Unit to revise this permit.

PERMIT HISTORY

- 12-15-95: Received proof of publication in the November 24th issue of the Palm Beach Post.
- 11-14-95: Issued Notice of Intent to Issue Permit No. 099-0333-002-AC.
- 11-02-95: Request to change testing and monitoring requirements in air construction permit (AC50-229440).
- 05-30-95: Bureau of Air Regulation extends construction permit (AC50-229440) from 6/30/95 to 1/30/96.
- 10-24-94: Florida Gas Transmission notifies the Bureau of Air Regulation and the Health Unit of change in the turbine model name *only* (from "Centaur-Taurus T-6502" to "Taurus 60").
- 10-19-93: Bureau of Air Regulation issues exemption from air permit requirements for a Mobile Field Compressor (Waukesha Model No. 6-LRORB-13).
- 09-24-93: Bureau of Air Regulation FDEP issues construction permit number AC50-229440.

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS

1.0 ADMINISTRATIVE

- 1.1 **Regulating Agencies:** All applications, reports, tests, and notifications shall be submitted to the Air Pollution Control Section of the Palm Beach County Public Health Unit (Health Unit) located at 901 Evernia Street (P.O. Box 29), West Palm Beach, Florida, 33402-0029, and phone number (407) 355-3070. In addition, *copies* shall be submitted to the Air Program, Southeast District Office, Florida Department of Environmental Protection (FDEP) located at 1900 South Congress Avenue (P.O. Box 15425), West Palm Beach, Florida, 33416-5425, and phone number (407) 433-2650. [Specific Operating Agreement]
- 1.2 **General Conditions:** The owner and operators shall be aware of, and operate under, the attached General Permit Conditions G.1 through G.15 listed in *Appendix A* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [F.A.C. 62-4.160]
- 1.3 **Terminology:** The terms used in this permit have specific meanings as defined in the corresponding chapter of the Florida Administrative Code. Key definitions, abbreviations, and rule citation formats are provided in *Appendix B*.
- 1.4 **Forms and Application Procedures:** The permittee shall use the applicable forms listed in F.A.C. Rule 62-210.900 and follow the application procedures in F.A.C. Chapter 62-4. These are summarized in *Appendix C* of this permit. [F.A.C. 62-210.900]
- 1.5 **Expiration:** This air construction permit shall expire on December 18, 1996. [F.A.C. 62-210.300(1)]
- 1.6 **Application for Operation Permit:** The applicant has previously submitted the processing fee and an application for an operation permit. This air construction permit revises specific permit conditions to reflect the current applicable requirements of the state. Emissions stack testing required by this permit has already been performed and shows satisfactory compliance with all standards. Therefore, the air operation permit will be issued based on this revised permit. *No further action is required of the applicant.* [F.A.C. 62-210.300(1)]
- 1.7 **Applicable Regulations:** This facility is subject to the following regulations: Florida Administrative Code Chapters 62-4; 62-103; 62-210; 62-296; 62-297; and the Code of Federal Regulations Section 40, Part 60. Specifically, the combustion gas turbines are subject to the New Source Performance Standards (NSPS) for Stationary Gas Turbines identified by the Code of Federal Regulations Section 40, Part 60, Subpart GG, and incorporated by reference in the Florida Administrative Code regulation 62-296.800(2)(a)37. 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. [F.A.C. 62-210.300(1) and the SOA]

2.0 EMISSION LIMITING STANDARDS

- 2.1 **General Visible Emissions Standard:** Unless otherwise specified by rule or permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere any air pollutants from new, or existing emissions units, the opacity of which is equal to or greater than 20 percent. [F.A.C. 62-296.310(2)]
- 2.2 **Unconfined Emissions of Particulate Matter** [F.A.C. 62-296.310(3)]
 - (a) The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.
 - (b) Reasonable precautions shall include the following:

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS

- Confining abrasives or dust from sand blasting, sanding, and/or grinding to the facility property.
- Cleaning and maintaining paved parking and traffic areas free of excess dust.
- Applying landscape, asphalt, water, chemicals, or other dust suppressants to unpaved roads, yards, open stock piles, and other sources of fugitive dust, as necessary.

NOTE: Facilities that cause frequent, valid complaints may be required by the Health Unit to take these or other reasonable precautions. In determining what constitutes reasonable precautions for a particular source, the Health Unit shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

2.3 General Pollutant Emission Limiting Standards: [F.A.C. 62-296.320]

- (a) The owner or operator shall not store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems.
- (b) No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

NOTE: An objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [F.A.C. 62-296.200(123)]

3.0 OPERATION AND MAINTENANCE

3.1 Changes/Modifications: The owner or operator shall submit to the Health Unit for review any changes in, or modifications to: the method of operation; process or pollution control equipment; increase in hours of operation; equipment capacities; or any change which would result in an increase in potential emissions. Depending on the size and scope of the modification, it may be necessary to submit an application for, and obtain, an air construction permit prior to making the desired change. *Routine maintenance of equipment would not constitute a modification of this permit.* [F.A.C. 62-4.030, 62-210.300 and 62-4.070(3)]

3.2 Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the owner or operator shall notify the Health Unit 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. [F.A.C. 62-4.130]

3.3 Circumvention: The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [F.A.C. Rules 62-210.650]

3.4 Excess Emissions Requirements [F.A.C. 62-210.700]

- (a) Excess emissions resulting from start-up, shutdown or malfunction of these emissions units shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized, but in no case exceed two hours in any 24 hour period unless specifically authorized by the Health Unit for longer duration. [F.A.C. 62-210.700(1)]

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS

- (b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited. [F.A.C. 62-210.700(4)]
- (c) In case of excess emissions resulting from malfunctions, the owner or operator shall notify the Air Pollution Control Section of the Palm Beach County Public Health Unit within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the problem; and the corrective actions being taken to prevent recurrence. [F.A.C. 62-210.700(6)]

4.0 TEST REQUIREMENTS

- 4.1 Test procedures shall meet all applicable requirements of the Florida Administrative Code Chapter 62-297. See *Appendix D* of this permit for a summary of these requirements. [F.A.C. 62-297.100]
- 4.2 Test Notification: The owner or operator shall notify the Health Unit in writing at least (30) days prior to each scheduled compliance test of the test date, the expected test time, the facility contact person for the test, and the person or company conducting test. The (30) day notification requirement may be waived at the discretion of the Health Unit. Likewise, if circumstances prevent testing during the test window specified for the emission unit, the owner or operator may request an alternate test date before the expiration of this window. [F.A.C. 62-297.340(1)(i) and 40 CFR 60.8]
- 4.3 Special Compliance Tests: When the Health Unit, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Rule 62-210, 62-212, 62-252, 62-272, 62-273, 62-275, 62-296, or 62-297, F.A.C. or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the Health Unit. [F.A.C 62-297.340(2)]
- 4.4 Stack Testing Facilities: The owner or operator shall install stack testing facilities in accordance with F.A.C. 62-297.345(1). These requirements are summarized in *Appendix D* of this permit.
- 4.5 Exceptions and Approval of Alternate Procedures and Requirements: An Alternate Sampling Procedure (ASP) may be requested from the Bureau of Air Regulation of the Florida Department of Environmental Protection in accordance with the procedures specified in F.A.C. Rule 62-297.620 and listed in *Appendix D* of this permit.

5.0 REPORTS AND RECORDS

- 5.1 Duration: All reports and records required by this permit shall be kept for at least (3) years from the date the information was recorded. [F.A.C. 62-160(14)(b)]
- 5.2 Emission Compliance Stack Test Reports:
 - (a) A test report indicating the results of the required compliance tests shall be filed with the Health Unit as soon as practical, but no later than 45 days after the last sampling run is completed. [F.A.C. 62-297.570(2)]
 - (b) The report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Health Unit 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 F.A.C. 62-297.570(3) and listed in *Appendix D* of this permit. Additional report information may also be specified in the emission unit subsection of this permit.

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS

- 5.3 **Excess Emissions Report:** If excess emissions occur, the owner or operator shall notify the Air Compliance Section of the Health Unit 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 Health Unit may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, which are summarized in *Appendix E* of this permit. [F.A.C 62-4.130 and 62-210.700(6)]
- 5.4 **Annual Operating Report for Air Pollutant Emitting Facility:** Before March 1st of each year, the owner or operator shall submit to the Health Unit this required report [DEP Form No. 62-210.900(5)], which summarizes operations for the previous calendar year. [F.A.C. 62-210.370(2)]

6.0 OTHER REQUIREMENTS

- 6.1 **Waste Disposal:** The owner or operator shall treat, store, and dispose of all liquid, solid, and hazardous wastes in accordance with all applicable Federal, State, and Local regulations. This air pollution permit does not preclude the permittee from securing any other types of required permits, licenses, or certifications.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

SUBSECTION A. This subsection addresses the following emission units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
01	Unit No. 2101: 6500 bhp natural gas-fired combustion turbine with compressor (Solar Turbines, Inc. Model No. Taurus 60)
02	Unit No. 2102: 6500 bhp natural gas-fired combustion turbine with compressor (Solar Turbines, Inc. Model No. Taurus 60)

1.0 EMISSION LIMITING STANDARDS

1.1 New Source Performance Standards (NSPS): Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG:

(a) **Standard for Nitrogen Oxides. [40 CFR 60.332(a), (c)]**

No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = (0.015) \times [14.4 \div Y] + F$$

Where:

STD = Allowable NO_x emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = Manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO_x emission allowance for fuel-bound nitrogen as defined in the following table:

Fuel bound nitrogen (percent by weight)	F (NO _x percent by volume)
N < or = 0.015	0
0.015 < N < or = 0.1	0.04 x (N)
0.1 < N < or = 0.25	0.004 + (0.0067) x (N - 0.1)
N > 0.25	0.005

Where, (N) is the nitrogen content of the fuel (percent by weight), **OR,**

Manufacturers may develop custom fuel-bound nitrogen allowances for each gas turbine model they manufacture. These fuel-bound nitrogen allowances shall be substantiated with data and must be approved for use by the Administrator before the required initial performance test. Notices of approval of custom fuel-bound nitrogen allowances will be published in the Federal Register.

(b) **Standard for Sulfur Dioxide. [40 CFR 60.333(a)]**

The owner or operator shall not cause to be discharged into the atmosphere from any gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

- 1.2 State NOx Limits: In accordance with the original air construction permit [AC50-229440], nitrogen oxide emissions from each stationary gas turbine shall not exceed 42 parts per million by volume at 15 percent oxygen, on a dry basis.
- 1.3 Visible Emissions: Visible emissions from the stationary gas turbine exhaust stacks shall not exceed 20% opacity. [F.A.C. 62-296.310(2)]

2.0 OPERATIONAL RESTRICTIONS

2.1 Sulfur Content Limits for Fuel:

- (a) New Source Performance Standards (NSPS): Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG: The owner or operator shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight. [40 CFR 60.333(b)]
- (b) State Limit: In accordance with the original air construction permit [AC50-229440], the sulfur content of the fuel burned in each stationary gas turbine is limited to 10 grains per 100 standard cubic feet of natural gas on a monthly average.

- 2.2 Unrestricted Hours of Operation: The stationary gas turbines may operate continuously at 8760 hours per year. [Applicant Request]

2.3 Operational Limitations: [F.A.C. 62-4.070(3) and Permit No. AC50-229440]

- (a) Fuel for each turbine is limited to natural gas with a maximum fuel consumption rate not to exceed (0.0684) million cubic feet per hour (*based on a daily average*).
- (b) For each stationary gas turbine, the maximum design heat input shall not exceed (71.52) mm BTU per hour (*based on the daily average fuel consumption and the typical heat content of the natural gas determined from the most recent fuel analysis*).

3.0 CONTINUOUS ASSURANCE MONITORING (CAM) REQUIREMENTS

- 3.1 New Source Performance Standards (NSPS): Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG:

(a) Monitoring of operations. [40 CFR 60.334(b)]

The owner or operator shall monitor the sulfur content and nitrogen content of the fuel being fired in the gas turbines. The frequency of determination of these values shall be as follows:

- (1) If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
- (2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. However, owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Health Unit before they can be used to comply with this requirement. *Custom schedules shall be included as conditions of the operation permit.*

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

- (b) **Excess Emissions.** [40 CFR 60.334(c)]: Reportable periods of excess emissions shall be defined as follows:
- (1) *Nitrogen oxides.* Any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in 60.8. Each report shall include the average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions.
 - (2) *Sulfur dioxide.* Any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 percent.

Periods of excess emissions shall be reported in accordance with 40 CFR 60.7, summarized in *Appendix E* of this permit..

- 3.2 Continuous Assurance Monitor (CAM) for Fuel Consumption: In accordance with the manufacturer's recommendations, the owner or operator shall install, calibrate, maintain, and operate a monitoring system to continuously record the natural gas consumption. The system shall be accurate to within 5.0 percent. The monitoring equipment shall be on line and functioning properly while the gas turbines are in operation. [40 CFR 60.334(a) and F.A.C. 62-4.070(3)]

4.0 TESTING REQUIREMENTS

- 4.1 New Source Performance Standards (NSPS): Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG:

- (a) **EPA Method 20 Stack Test Methods and Procedures.** [40 CFR 60.335]

To show compliance with the NSPS emission limiting standards, the owner or operator shall have EPA Method 20 conducted on each gas turbine to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The performance test shall be conducted in accordance with: the test methods and procedures defined in 40 CFR 60, Appendix A; the requirements of 40 CFR 60.8 (included in *Appendix E* of this permit); and the following requirements:

- (1) *Span Values:* The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. [40 CFR 60.335(c)]
- (2) *Initial Test:* Within 60 days after achieving the maximum production rate at which the gas turbines will be operated, but not later than 180 days after initial startup, the owner or operator of such facility shall conduct the initial performance tests and furnish the Health Unit with a written report of the results. [40 CFR 60.8]
- (3) *NO_x Correction:* The nitrogen oxides emissions (NO_x) shall be computed for each run using the following equation [40 CFR 60.335(c)(1)]:

$$NO_x = (NO_{xO}) \times (P_R / P_O) \times (0.5) \times (e^{(19) \times (H_o - 0.00633)}) \times (288^\circ K \div T_A) \times (1.53)$$

Where:

NO _x	=	NO _x emissions at 15% O ₂ and ISO standard ambient conditions, volume percent.
NO _{xO}	=	Observed NO _x concentration, ppm by volume.
P _R	=	Reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

P_O	=	Observed combustor inlet absolute pressure at test, mm Hg.
H_o	=	Observed humidity of ambient air, grams H_2O per gram of air.
e	=	Transcendental constant, 2.718.
T_A	=	Ambient temperature, °K.

In addition, to show compliance with the state limit, NO_x emissions shall also be reported in parts per million by volume (ppmv) at 15% O_2 on a dry basis.

- (4) *Alternate Test Method:* Instead of using the equation specified to correct for NO_x , manufacturers may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test to ISO standard day conditions. These factors are developed for each gas turbine model they manufacture in terms of combustion inlet pressure, ambient air pressure, ambient air humidity, and ambient air temperature. They shall be substantiated with data and must be approved for use by the Administrator before the initial required performance test. Notices of approval of custom ambient condition correction factors will be published in the Federal Register. [40 CFR 60.335(f)(1)]
- (b) **Fuel Sampling and Analyses:** To show compliance with the nitrogen and sulfur contents of the fuel being burned, the owner or operator shall use the following sampling and analyses methods:
 - (1) To compute the nitrogen oxides emissions, the owner or operator shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator to determine the nitrogen content of the fuel being fired. [40 CFR 60.335(a)]
 - (2) The owner or operator shall determine compliance with the sulfur content of the fuel as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator. [40 CFR 60.335(d)]

The 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. [40 CFR 60.335(e)]

- 4.2 **Visible Emissions Tests:** To show compliance with the visible emissions (opacity) standard of this permit, the owner or operator shall have EPA Method 9, *Visual Determination of the Opacity of Emissions from Stationary Sources*, conducted in accordance with the methods and procedures provided in 40 CFR 60, Appendix A. The test shall be conducted for at least (30) minutes. [F.A.C. 62-297.340]
- 4.3 **Fugitive Leak Assessment:** The owner or operator shall perform a visual inspection of the gas turbine, compressor engine, filters, exhaust stack and ductwork, and natural gas piping system for rust spots, cracks, leaks, and/or odors. In addition, all safety mechanisms shall be inspected in order to ensure proper functioning. A report on the findings of the inspection and any corrective actions taken shall be submitted along with the required visible emission test report. [F.A.C 62-4.070(3)]
- 4.4 **Testing Frequency** shall be established in the air pollution operation permit. [F.A.C. 62-297.340]

4.0 RECORDS AND REPORTS

- 4.1 **Fuel Sampling Log:** The owner or operator shall record and keep the results of the required fuel sampling and analyses in a log suitable for inspection. This log shall remain on site at the facility and made available to the Health Unit upon request. At a minimum this log shall include [F.A.C. 62-4.070(3)]:

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

- Date fuel sample was taken and by which party.
- Method of analyses.
- Party performing analyses.
- Results of analyses: nitrogen content in percent by weight; sulfur content in percent by weight *and* grains per 100 standard cubic feet of natural gas; and heat content in mmBTU per standard cubic feet of natural gas.

4.2 Test Reports: The following reports shall be submitted to the Health Unit indicating the results of the tests required by this subsection :

(a) *EPA Method 20*: The report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Health Unit 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 62-297.570(3), F.A.C., and included in *Appendix D* of this permit. [40 CFR 60.335]

(b) *EPA Method 9*: This test report shall include the following information [F.A.C. 62-4.070(3)]:

- Visible Emissions Observation Form.
- Observer Certification.
- Average natural gas consumption rate.
- Compliance status.
- Results of Fugitive Leak Assessment.

4.3 CAM Log for Fuel Consumption: The owner or operator shall maintain a complete file of all measurements, including continuous monitor system, monitoring device, and performance testing measurements; all continuous monitor system performance evaluations; all continuous monitor system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required, recorded in a permanent legible form suitable for inspection. The file shall be retained at the facility for at least three years following the date of such measurements, maintenance, reports and records. [F.A.C. 62-4.070(3)]

4.4 Daily Operation and Maintenance (O&M) Log: Operators shall keep a daily O&M log to include, *at a minimum*, the following information [F.A.C. 62-4.070(3)]:

- Date.
- Name of operator.
- Average fuel consumption in million cubic feet of natural gas per hour.
- Average heat input in mmBTU per hour (*based on the average fuel consumption and the typical heat content determined by the most recent sampling and analysis*).
- Any maintenance performed on the gas turbines and/or monitoring equipment. (*Log should indicate the problem, the maintenance or repair made, and the person or company performing the work*.)
- Any comments on the performance of the gas turbines beneficial to the next operator.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

SUBSECTION B. This subsection addresses the following emissions units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
03	Support Equipment , including: a 184 bhp natural gas fired emergency generator; a Mobile Field Compressor; a 2000 gallon new lube oil tank; a 4200 gallon condensate tank; a 300 gallon oily water tank; a 600 gallon used lube oil tank; a 4200 gallon oily water tank; and fugitive emissions from valves, flanges, and fittings. (See Appendix F for a list of insignificant and/or exempt activities or emissions units).

1.0 CONDITIONAL EXEMPTIONS

1.1 The following sources of air pollution have been *conditionally exempt* from the requirement to obtain an air pollution permit by the Florida Department of Environmental Protection's Bureau of Air Regulation on October 19, 1993 [F.A.C. 62-210.300]:

(a) **184 hp natural gas fired emergency electrical generator:**

- (1) Shall not operate more than 400 hours per consecutive (12) month period.
- (2) Fuel shall be limited to natural gas.

(b) **439 hp Mobile Field Compressor (Waukesha Model 6-LRORB-13):**

- (1) Shall not operate more than 168 hours per consecutive (12) month period.
- (2) Fuel shall be limited to natural gas.

2.0 NEGIGIBLE SOURCES OF POLLUTANT EMISSIONS

2.1 The following activities were identified in the application for this permit as sources of fugitive emissions of volatile organic compounds:

- 2000 gallon new lube oil tank
- 4200 gallon condensate tank
- 300 gallon oily water tank
- 600 gallon used lube oil tank
- 4200 gallon oily water tank
- fugitive emissions from valves, flanges, and fittings

The Health Unit determines these activities to emit negligible amounts of fugitive emissions of volatile organic compounds and exempts them from the requirement to obtain an air pollution permit. [F.A.C. 62-4.040(1)(b) and the Palm Beach County Specific Operating Agreement.]

LIST OF APPENDICES

ATTACHMENT	DESCRIPTION
A	General Permit Conditions
B	Definitions, Abbreviations, and Citation Format
C	Forms and Permit Application Procedures
D	Summary of State Testing Requirements
E	Summary of Miscellaneous NSPS Requirements
F	Exempt and Insignificant Sources

APPENDIX A
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.

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.

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

- 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 (*BACT is not applicable*);
 - (b) Determination of Prevention of Significant Deterioration (*PSD is not applicable*); and
 - (c) Compliance with New Source Performance Standards (*NSPS is applicable*).
- 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.

APPENDIX B
DEFINITIONS, ABBREVIATIONS, AND CITATION FORMAT

62-296.200 Definitions.

The following words and phrases when used in this chapter shall, unless content clearly indicates otherwise, have the following meanings:

- (12) Allowable Emissions: The emission rate calculated using the maximum rated capacity of the emissions unit, as limited or modified by any state or federally enforceable restrictions on the operating rate or hours of operation, or both, and the most stringent state or federal emission limiting standard applicable to the emissions unit; or the maximum allowable emission rate specified by any state or federally enforceable permit conditions.
- (56) Department: The State of Florida Department of Environmental Protection.
- (59) Emission: The discharge or release into the atmosphere of one or more air pollutants.
- (60) Emission Limiting Standard or Emission Standard or Emission Limitation or Performance Standard: Any restriction established in or pursuant to a regulation adopted by the Department which limits the quantity, rate, concentration or opacity of any pollutant released, allowed to escape or emitted, whether intentionally or unintentionally, into the atmosphere, including any restriction which prescribes equipment, sets fuel specifications, or prescribes operation or maintenance procedures for an emissions unit to assure emission reduction or control.
- (61) Emission Point or Discharge Point: The point at which an air pollutant first enters the atmosphere.
- (62) Emissions Unit: Any part or activity of a facility that emits or has the potential to emit any air pollutant.
- (65) Environmental Protection Agency or EPA: The United States Environmental Protection Agency.
- (66) Excess Emissions: Emissions of pollutants in excess of those allowed by any applicable rule of the Department or by a permit issued pursuant to any such rule or Chapter 62-4, F.A.C. The term applies only to conditions which occur during startup, shutdown, sootblowing, load changing or malfunction.
- (72) Facility: All of the emissions units which are located on one or more contiguous or adjacent properties and which are under the control of the same person (or persons under common control).
- (107) Malfunction: Any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.
- (122) Nonattainment Area: Any area not meeting ambient air quality standards and designated as a nonattainment area under Rule 62-275.410, F.A.C. Such an area may be designated as a particulate, sulfur dioxide, nitrogen dioxide, carbon monoxide, lead or ozone nonattainment area, depending on which ambient standard has been violated. An area may be designated as nonattainment for more than one air pollutant. Ozone nonattainment areas may be transitional, marginal, moderate, serious, severe, or extreme as classified in Rule 62-275.410, F.A.C. *Palm Beach County is currently designated as a moderate nonattainment area for the pollutant ozone.*
- (123) Objectionable Odor: Any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.
- (126) Opacity: A condition which renders material partially or wholly impervious to rays of light causing obstruction of observer's view.
- (131) Owner or Operator: Any person or entity who or which owns, leases, operates, controls or supervises an emissions unit or facility.

APPENDIX B
DEFINITIONS, ABBREVIATIONS, AND CITATION FORMAT

- (159) **Secretary**: The Secretary of the Department of Environmental Protection.
- (161) **Shutdown**: The cessation of the operation of an emissions unit for any purpose.
- (171) **Stack**: A pipe, duct, chimney, or other functionally equivalent device that confines and conveys air pollutants from an emissions unit or group of emissions units into the atmosphere through an emission point designed to discharge air pollutants into the atmosphere, but not including flares.
- (174) **Startup**: The commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
- (192) **Unconfined Emissions**: Emissions which escape and become airborne from unenclosed operations or which are emitted into the atmosphere without being conducted through a stack.
- (199) **Visible Emission**: An emission greater than 5 percent opacity as measured by standard methods.

ABBREVIATIONS:

°F: Degrees Fahrenheit

CFR: Code of Federal Regulations

DARM: Division of Air Resource Management, Florida Department of Environmental Protection

EPA: United States Environmental Protection Agency

F.A.C.: Florida Administrative Code

FDEP: Florida Department of Environmental Protection

F.S.: Florida Statutes

Health Unit: Palm Beach County Public Health Unit, Division of Environmental Science and Engineering

LAT: Latitude

LONG: Longitude

PBCPHU: Palm Beach County Public Health Unit, Division of Environmental Science and Engineering

PTE: Permanent Total Enclosure

SOA: Palm Beach County Specific Operating Agreement

UTM: Universal Transverse Measurements

VOC: Volatile Organic Compounds

APPENDIX B
DEFINITIONS, ABBREVIATIONS, AND CITATION FORMAT

CITATION FORMAT

The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, guidance memorandums, ID numbers, and permit numbers.

Guidance Memorandums from the Bureau of Air Regulation, Florida Department of Environmental Protection:

Example: [DARM-PER/GEN-12] (Refers to a specific, numbered guidance memorandum.)

Florida Administrative Code (F.A.C.) Regulations:

Example: [F.A.C. 62-4.070]

Where: 62 - Title 62
62-4 - Chapter 62-4
62-4.070 - Rule 62-4.070

Code of Federal Regulations:

Example: [40 CFR 60.334]

Where: 40 - Title 40
CFR - Code of Federal Regulations
60 - Part 60
60.334 - Rule 60.334

Permit or Application File Numbers:

Example: 099-0333-002-AC, or
099-0333-001-AO

Where:

AC - Air Construction Permit
AO - Air Operation Permit
099 - Number code identifying the facility is located in Palm Beach County
0333 - 4-digit facility identification number assigned by permit tracking database
001 or 002 - 3-digit sequential file number assigned by permit tracking database

Air Resources Management System (ARMS) Identification (ID) Number:

Example: ARMS ID No.: 099-0333

Where:

099 = Number code identifying the facility is located in Palm Beach County.
0333 = 4-digit facility identification number assigned by state database.

APPENDIX D
SUMMARY OF STATE TESTING REQUIREMENTS

This chapter was transferred from Title 17, effective Aug. 10, 1994, due to a merger of the Department of Environmental Regulation and the Department of Natural Resources. This attachment is ONLY a summary of portions of this chapter that may be of interest to the permittee for this particular facility. Please contact the Health Unit for a complete set of the rules of this chapter or regarding any questions concerning this chapter at 901 Evernia Street, West Palm Beach, Florida, 33401, phone number (407) 355-3070.

62-297.100 Purpose and Scope.

This chapter, along with Rules 62-252.500, 62-296.500, 62-296.800 and 62-296.810, F.A.C., establishes the test procedures that shall be used to determine the compliance of air pollutant sources with emission limiting standards specified in or established pursuant to any provisions of Rule 62-210, 62-212, 62-252, 62-272, 62-273, 62-275, 62-296, or 62-297, F.A.C.

62-297.330 Applicable Test Procedures.

This section, along with Rules 62-296.800 and 62-296.810, F.A.C., identifies the DEP and EPA test methods that are applicable for conducting compliance tests for all air pollution sources for which an emission limiting standard is specified in or established pursuant to Rule 62-210, 62-212, 62-252, 62-272, 62-273, 62-275, 62-296, or 62-297, F.A.C., and establishes required sampling times, minimum sample volumes and special test requirements, as applicable, for each category of sources.

(1) Required Sampling Time.

- (a) Unless otherwise specified in Table 297.330-1, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
- (b) Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified (in Table 297.330-1) as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for major sources, and thirty (30) minutes for minor sources not subject to a multiple valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - 1. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
 - 2. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.340(3), F.A.C., Waiver of Compliance Test Requirement, shall be established on a case-by-case basis as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
 - 3. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(2) Minimum Sample Volume. Unless otherwise specified in the following table the minimum sample volume per run shall be 25 dry standard cubic feet.

(3) Required Flow Rate Range. For DEP Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the

APPENDIX D
SUMMARY OF STATE TESTING REQUIREMENTS

average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

- (4) Calibration. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.330-2.
- (5) EPA Method 5. When EPA Method 5 is cited in Table 297.330-1 the following modification is allowed; the heated filter may be separated from the impingers by a flexible tube.
- (6) Alternate Test Procedures, Not Subject to Prior Approval. A visible emission test indicating no visible emissions (5 percent opacity) may be submitted in lieu of a particulate stack test for materials handling sources subject to Rule 62-296.711, F.A.C., where the source is equipped with a baghouse.

62-297.345 Stack Sampling Facilities Provided by the Owner of an Air Pollution Point Source.

This section describes the minimum requirements for stack sampling facilities that are necessary to sample point sources. Sampling facilities include sampling ports, work platforms, access and electrical power. Sources must provide these facilities at their expense. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR 1910, Subparts D and E. A copy of this reference document is available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. and may be inspected at the Department's Tallahassee office.

- (1) Permanent Test Facilities. The owner or operator of a source that is required to conduct a compliance test, other than a visible emission test, on at least an annual basis, shall install and maintain permanent stack testing facilities.
- (2) Temporary Test Facilities. The owner or operator of a source that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary test facilities. If the owner chooses to use temporary test facilities on any source, such temporary facilities shall be installed on the source within 5 days of a request by the Department and remain on the source until the test is completed.
- (3) Test Facilities.
 - (a) Sampling Ports.
 1. All sampling ports shall have a minimum inside diameter of 3 inches.
 2. The ports shall be capable of being sealed when not in use.
 3. Location of sampling ports.
 - a. The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, construction or other flow disturbances.
 - b. For sources which do not comply with the criteria set forth in a. above, the source owner or operator shall demonstrate to the Department, within 12 months after the effective date of this rule, that sampling port locations for such source are not subject to flow disturbances which result in invalid test results. If the source cannot make such a demonstration to the Department's satisfaction, the Department, after full review of all data timely submitted by the source, shall specify appropriate sampling procedures or port locations in the source's operating permit.

APPENDIX D
SUMMARY OF STATE TESTING REQUIREMENTS

4. For sources for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For sources for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
 5. On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. For sources not subject to Rule 62-296.800, F.A.C., (Standards of Performance for New Stationary Sources) or Rule 62-296.810, F.A.C., (Emissions Standards for Hazardous Air Pollutants) and which have submitted a complete application for a permit to construct prior to December 1, 1980, DEP Method 1 may be substituted for EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.
- (b) Work Platforms.
1. Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
 2. On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
 3. On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
 4. All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.
- (c) Access.
1. Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
 2. Walkways over free fall areas shall be equipped with safety rails and toe boards.
- (d) Electrical Power.
1. A minimum of two 120 volts AC, 20 amps outlets shall be provided at the sampling platform with 20 feet of each sampling port.
 2. If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.
- (e) Sampling Equipment Support.
1. An eyebolt and angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts. The eyebolt shall be capable of supporting a 500

APPENDIX D
SUMMARY OF STATE TESTING REQUIREMENTS

pound working load. The dimensions and placement of these fixtures are shown on Figure 297.345-1. A complete monorail or dual rail arrangement may be substituted for the eyebolt and bracket.

2. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.
3. When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

62-297.570 Test Reports.

- (1) The owner or operator of an air pollution source, for which a compliance test is required, shall file a report with the Department on the results of each such test.
- (2) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
- (3) The test report shall provide sufficient detail on the source tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than an EPA or DEP Method 9 test, shall provide information on:
 - (a) The type, location, and designation of the source tested.
 - (b) The facility at which the source is located.
 - (c) The owner or operator of the source.
 - (d) The normal type and amount of fuels used and materials processed and the types and amounts of fuels used and material processed during each test run.
 - (e) The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 - (f) The type of air pollution control devices installed on the source, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 - (g) A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 - (h) The date, starting time and duration of each sampling run.
 - (i) The test procedures used including any alternative procedures authorized pursuant to Rule 62-297,620, F.A.C.. Where optional procedures are authorized in this chapter, indicate which option was used.
 - (j) The number of points sampled and configuration and location of the sampling plane.
 - (k) For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
 - (l) The type, manufacturer and configuration of the sampling equipment used.
 - (m) Data related to the required calibration of the test equipment.
 - (n) Data on the identification, processing and weights of all filters used.
 - (o) Data on the types and amounts of any chemical solutions used.
 - (p) Data on the amount of pollutant collected from each; the sampling probe, the filters, and the impingers, are reported separately for the compliance test.
 - (q) The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
 - (r) All measured and calculated data required to be determined by each applicable test procedure for each run.
 - (s) The detailed calculations for one run that relate the collected data to the calculated emission rate.
 - (t) The applicable emission standard, and the resulting maximum allowable emission rate for the source, plus the test result in the same form and unit of measure.

APPENDIX D
SUMMARY OF STATE TESTING REQUIREMENTS

- (u) A certification that to the knowledge of the owner or his authorized agent, all data submitted is true and correct.

When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

60.7 Notification and record keeping.

- (a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification as follows:
- (1) A notification of the date construction (or reconstruction as defined under 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
 - (2) A notification of the anticipated date of initial startup of an affected facility postmarked not more than 60 days nor less than 30 days prior to such date.
 - (3) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.
 - (4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
 - (5) A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.
 - (6) A notification of the anticipated date for conducting the opacity observations required by 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.
 - (7) A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 60.8 in lieu of Method 9 observation data as allowed by 60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.
- (b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
- (c) Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

- (1) The magnitude of excess emissions computed in accordance with 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
 - (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
 - (3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
 - (4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- (d) The summary report form shall contain the information and be in the format shown in figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility. *(See page E-4 for Figure 1.)*
- (1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 60.7(c) need not be submitted unless requested by the Administrator.
 - (2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 60.7(c) shall both be submitted.
- (e) (1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:
- (i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;
 - (ii) The owner or operator continues to comply with all record keeping and monitoring requirements specified in this subpart and the applicable standard; and
 - (iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.
- (2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required record keeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

- (3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.
- (f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records.
- (g) If notification substantially similar to that in paragraph (a) of this section is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of paragraph (a) of this section.
- (h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

Figure 1--Summary Report-- Gaseous and Opacity Excess Emission and Monitoring System Performance

Pollutant (*Circle One*): SO₂ NO_x TRS H₂S CO Opacity

Reporting period dates: From _____ to _____

Company: _____

Emission Limitation: _____

Address: _____

Monitor Manufacturer: _____

Model No.: _____

Date of Latest CMS Certification or Audit: _____

Process Unit(s) Description: _____

Total source operating time in reporting period: _____

Emission data summary ^{1,2}	CMS performance summary ^{1,2}
<ol style="list-style-type: none"> 1. Duration of excess emissions in reporting period due to: <ol style="list-style-type: none"> a. Startup/shutdown b. Control equipment problems c. Process problems d. Other known causes e. Unknown causes 2. Total duration of excess emissions 3. Total duration of excess emissions x (100) / [Total source operating time] 	<ol style="list-style-type: none"> 1. CMS downtime in reporting period due to: <ol style="list-style-type: none"> a. Monitor equipment malfunctions b. Non-Monitor equipment malfunctions c. Quality assurance calibration. d. Other known causes e. Unknown causes 2. Total CMS Downtime 3. [Total CMS Downtime] x (100) / [Total source operating time]

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 60.7(c) shall be submitted.

Note: On a separate page, describe any changes since last quarter in CMS, process or controls.

I certify that the information contained in this report is true, accurate, and complete.

Name: _____

Signature: _____

Date: _____

Title: _____

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

60.8 Performance tests.

- (a) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).
- (b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.
- (c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
- (d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present.
- (e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:
 - (1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
 - (2) Safe sampling platform(s).
 - (3) Safe access to sampling platform(s).
 - (4) Utilities for sampling and testing equipment.
- (f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

60.330 Applicability and designation of affected facility.

- (a) The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour, based on the lower heating value of the fuel fired.
- (b) Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after October 3, 1977, is subject to the requirements of this part except as provided in paragraphs (e) and (j) of 60.332.

60.331 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

- (a) Stationary gas turbine means any simple cycle gas turbine, regenerative cycle gas turbine or any gas turbine portion of a combined cycle steam/electric generating system that is not self propelled. It may, however, be mounted on a vehicle for portability.
- (b) Simple cycle gas turbine means any stationary gas turbine which does not recover heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine, or which does not recover heat from the gas turbine exhaust gases to heat water or generate steam.
- (c) Regenerative cycle gas turbine means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine.
- (d) Combined cycle gas turbine means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to heat water or generate steam.
- (e) Emergency gas turbine means any stationary gas turbine which operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation.
- (f) Ice fog means an atmospheric suspension of highly reflective ice crystals.
- (g) ISO standard day conditions means 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.
- (h) Efficiency means the gas turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output based on the lower heating value of the fuel.
- (i) Peak load means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.
- (j) Base load means the load level at which a gas turbine is normally operated.
- (k) Fire-fighting turbine means any stationary gas turbine that is used solely to pump water for extinguishing fires.
- (l) Turbines employed in oil/gas production or oil/gas transportation means any stationary gas turbine used to provide power to extract crude oil/natural gas from the earth or to move crude oil/natural gas, or products refined from these substances through pipelines.
- (m) A Metropolitan Statistical Area or MSA as defined by the Department of Commerce.
- (n) Offshore platform gas turbines means any stationary gas turbine located on a platform in an ocean.
- (o) Garrison facility means any permanent military installation.

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

- (p) Gas turbine model means a group of gas turbines having the same nominal air flow, combustor inlet pressure, combustor inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.
- (q) Electric utility stationary gas turbine means any stationary gas turbine constructed for the purpose of supplying more than one-third of its potential electric output capacity to any utility power distribution system for sale.
- (r) Emergency fuel is a fuel fired by a gas turbine only during circumstances, such as natural gas supply curtailment or breakdown of delivery system, that make it impossible to fire natural gas in the gas turbine.
- (s) Regenerative cycle gas turbine means any stationary gas turbine that recovers thermal energy from the exhaust gases and utilizes the thermal energy to preheat air prior to entering the combustor.

APPENDIX F
EXEMPT AND INSIGNIFICANT SOURCES

The following items have been identified by the owner as emitting negligible amounts of air pollution and are exempt from the requirements to obtain an air pollution permit.

Description of Equipment or Activity	Insignificant / Exempt
184 bhp natural gas fired emergency generator	Conditional exemption issued by FDEP's Bureau of Air Regulation on October 19, 1993 pursuant to F.A.C. 62-210.300.
439 Hp natural gas fired mobile field compressor	Conditional exemption issued by FDEP's Bureau of Air Regulation on October 19, 1993 pursuant to F.A.C. 62-210.300 and 62-4.040.
2000 gallon new lube oil tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
4200 gallon condensate tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
300 gallon oily water tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
600 gallon used lube oil tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
4200 gallon oily water tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
Fugitive emissions of natural gas from valves, flanges, and fittings.	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040



RECEIVED

CERTIFIED MAIL

NOTICE OF PERMIT

JAN 08 1996

William E. Rome, Vice President of Operations
Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

BUREAU OF
AIR REGULATION
AIR PERMIT NO.: 099-0333-001-AO
PALM BEACH COUNTY
PROJECT: Compressor Station No. 21
West Palm Beach, Florida

Dear Mr. Rome:

Enclosed is Permit File Number 099-0333-001-AO to operate a minor source of air pollution located in Palm Beach County issued pursuant to Chapter 403.087, Florida Statutes.

Through a specific operating agreement with the Department of Environmental Protection, the Palm Beach County Public Health Unit (hereafter referred to as the Health Unit) has been delegated the authority to issue or deny permits for air pollution sources in Palm Beach County.

A person whose substantial interests are affected by this permit may petition for an administrative proceeding (hearing), in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Environmental Control Office of the Palm Beach County Public Health Unit at 901 Evernia Street, P.O. Box 29, West Palm Beach, Florida, 33402-0029, within (14) days of receipt of this Permit. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes. The Petition shall contain the following information:

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

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

This permit is final and effective on the date filed with the designated Clerk of the Health Unit unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the

time specified for filing a petition and conforms to Rule 62-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Health Unit.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Environmental Control Office of the Palm Beach County Public Health Unit at the above address; 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 thirty (30) days from the date the Final Order is filed with the Environmental Control Office of the Palm Beach County Public Health Unit.

Executed in West Palm Beach, Florida.

PALM BEACH COUNTY PUBLIC HEALTH UNIT

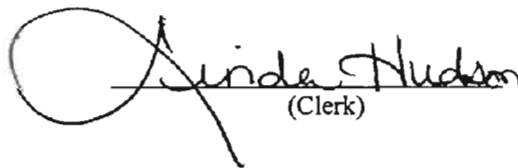


Frank J. Gargiulo, PE, Division Director
Environmental Health and Engineering

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT ISSUANCE and all copies were mailed before the close of business on JAN 4 1996 to the listed persons.

FILING AND ACKNOWLEDGMENT: FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Clerk, receipt of which is hereby acknowledged.



(Clerk)

JAN 4 1996
(Date)

cc: Joe Kahn, PE, Southeast District FDEP

Allan Weatherford, Division Environmental Specialist
Florida Gas Transmission Company
601 South Destiny Drive, Maitland, FL 32751

Al Linero, PE, Administrator of New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Road, Tallahassee, FL 32399-2400

AIR POLLUTION CONSTRUCTION PERMIT

PALM BEACH COUNTY PUBLIC HEALTH UNIT
ENVIRONMENTAL HEALTH AND ENGINEERING
P.O. Box 29, West Palm Beach, Florida 33402-0029
Telephone: (407) 355-3070

ISSUED TO:

Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

ARMS No.:	099-0333
Permit No.:	099-0333-001-AO
Issued:	January 3, 1996
Expires:	January 3, 2001

Authorized Representative:
William E. Rome, Vice President of Operations

LOCATED AT:

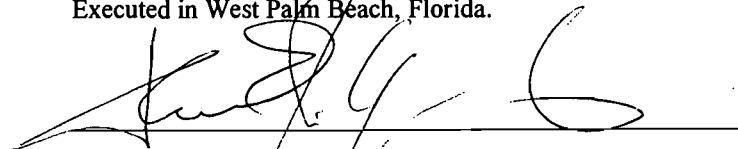
Florida Gas Transmission Company
Description: Compressor field station No. 21 supporting a natural gas transmission line. [SIC: 4922]
UTM: Zone 17 ; 584.4 km E ; 2954.7 km N
Directions: *Located on the east side of the Florida Turnpike and on the north side of Belvedere Road within the city limits of West Palm Beach.*

STATEMENT OF BASIS:

The Palm Beach County Public Health Unit (Health Unit) issues this permit under the provisions of: Chapter 403 of the Florida Statutes; the Florida Administrative Code Chapters 62-4, 62-103, 62-210, 62-212, 62-296, and 62-297; and the Code of Federal Regulations Title 40, Part 60, NSPS Subpart GG. The above named permittee is authorized to operate 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 Health Unit and the Department of Environmental Protection (Department). The Department has permitting jurisdiction, under Florida Statutes 403.087, to issue or deny permits for sources of air pollution in the state of Florida. However, The Department and the Health Unit have entered into a Specific Operating Agreement which designates the Health Unit as the approved local air pollution control program in Palm Beach County. In this agreement, the Department delegated the authority to issue or deny permits to the Health Unit for this type of air pollution source located in Palm Beach County.

ISSUED BY:

PALM BEACH COUNTY PUBLIC HEALTH UNIT
Executed in West Palm Beach, Florida.



Frank J. Gargiulo, PE, Division Director
Environmental Health and Engineering

SECTION I. SUMMARY INFORMATION

PERMIT CONTENT

- Permit Section I - Summary Information
- Permit Section II - Facility-Wide Specific Conditions
- Permit Section III - Emission Unit Specific Conditions
- Appendix A - General Permit Conditions
- Appendix B - Definitions, Abbreviations, and Citation Format
- Appendix C - Forms and Application Procedures
- Appendix D - Summary of Testing Requirements
- Appendix E - Summary of NSPS Requirements
- Appendix F - Exempt and Insignificant Activities

EMISSION UNITS

This permit addresses the following emission units:

EMISSIONS UNIT NO.	EMISSIONS UNIT DESCRIPTION
01	Unit No. 2101 - Combustion turbine with compressor
02	Unit No. 2102 - Combustion turbine with compressor
03	Support equipment

REGULATORY CLASSIFICATION

This facility is subject to the requirements of F.A.C. 62-296.800(2)(a) which incorporates 40 CFR 60, Subpart GG, the New Source Performance Standards (NSPS) for Stationary Gas Turbines. Originally, this facility was designated as a Title V source because the Florida Administrative Code defined all facilities subject to NSPS as Title V sources. In mid 1995, the Florida legislature determined that a facility subject to NSPS must also trigger a Title V emissions threshold in order to be subject to Title V. Therefore, although subject to NSPS, this facility is classified as a minor, synthetic (for NO_x), non-Title V source based on the capacity of the equipment and the federally enforceable limitations of air construction permit number 099-0333-002-AC.

PERMIT HISTORY

- 12-18-95: Health Unit issues air construction permit modification 099-0333-002-AC.
- 05-30-95: Bureau of Air Regulation extends construction permit (AC50-229440) from 6/30/95 to 1/30/96.
- 10-24-94: Florida Gas Transmission notifies the Bureau of Air Regulation and the Health Unit of change in the turbine model name *only* (from "Centaur-Taurus T-6502" to "Taurus 60").
- 10-19-93: Bureau of Air Regulation issues exemption from air permit requirements for a Mobile Field Compressor (Waukesha Model No. 6-LRORB-13).
- 09-24-93: Bureau of Air Regulation FDEP issues construction permit number AC50-229440.

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS

1.0 ADMINISTRATIVE

- 1.1 **Regulating Agencies:** All applications, reports, tests, and notifications shall be submitted to the Air Pollution Control Section of the Palm Beach County Public Health Unit (Health Unit) located at 901 Evernia Street (P.O. Box 29), West Palm Beach, Florida, 33402-0029, and phone number (407) 355-3070. In addition, *copies* shall be submitted to the Air Program, Southeast District Office, Florida Department of Environmental Protection (FDEP) located at 1900 South Congress Avenue (P.O. Box 15425), West Palm Beach, Florida, 33416-5425, and phone number (407) 433-2650. [Specific Operating Agreement]
- 1.2 **General Conditions:** The owner and operators shall be aware of, and operate under, the attached General Permit Conditions G.1 through G.15 listed in *Appendix A* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [F.A.C. 62-4.160]
- 1.3 **Terminology:** The terms used in this permit have specific meanings as defined in the corresponding chapter of the Florida Administrative Code. Key definitions, abbreviations, and rule citation formats are provided in *Appendix B* of this permit.
- 1.4 **Forms and Application Procedures:** The permittee shall use the applicable forms listed in F.A.C. Rule 62-210.900 and follow the application procedures in F.A.C. Chapter 62-4. These are summarized in *Appendix C* of this permit. [F.A.C. 62-210.900]
- 1.5 **Expiration:** This air pollution operation permit shall expire on January 3, 2001. [F.A.C. 62-210.300(1)]
- 1.6 **Application for Permit Renewal:** The permittee shall apply for renewal at least (60) days before the expiration of this air pollution operation permit. The application shall be timely and sufficient and include the appropriate application form, correct fee, all required compliance test reports, and a report on any physical equipment or process changes significantly different from the previous application. [F.A.C. 62-4.090]
- 1.7 **Applicable Regulations:** This facility is subject to the following regulations: Florida Administrative Code Chapters 62-4; 62-103; 62-210; 62-212; 62-296; 62-297; and the Code of Federal Regulations Section 40, Part 60. Specifically, the combustion gas turbines are subject to the New Source Performance Standards (NSPS) for Stationary Gas Turbines identified by the Code of Federal Regulations Section 40, Part 60, Subpart GG, and incorporated by reference in the Florida Administrative Code regulation 62-296.800(2)(a)37. 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. [F.A.C. 62-210.300(1) and the SOA]

2.0 EMISSION LIMITING STANDARDS

- 2.1 **General Visible Emissions Standard:** Unless otherwise specified by rule or permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere any air pollutants from new, or existing emissions units, the opacity of which is equal to or greater than (20) percent. [F.A.C. 62-296.310(2)]
- 2.2 **Unconfined Emissions of Particulate Matter [F.A.C. 62-296.310(3)]**
- (a) The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.
- (b) Reasonable precautions shall include the following:

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS

- Confining abrasives or dust from sand blasting, sanding, and/or grinding to the facility property.
- Cleaning and maintaining paved parking and traffic areas free of excess dust.
- Applying landscape, asphalt, water, chemicals, or other dust suppressants to unpaved roads, yards, open stock piles, and other sources of fugitive dust, as necessary.

NOTE: Facilities that cause frequent, valid complaints may be required by the Health Unit to take these or other reasonable precautions. In determining what constitutes reasonable precautions for a particular source, the Health Unit shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

2.3 General Pollutant Emission Limiting Standards: [F.A.C. 62-296.320]

- (a) The owner or operator shall not store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems.
- (b) No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

NOTE: An objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [F.A.C. 62-296.200(123)]

3.0 OPERATION AND MAINTENANCE

3.1 Changes/Modifications: The owner or operator shall submit to the Health Unit for review any changes in, or modifications to: the method of operation; process or pollution control equipment; increase in hours of operation; equipment capacities; or any change which would result in an increase in potential emissions. Depending on the size and scope of the modification, it may be necessary to submit an application for, and obtain, an air construction permit prior to making the desired change. *Routine maintenance of equipment would not constitute a modification of this permit.* [F.A.C. 62-4.030, 62-210.300 and 62-4.070(3)]

3.2 Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the owner or operator shall notify the Health Unit 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. [F.A.C. 62-4.130]

3.3 Circumvention: The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [F.A.C. Rules 62-210.650]

3.4 Excess Emissions Requirements [F.A.C. 62-210.700]

- (a) Excess emissions resulting from start-up, shutdown or malfunction of these emissions units shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized, but in no case exceed two hours in any 24 hour period unless specifically authorized by the Health Unit for longer duration. [F.A.C. 62-210.700(1)]

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS

- (b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited. [F.A.C. 62-210.700(4)]
- (c) In case of excess emissions resulting from malfunctions, the owner or operator shall notify the Air Pollution Control Section of the Palm Beach County Public Health Unit within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the problem; and the corrective actions being taken to prevent recurrence. [F.A.C. 62-210.700(6)]

4.0 TEST REQUIREMENTS

- 4.1 Test procedures shall meet all applicable requirements of the Florida Administrative Code Chapter 62-297. See *Appendix D* of this permit for a summary of these requirements. [F.A.C. 62-297.100]
- 4.2 Test Notification: The owner or operator shall notify the Health Unit in writing at least (30) days prior to each scheduled compliance test of the test date, the expected test time, the facility contact person for the test, and the person or company conducting test. The (30) day notification requirement may be waived at the discretion of the Health Unit. Likewise, if circumstances prevent testing during the test window specified for the emission unit, the owner or operator may request an alternate test date before the expiration of this window. [F.A.C. 62-297.340(1)(i) and 40 CFR 60.8]
- 4.3 Special Compliance Tests: When the Health Unit, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Rule 62-210, 62-212, 62-252, 62-272, 62-273, 62-275, 62-296, or 62-297, F.A.C. or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the Health Unit. [F.A.C. 62-297.340(2)]
- 4.4 Stack Testing Facilities: The owner or operator shall install stack testing facilities in accordance with F.A.C. 62-297.345(1). These requirements are summarized in *Appendix D* of this permit.
- 4.5 Exceptions and Approval of Alternate Procedures and Requirements: An Alternate Sampling Procedure (ASP) may be requested from the Bureau of Air Regulation of the Florida Department of Environmental Protection in accordance with the procedures specified in F.A.C. Rule 62-297.620 and listed in *Appendix D* of this permit.

5.0 REPORTS AND RECORDS

- 5.1 Duration: All reports and records required by this permit shall be kept for at least (3) years from the date the information was recorded. [F.A.C. 62-160(14)(b)]
- 5.2 Emission Compliance Stack Test Reports:
 - (a) A test report indicating the results of the required compliance tests shall be filed with the Health Unit as soon as practical, but no later than 45 days after the last sampling run is completed. [F.A.C. 62-297.570(2)]
 - (b) The report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Health Unit 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 F.A.C. 62-297.570(3) and listed in *Appendix D* of this permit. Additional report information may also be specified in the emission unit subsection of this permit.

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS

- 5.3 **Excess Emissions Report:** If excess emissions occur, the owner or operator shall notify the Air Compliance Section of the Health Unit 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 Health Unit may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, which are summarized in *Appendix E* of this permit. [F.A.C 62-4.130 and 62-210.700(6)]
- 5.4 **Annual Operating Report for Air Pollutant Emitting Facility:** Before March 1st of each year, the owner or operator shall submit to the Health Unit this required report [DEP Form No. 62-210.900(5)], which summarizes operations for the previous calendar year. [F.A.C. 62-210.370(2)]

6.0 OTHER REQUIREMENTS

- 6.1 **Waste Disposal:** The owner or operator shall treat, store, and dispose of all liquid, solid, and hazardous wastes in accordance with all applicable Federal, State, and Local regulations. This air pollution permit does not preclude the permittee from securing any other types of required permits, licenses, or certifications.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

SUBSECTION A. This subsection addresses the following emission units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
01	Unit No. 2101: 6500 bhp natural gas-fired combustion turbine with compressor (Solar Turbines, Inc. Model No. Taurus 60)
02	Unit No. 2102: 6500 bhp natural gas-fired combustion turbine with compressor (Solar Turbines, Inc. Model No. Taurus 60)

1.0 EMISSION LIMITING STANDARDS

1.1 New Source Performance Standards (NSPS): Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG:

(a) **Standard for Nitrogen Oxides. [40 CFR 60.332(a), (c)]**

No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = (0.015) (14.4 / Y) + F$$

Where:

STD = Allowable NO_x emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = Manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO_x emission allowance for fuel-bound nitrogen as defined in the following table:

Fuel bound nitrogen (percent by weight)	F (NO _x percent by volume)
N < or = 0.015	0
0.015 < N < or = 0.1	0.04 x (N)
0.1 < N < or = 0.25	0.004 + (0.0067) x (N - 0.1)
N > 0.25	0.005

Where, (N) is the nitrogen content of the fuel (percent by weight), **OR,**

Manufacturers may develop custom fuel-bound nitrogen allowances for each gas turbine model they manufacture. These fuel-bound nitrogen allowances shall be substantiated with data and must be approved for use by the Administrator before the required initial performance test. Notices of approval of custom fuel-bound nitrogen allowances will be published in the Federal Register.

(b) **Standard for Sulfur Dioxide. [40 CFR 60.333(a)]**

The owner or operator shall not cause to be discharged into the atmosphere from any gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

- 1.2 State NOx Limits: In accordance with the original air construction permit [AC50-229440], nitrogen oxide emissions from each stationary gas turbine shall not exceed 42 parts per million by volume at 15 percent oxygen, on a dry basis.
- 1.3 Visible Emissions: Visible emissions from the stationary gas turbine exhaust stacks shall not exceed 20% opacity. [F.A.C. 62-296.310(2)]

2.0 OPERATIONAL RESTRICTIONS

2.1 Sulfur Content Limits for Fuel:

- (a) New Source Performance Standards (NSPS): Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG: The owner or operator shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight. [40 CFR 60.333(b)]
- (b) State Limit: In accordance with the original air construction permit [AC50-229440], the sulfur content of the fuel burned in each stationary gas turbine is limited to 10 grains per 100 standard cubic feet of natural gas on a monthly average.

2.2 Unrestricted Hours of Operation: The stationary gas turbines may operate continuously at 8760 hours per year. [Applicant Request]

2.3 Operational Limitations: [F.A.C. 62-4.070(3) and Permit No. AC50-229440]

- (a) Fuel for each turbine is limited to natural gas with a maximum fuel consumption rate not to exceed (0.0684) million cubic feet per hour (*based on a daily average*).
- (b) For each stationary gas turbine, the maximum design heat input shall not exceed (71.52) mm BTU per hour (*based on the daily average fuel consumption and the typical heat content of the natural gas determined from the most recent fuel analysis*).

3.0 COMPLIANCE MONITORING REQUIREMENTS

3.1 New Source Performance Standards (NSPS): Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG:

(a) Monitoring of Operations. [40 CFR 60.334(b)]

The owner or operator shall monitor the sulfur content and nitrogen content of the fuel being fired in the gas turbines. The Health Unit has approved of the following *custom fuel monitoring schedule*:

- (1) At least once each month, the owner or operator shall have one sample taken from the natural gas supply and have it analyzed for heat content, nitrogen content, and sulfur content. [Health Unit] The 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. [40 CFR 60.335(e)]
- (2) The owner or operator shall determine compliance with the sulfur content of the fuel as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator. [40 CFR 60.335(d)]

- (3) To compute the nitrogen oxides emissions, the owner or operator shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator to determine the nitrogen content of the fuel being fired. [40 CFR 60.335(a)]
- (4) Results of the analyses shall be recorded in the Fuel Monitoring Log within (30) days of taking a sample. [Health Unit]
- (5) The Health Unit may revise this custom monitoring schedule based on the results of the analyses. [Health Unit]

(b) **Excess Emissions.** [40 CFR 60.334(c)]:

Reportable periods of excess emissions shall be defined as follows:

- (1) *Nitrogen oxides.* Any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test which was (0.015). Each report shall include the average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions.
- (2) *Sulfur dioxide.* Any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 percent by weight.

Periods of excess emissions shall be reported in accordance with 40 CFR 60.7, summarized in *Appendix E* of this permit.

- 3.2 **Compliance Monitoring for Fuel Consumption:** In accordance with the manufacturer's recommendations, the owner or operator shall install, calibrate, maintain, and operate a monitoring system to continuously record the natural gas consumption. The system shall be accurate to within 5.0 percent. The monitoring equipment shall be on line and functioning properly while the gas turbines are in operation. [40 CFR 60.334(a) and F.A.C. 62-4.070(3)]

4.0 STACK TESTING REQUIREMENTS

- 4.1 **New Source Performance Standards (NSPS):** Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG:

(a) **EPA Method 20 Stack Test Methods and Procedures.** [40 CFR 60.335]

Within (12) months before the expiration of this permit, the owner or operator shall have EPA Method 20 conducted on each gas turbine to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The performance test shall be conducted in accordance with: the test methods and procedures defined in 40 CFR 60, Appendix A; the requirements of 40 CFR 60.8 (included in *Appendix E* of this permit); and the following requirements:

- (1) *Span Values:* The span values shall be 100 ppm of nitrogen oxide and 21 percent oxygen. [40 CFR 60.335(c), F.A.C. 62-4.070(3) and Applicant Request]

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

- (2) *NO_x Correction for NSPS:* The nitrogen oxides emissions (NO_x) shall be computed for each run using the following equation [40 CFR 60.335(c)(1)]:

$$\text{NO}_x = (\text{NO}_{xO}) (P_R / P_O)^{0.5} (e^{19}) (\text{Ho} - 0.00633) (288^\circ\text{K} / T_A)^{1.53}$$

Where:

NO _x	=	NO _x emissions at 15% O ₂ and ISO standard ambient conditions, volume percent.
NO _{xO}	=	Observed NO _x concentration, ppm by volume.
P _R	=	Reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.
P _O	=	Observed combustor inlet absolute pressure at test, mm Hg.
Ho	=	Observed humidity of ambient air, grams H ₂ O per gram of air.
e	=	Transcendental constant, 2.718.
T _A	=	Ambient temperature, °K.

- (3) *NO_x Correction for State Limit:* To show compliance with the state limit, NO_x emissions shall also be reported in parts per million by volume (ppmv) at 15% O₂ on a dry basis.

4.2 **Visible Emissions Tests:** Annually between July 1st and September 1st of each year, the owner or operator shall have EPA Method 9, *Visual Determination of the Opacity of Emissions from Stationary Sources*, conducted in accordance with the methods and procedures provided in 40 CFR 60, Appendix A. The test shall consist of a minimum observation time of at least (30) minutes. [F.A.C. 62-297.340]

4.3 **Fugitive Leak Assessment:** On the date of each visible emissions test, the owner or operator shall also perform a visual inspection of the gas turbine, compressor engine, filters, exhaust stack and ductwork, and natural gas piping system for rust spots, cracks, leaks, and/or odors. In addition, all safety mechanisms shall be inspected in order to ensure proper functioning. A report on the findings of the inspection and any corrective actions taken shall be submitted along with the required visible emission test report. [F.A.C 62-4.070(3)]

5.0 RECORDS AND REPORTS

5.1 **Fuel Monitoring Log:** The owner or operator shall record and keep the following information in a written log suitable for inspection. This log shall remain on site at the facility and made available to the Health Unit upon request. [F.A.C. 62-4.070(3)]:

(a) **Fuel Sampling and Analyses**

- Date fuel sample was taken and by which party.
- Method of analyses.
- Party performing analyses.
- Results of analyses: nitrogen content in percent by weight; sulfur content in percent by weight *and* grains per 100 standard cubic feet of natural gas; and heat content in BTU per standard cubic feet of natural gas.

(b) **Fuel Consumption**

The owner or operator shall maintain a complete file of all measurements, including continuous monitor system, monitoring device, and performance testing measurements; all continuous monitor system performance evaluations; all continuous monitor system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required, recorded in a permanent legible form suitable for inspection. **Note:** The continuous measurement may be recorded as an electronic file, but the total daily fuel consumption shall be manually recorded in the daily O&M log. All files shall be retained at the facility for at least three years following the date of such measurements, maintenance, reports and records. [F.A.C. 62-4.070(3)]

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

5.2 Test Reports: The following reports shall be submitted to the Health Unit indicating the results of the tests required by this subsection: [40 CFR 60.335 and F.A.C. 62-4.070(3)]

(a) **EPA Method 20**: In addition to the information required by F.A.C. Rule 62-297.570(3) and included in *Appendix D* of this permit, this report shall include:

- NO_x emissions in percent by volume at 15% oxygen and ISO conditions.
- NO_x emissions in parts per million at 15% oxygen on a dry basis.
- SO₂ emissions in percent by volume at 15% oxygen on a dry basis.
- Percent of operating capacity (6500 bhp at ISO conditions would be 100% capacity).
- Compliance status.

(b) **EPA Method 9**: This test report shall include the following information

- Visible Emissions Observation Form.
- Observer Certification.
- Percent of operating capacity (6500 bhp at ISO conditions would be 100% capacity).
- Compliance status.
- Results of Fugitive Leak Assessment.

5.3 Daily Operation and Maintenance (O&M) Log: Operators shall keep a daily O&M log to include, *at a minimum*, the following information [F.A.C. 62-4.070(3)]:

- Date.
- Name of operator.
- Daily average fuel consumption in million cubic feet of natural gas per hour.
- Daily average heat input in mmBTU per hour (*based on the daily average fuel consumption and the typical heat content determined by the most recent sampling and analysis*).
- Any maintenance performed on the gas turbines and/or monitoring equipment. (*Log should indicate the problem, the maintenance or repair made, and the person or company performing the work.*)
- Any comments on the performance of the gas turbines beneficial to the next operator.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS

SUBSECTION B. This subsection addresses the following emissions units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
03	Support Equipment , including: a 184 bhp natural gas fired emergency generator; a Mobile Field Compressor; a 2000 gallon new lube oil tank; a 4200 gallon condensate tank; a 300 gallon oily water tank; a 600 gallon used lube oil tank; a 4200 gallon oily water tank; and fugitive emissions from valves, flanges, and fittings. <i>(See Appendix F for a list of insignificant and/or exempt activities or emissions units.)</i>

1.0 CONDITIONAL EXEMPTIONS

1.1 The following sources of air pollution have been *conditionally exempt* from the requirement to obtain an air pollution permit by the Florida Department of Environmental Protection's Bureau of Air Regulation on October 19, 1993 [F.A.C. 62-210.300]:

- (a) **184 hp natural gas fired emergency electrical generator:**
 - (1) Shall not operate more than 400 hours per consecutive (12) month period.
 - (2) Fuel shall be limited to natural gas.

- (b) **439 hp Mobile Field Compressor (Waukesha Model 6-LRORB-13):**
 - (1) Shall not operate more than 168 hours per consecutive (12) month period.
 - (2) Fuel shall be limited to natural gas.

2.0 NEGLIGIBLE SOURCES OF POLLUTANT EMISSIONS

2.1 The following activities were identified in the application for this permit as sources of fugitive emissions of volatile organic compounds:

- 2000 gallon new lube oil tank
- 4200 gallon condensate tank
- 300 gallon oily water tank
- 600 gallon used lube oil tank
- 4200 gallon oily water tank
- fugitive emissions from valves, flanges, and fittings

The Health Unit determines these activities to emit negligible amounts of fugitive emissions of volatile organic compounds and exempts them from the requirement to obtain an air pollution permit. [F.A.C. 62-4.040(1)(b) and the Palm Beach County Specific Operating Agreement.]

LIST OF APPENDICES

ATTACHMENT	DESCRIPTION
A	General Permit Conditions
B	Definitions, Abbreviations, and Citation Format
C	Forms and Permit Application Procedures
D	Summary of State Testing Requirements
E	Summary of Miscellaneous NSPS Requirements
F	Exempt and Insignificant Sources

APPENDIX A
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.

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.

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

- 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 (*BACT is not applicable*);
 - (b) Determination of Prevention of Significant Deterioration (*PSD is not applicable*); and
 - (c) Compliance with New Source Performance Standards (*NSPS is applicable*).
- 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.

APPENDIX B
DEFINITIONS, ABBREVIATIONS, AND CITATION FORMAT

62-296.200 Definitions.

The following words and phrases when used in this chapter shall, unless content clearly indicates otherwise, have the following meanings:

- (12) **Allowable Emissions**: The emission rate calculated using the maximum rated capacity of the emissions unit, as limited or modified by any state or federally enforceable restrictions on the operating rate or hours of operation, or both, and the most stringent state or federal emission limiting standard applicable to the emissions unit; or the maximum allowable emission rate specified by any state or federally enforceable permit conditions.

- (56) **Department**: The State of Florida Department of Environmental Protection.

- (59) **Emission**: The discharge or release into the atmosphere of one or more air pollutants.

- (60) **Emission Limiting Standard or Emission Standard or Emission Limitation or Performance Standard**: Any restriction established in or pursuant to a regulation adopted by the Department which limits the quantity, rate, concentration or opacity of any pollutant released, allowed to escape or emitted, whether intentionally or unintentionally, into the atmosphere, including any restriction which prescribes equipment, sets fuel specifications, or prescribes operation or maintenance procedures for an emissions unit to assure emission reduction or control.

- (61) **Emission Point or Discharge Point**: The point at which an air pollutant first enters the atmosphere.

- (62) **Emissions Unit**: Any part or activity of a facility that emits or has the potential to emit any air pollutant.

- (65) **Environmental Protection Agency or EPA**: The United States Environmental Protection Agency.

- (66) **Excess Emissions**: Emissions of pollutants in excess of those allowed by any applicable rule of the Department or by a permit issued pursuant to any such rule or Chapter 62-4, F.A.C. The term applies only to conditions which occur during startup, shutdown, sootblowing, load changing or malfunction.

- (72) **Facility**: All of the emissions units which are located on one or more contiguous or adjacent properties and which are under the control of the same person (or persons under common control).

- (107) **Malfunction**: Any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.

- (122) **Nonattainment Area**: Any area not meeting ambient air quality standards and designated as a nonattainment area under Rule 62-275.410, F.A.C. Such an area may be designated as a particulate, sulfur dioxide, nitrogen dioxide, carbon monoxide, lead or ozone nonattainment area, depending on which ambient standard has been violated. An area may be designated as nonattainment for more than one air pollutant. Ozone nonattainment areas may be transitional, marginal, moderate, serious, severe, or extreme as classified in Rule 62-275.410, F.A.C. *Palm Beach County is currently designated as a moderate nonattainment area for the pollutant ozone.*

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

- (126) **Opacity**: A condition which renders material partially or wholly impervious to rays of light causing obstruction of observer's view.

- (131) **Owner or Operator**: Any person or entity who or which owns, leases, operates, controls or supervises an emissions unit or facility.

APPENDIX B
DEFINITIONS, ABBREVIATIONS, AND CITATION FORMAT

- (159) **Secretary**: The Secretary of the Department of Environmental Protection.
- (161) **Shutdown**: The cessation of the operation of an emissions unit for any purpose.
- (171) **Stack**: A pipe, duct, chimney, or other functionally equivalent device that confines and conveys air pollutants from an emissions unit or group of emissions units into the atmosphere through an emission point designed to discharge air pollutants into the atmosphere, but not including flares.
- (174) **Startup**: The commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
- (192) **Unconfined Emissions**: Emissions which escape and become airborne from unenclosed operations or which are emitted into the atmosphere without being conducted through a stack.
- (199) **Visible Emission**: An emission greater than 5 percent opacity as measured by standard methods.

ABBREVIATIONS:

°F: Degrees Fahrenheit

CFR: Code of Federal Regulations

DARM: Division of Air Resource Management, Florida Department of Environmental Protection

EPA: United States Environmental Protection Agency

F.A.C.: Florida Administrative Code

FDEP: Florida Department of Environmental Protection

F.S.: Florida Statutes

Health Unit: Palm Beach County Public Health Unit, Division of Environmental Science and Engineering

LAT: Latitude

LONG: Longitude

PBCPHU: Palm Beach County Public Health Unit, Division of Environmental Science and Engineering

PTE: Permanent Total Enclosure

SOA: Palm Beach County Specific Operating Agreement

UTM: Universal Transverse Measurements

VOC: Volatile Organic Compounds

APPENDIX B
DEFINITIONS, ABBREVIATIONS, AND CITATION FORMAT

CITATION FORMAT

The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, guidance memorandums, ID numbers, and permit numbers.

Guidance Memorandums from the Bureau of Air Regulation, Florida Department of Environmental Protection:

Example: [DARM-PER/GEN-12] (*Refers to a specific, numbered guidance memorandum.*)

Florida Administrative Code (F.A.C.) Regulations:

Example: [F.A.C. 62-4.070]

Where: 62 - Title 62
62-4 - Chapter 62-4
62-4.070 - Rule 62-4.070

Code of Federal Regulations:

Example: [40 CFR 60.334]

Where: 40 - Title 40
CFR - Code of Federal Regulations
60 - Part 60
60.334 - Rule 60.334

Permit or Application File Numbers:

Example: 099-0333-002-AC, or
099-0333-001-AO

Where:

AC - Air Construction Permit
AO - Air Operation Permit
099 - Number code identifying the facility is located in Palm Beach County
0333 - 4-digit facility identification number assigned by permit tracking database
001 or 002 - 3-digit sequential file number assigned by permit tracking database

Air Resources Management System (ARMS) Identification (ID) Number:

Example: ARMS ID No.: 099-0333

Where:

099 = Number code identifying the facility is located in Palm Beach County.
0333 = 4-digit facility identification number assigned by state database.

APPENDIX C
FORMS AND PERMITTING PROCEDURES

Forms [F.A.C Chapter 62-1]

62-1.200 Approved Forms and Instructions.

As a result of changes to Chapter-120, F.S., the Department no longer lists forms in a single rule. Forms that are adopted as rules will be listed or referenced in the rule to which the form is applicable. A complete list of all forms in current use by the Department is available from the Department's Information Center, Phone Number (904) 488-0890 at the address listed in Chapter 17-101, F.A.C. The following is a list of the most commonly used forms:

- Application for Air Permit - Long Form [FDEP Form no. 62-210.900(1)], Effective 11-23-94
- Application for Air Permit - Short Form [FDEP Form No. 62-210.900(2)], Effective 11-23-94
- Annual Operating Report For Air Pollutant Emitting Facility, [FDEP Form No. 62-210.900(5)], Effective 11-23-94
- Application for Transfer of Permit [FDEP Form No. 17-1.201(1)], Effective 11-30-82
- Notification of Intent to Relocate Air Pollutant Emitting Facility [FDEP Form No. 62-210.900(3)], Effective 11-23-94,

The above forms are also available from the Palm Beach County Public Health Unit at 901 Evernia Street, West Palm Beach, Florida, 33401, phone number (407) 355-3070.

Permit Procedures [F.A.C Chapter 62-4]

This chapter was transferred from Title 17, effective Aug. 10, 1994, due to a merger of the Department of Environmental Regulation and the Department of Natural Resources.

- **Part I** of this chapter defines the: permit requirements; application procedures; permit processing fees; consultation; standards for issuing or denying permits; modification of permit conditions; permit renewals; suspension and revocation of permits; financial responsibility of the applicant; transfer of ownership of permits; problems with plant operation and notification; public hearings and review; and general conditions for all permits.
- **Part II** of this chapter defines: the requirements and procedures for construction permits; the requirements and application procedures for operation permits for new sources; and the preservation of rights.
- **Part III** of this chapter defines the procedures for general permits.

If necessary, copies of this chapter may also be obtained from the above sources.

APPENDIX D
SUMMARY OF STATE TESTING REQUIREMENTS

This chapter was transferred from Title 17, effective Aug. 10, 1994, due to a merger of the Department of Environmental Regulation and the Department of Natural Resources. This attachment is ONLY a summary of portions of this chapter that may be of interest to the permittee for this particular facility. Please contact the Health Unit for a complete set of the rules of this chapter or regarding any questions concerning this chapter at 901 Evernia Street, West Palm Beach, Florida, 33401, phone number (407) 355-3070.

62-297.100 Purpose and Scope.

This chapter, along with Rules 62-252.500, 62-296.500, 62-296.800 and 62-296.810, F.A.C., establishes the test procedures that shall be used to determine the compliance of air pollutant sources with emission limiting standards specified in or established pursuant to any provisions of Rule 62-210, 62-212, 62-252, 62-272, 62-273, 62-275, 62-296, or 62-297, F.A.C.

62-297.330 Applicable Test Procedures.

This section, along with Rules 62-296.800 and 62-296.810, F.A.C., identifies the DEP and EPA test methods that are applicable for conducting compliance tests for all air pollution sources for which an emission limiting standard is specified in or established pursuant to Rule 62-210, 62-212, 62-252, 62-272, 62-273, 62-275, 62-296, or 62-297, F.A.C., and establishes required sampling times, minimum sample volumes and special test requirements, as applicable, for each category of sources.

(1) **Required Sampling Time.**

- (a) Unless otherwise specified in Table 297.330-1, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
- (b) **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified (in Table 297.330-1) as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for major sources, and thirty (30) minutes for minor sources not subject to a multiple valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - 1. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
 - 2. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.340(3), F.A.C., Waiver of Compliance Test Requirement, shall be established on a case-by-case basis as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
 - 3. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(2) **Minimum Sample Volume.** Unless otherwise specified in the following table the minimum sample volume per run shall be 25 dry standard cubic feet.

(3) **Required Flow Rate Range.** For DEP Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the

APPENDIX D
SUMMARY OF STATE TESTING REQUIREMENTS

average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

- (4) Calibration. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.330-2.
- (5) EPA Method 5. When EPA Method 5 is cited in Table 297.330-1 the following modification is allowed; the heated filter may be separated from the impingers by a flexible tube.
- (6) Alternate Test Procedures Not Subject to Prior Approval. A visible emission test indicating no visible emissions (5 percent opacity) may be submitted in lieu of a particulate stack test for materials handling sources subject to Rule 62-296.711, F.A.C., where the source is equipped with a baghouse.

62-297.345 Stack Sampling Facilities Provided by the Owner of an Air Pollution Point Source.

This section describes the minimum requirements for stack sampling facilities that are necessary to sample point sources. Sampling facilities include sampling ports, work platforms, access and electrical power. Sources must provide these facilities at their expense. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR 1910, Subparts D and E. A copy of this reference document is available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. and may be inspected at the Department's Tallahassee office.

- (1) Permanent Test Facilities. The owner or operator of a source that is required to conduct a compliance test, other than a visible emission test, on at least an annual basis, shall install and maintain permanent stack testing facilities.
- (2) Temporary Test Facilities. The owner or operator of a source that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary test facilities. If the owner chooses to use temporary test facilities on any source, such temporary facilities shall be installed on the source within 5 days of a request by the Department and remain on the source until the test is completed.
- (3) Test Facilities.
 - (a) Sampling Ports.
 1. All sampling ports shall have a minimum inside diameter of 3 inches.
 2. The ports shall be capable of being sealed when not in use.
 3. Location of sampling ports.
 - a. The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, construction or other flow disturbances.
 - b. For sources which do not comply with the criteria set forth in a. above, the source owner or operator shall demonstrate to the Department, within 12 months after the effective date of this rule, that sampling port locations for such source are not subject to flow disturbances which result in invalid test results. If the source cannot make such a demonstration to the Department's satisfaction, the Department, after full review of all data timely submitted by the source, shall specify appropriate sampling procedures or port locations in the source's operating permit.
 4. For sources for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular

APPENDIX D
SUMMARY OF STATE TESTING REQUIREMENTS

stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For sources for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.

5. On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. For sources not subject to Rule 62-296.800, F.A.C., (Standards of Performance for New Stationary Sources) or Rule 62-296.810, F.A.C., (Emissions Standards for Hazardous Air Pollutants) and which have submitted a complete application for a permit to construct prior to December 1, 1980, DEP Method 1 may be substituted for EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

(b) Work Platforms.

1. Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
2. On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
3. On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
4. All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

(c) Access.

1. Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
2. Walkways over free fall areas shall be equipped with safety rails and toe boards.

(d) Electrical Power.

1. A minimum of two 120 volts AC, 20 amps outlets shall be provided at the sampling platform with 20 feet of each sampling port.
2. If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

(e) Sampling Equipment Support.

1. An eyebolt and angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts. The eyebolt shall be capable of supporting a 500 pound working load. The dimensions and placement of these fixtures are shown on Figure 297.345-1. A complete monorail or dual rail arrangement may be substituted for the eyebolt and bracket.
2. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.
3. When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

APPENDIX D
SUMMARY OF STATE TESTING REQUIREMENTS

62-297.570 Test Reports.

- (1) The owner or operator of an air pollution source, for which a compliance test is required, shall file a report with the Department on the results of each such test.
- (2) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
- (3) The test report shall provide sufficient detail on the source tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than an EPA or DEP Method 9 test, shall provide information on:
 - (a) The type, location, and designation of the source tested.
 - (b) The facility at which the source is located.
 - (c) The owner or operator of the source.
 - (d) The normal type and amount of fuels used and materials processed and the types and amounts of fuels used and material processed during each test run.
 - (e) The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 - (f) The type of air pollution control devices installed on the source, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 - (g) A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 - (h) The date, starting time and duration of each sampling run.
 - (i) The test procedures used including any alternative procedures authorized pursuant to Rule 62-297,620, F.A.C.. Where optional procedures are authorized in this chapter, indicate which option was used.
 - (j) The number of points sampled and configuration and location of the sampling plane.
 - (k) For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
 - (l) The type, manufacturer and configuration of the sampling equipment used.
 - (m) Data related to the required calibration of the test equipment.
 - (n) Data on the identification, processing and weights of all filters used.
 - (o) Data on the types and amounts of any chemical solutions used.
 - (p) Data on the amount of pollutant collected from each; the sampling probe, the filters, and the impingers, are reported separately for the compliance test.
 - (q) The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
 - (r) All measured and calculated data required to be determined by each applicable test procedure for each run.
 - (s) The detailed calculations for one run that relate the collected data to the calculated emission rate.
 - (t) The applicable emission standard, and the resulting maximum allowable emission rate for the source, plus the test result in the same form and unit of measure.
 - (u) A certification that to the knowledge of the owner or his authorized agent, all data submitted is true and correct.

When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

60.7 Notification and record keeping.

- (a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification as follows:
- (1) A notification of the date construction (or reconstruction as defined under 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
 - (2) A notification of the anticipated date of initial startup of an affected facility postmarked not more than 60 days nor less than 30 days prior to such date.
 - (3) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.
 - (4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
 - (5) A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.
 - (6) A notification of the anticipated date for conducting the opacity observations required by 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.
 - (7) A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 60.8 in lieu of Method 9 observation data as allowed by 60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.
- (b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
- (c) Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

- (1) The magnitude of excess emissions computed in accordance with 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
 - (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
 - (3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
 - (4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- (d) The summary report form shall contain the information and be in the format shown in figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility. *(See page E-4 for Figure 1.)*
- (1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 60.7(c) need not be submitted unless requested by the Administrator.
 - (2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 60.7(c) shall both be submitted.
- (e) (1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:
- (i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;
 - (ii) The owner or operator continues to comply with all record keeping and monitoring requirements specified in this subpart and the applicable standard; and
 - (iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.
- (2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required record keeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

- (3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.

- (f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records.

- (g) If notification substantially similar to that in paragraph (a) of this section is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of paragraph (a) of this section.

- (h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

Figure 1--Summary Report-- Gaseous and Opacity Excess Emission and Monitoring System Performance

Pollutant (*Circle One*): SO₂ NO_x TRS H₂S CO Opacity

Reporting period dates: From _____ to _____

Company: _____

Emission Limitation: _____

Address: _____

Monitor Manufacturer: _____

Model No.: _____

Date of Latest CMS Certification or Audit: _____

Process Unit(s) Description: _____

Total source operating time in reporting period: _____

Emission data summary ^{1,2}	CMS performance summary ^{1,2}
1. Duration of excess emissions in reporting period due to: a. Startup/shutdown b. Control equipment problems c. Process problems d. Other known causes e. Unknown causes 2. Total duration of excess emissions 3. Total duration of excess emissions x (100) / [Total source operating time]	1. CMS downtime in reporting period due to: a. Monitor equipment malfunctions b. Non-Monitor equipment malfunctions c. Quality assurance calibration. d. Other known causes e. Unknown causes 2. Total CMS Downtime 3. [Total CMS Downtime] x (100) / [Total source operating time]

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 60.7(c) shall be submitted.

Note: On a separate page, describe any changes since last quarter in CMS, process or controls.

I certify that the information contained in this report is true, accurate, and complete.

Name: _____

Signature: _____

Date: _____

Title: _____

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

60.8 Performance tests.

- (a) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).
- (b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.
- (c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
- (d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present.
- (e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:
 - (1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
 - (2) Safe sampling platform(s).
 - (3) Safe access to sampling platform(s).
 - (4) Utilities for sampling and testing equipment.
- (f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

60.330 Applicability and designation of affected facility.

- (a) The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour, based on the lower heating value of the fuel fired.
- (b) Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after October 3, 1977, is subject to the requirements of this part except as provided in paragraphs (e) and (j) of 60.332.

60.331 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

- (a) Stationary gas turbine means any simple cycle gas turbine, regenerative cycle gas turbine or any gas turbine portion of a combined cycle steam/electric generating system that is not self propelled. It may, however, be mounted on a vehicle for portability.
- (b) Simple cycle gas turbine means any stationary gas turbine which does not recover heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine, or which does not recover heat from the gas turbine exhaust gases to heat water or generate steam.
- (c) Regenerative cycle gas turbine means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine.
- (d) Combined cycle gas turbine means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to heat water or generate steam.
- (e) Emergency gas turbine means any stationary gas turbine which operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation.
- (f) Ice fog means an atmospheric suspension of highly reflective ice crystals.
- (g) ISO standard day conditions means 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.
- (h) Efficiency means the gas turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output based on the lower heating value of the fuel.
- (i) Peak load means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.
- (j) Base load means the load level at which a gas turbine is normally operated.
- (k) Fire-fighting turbine means any stationary gas turbine that is used solely to pump water for extinguishing fires.
- (l) Turbines employed in oil/gas production or oil/gas transportation means any stationary gas turbine used to provide power to extract crude oil/natural gas from the earth or to move crude oil/natural gas, or products refined from these substances through pipelines.
- (m) A Metropolitan Statistical Area or MSA as defined by the Department of Commerce.
- (n) Offshore platform gas turbines means any stationary gas turbine located on a platform in an ocean.
- (o) Garrison facility means any permanent military installation.

APPENDIX E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

- (p) Gas turbine model means a group of gas turbines having the same nominal air flow, combustor inlet pressure, combustor inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.
- (q) Electric utility stationary gas turbine means any stationary gas turbine constructed for the purpose of supplying more than one-third of its potential electric output capacity to any utility power distribution system for sale.
- (r) Emergency fuel is a fuel fired by a gas turbine only during circumstances, such as natural gas supply curtailment or breakdown of delivery system, that make it impossible to fire natural gas in the gas turbine.
- (s) Regenerative cycle gas turbine means any stationary gas turbine that recovers thermal energy from the exhaust gases and utilizes the thermal energy to preheat air prior to entering the combustor.

APPENDIX F
EXEMPT AND INSIGNIFICANT SOURCES

The following items have been identified by the owner as emitting negligible amounts of air pollution and are exempt from the requirements to obtain an air pollution permit.

Description of Equipment or Activity	Insignificant / Exempt
184 bhp natural gas fired emergency generator	Conditional exemption issued by FDEP's Bureau of Air Regulation on October 19, 1993 pursuant to F.A.C. 62-210.300.
439 Hp natural gas fired mobile field compressor	Conditional exemption issued by FDEP's Bureau of Air Regulation on October 19, 1993 pursuant to F.A.C. 62-210.300 and 62-4.040.
2000 gallon new lube oil tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
4200 gallon condensate tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
300 gallon oily water tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
600 gallon used lube oil tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
4200 gallon oily water tank	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040
Fugitive emissions of natural gas from valves, flanges, and fittings.	Emits negligible amounts of fugitive VOC; exempt by F.A.C. 62-4.040



R. File

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

May 30, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. V. Duane Pierce
Air Quality Supervisor
Phase III Expansion Project
Florida Gas Transmission Company
Post Office Box 1188
Houston, Texas 77251-1188

Dear Mr. Pierce:

Re: Request for Extensions to Air Construction Permits
AC 62-229319/PSD-FL-202-Taylor County
AC 05-229322-Brevard County
AC 56-230129/PSD-FL-203-St. Lucie County
AC 50-229440-Palm Beach County
AC 09-229441-Citrus County
AC 29-228821-Hillsborough

The Department is in receipt of your letter dated April 20, requesting to extend the expiration date of the above mentioned permits. The Bureau has evaluated your request and agrees to extend the expiration date of the permits as follows:

Expiration Date:

From: July 30, 1995
To: January 30, 1996

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the applicant of the amendment request/application and the parties listed below must be filed within 14 days of receipt of this amendment. Petitions filed by other persons must be filed within 14 days of the amendment issuance or within 14 days of their receipt of this amendment, whichever occurs first. Petitioner

Mr. V. Duane Pierce
May 30, 1995
Page Two

shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information:

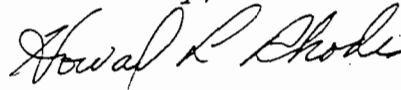
- (a) The name, address and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c)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

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

Mr. V. Duane Pierce
May 30, 1995
Page Three

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

Sincerely,



Howard L. Rhodes, Director
Division of Air Resources
Management

HLR/th/t

Enclosure: Mr. V. Duane Pierce's letter of April 20, 1995

cc: Ed Middleswart, NWD
Robert Leetch, NED
Charles Collins, CD
Isidore Goldman, SED
Jerry Campbell, EPCHC
Alan Weatherford, FGTC
Barry Andrews, ENRS
Jim Stormer, PBCHU



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

RECEIVED

APR 26 1995

April 20, 1995

Mr. C. H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blairstone Road
Tallahassee, Florida 32399-2400

Bureau of
Air Regulation

RE: Extension of Construction Permits

Air Permit No. AC 62-229319/PSD-FL-202
FGT Compressor Station No. 15, Taylor County

Air Permit No. AC 05-229322
FGT Compressor Station No. 19, Brevard County

Air Permit No. AC 56-230129/PSD-FL-203
FGT Compressor Station No. 20, St. Lucie County

Air Permit No. AC 50-229440
FGT Compressor Station No. 21, Palm Beach County

Air Permit No. AC 09-229441
FGT Compressor Station No. 26, Citrus County

Air Permit No. AC 29-228821
FGT Compressor Station No. 30, Hillsborough County

Dear Mr. Fancy:

Florida Gas Transmission Company (FGT) requests an extension for each of the above referenced air construction permits to a date 60 days after the due date for the Title V permit application for the facility. A non-Title V operating permit application for each of the facilities was submitted on 31 March 1995.

If you have any questions or need additional information, please call me at (713) 646-7323 or Mr. Allan Weatherford at (407) 875/5816.

Sincerely,

V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project



STATE OF FLORIDA
DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES

CERTIFIED MAIL

RECEIVED

William E. Rome, Vice President of Operations
Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

NOV 16 1995

BUREAU OF
AIR REGULATION

ARMS ID No.: 099-0333
Air Permit No.: 099-0333-002-AC
Project: Stationary Gas Turbines
(Formerly AC50-229440)

Dear Mr. Rome:

The Palm Beach County Public Health Unit gives notice of its intent to issue air pollution permit number 099-0333-002-AC (draft copy attached) for the proposed project. You submitted an application on November 2nd 1995 to the Palm Beach County Public Health Unit to modify the original air construction permit for this facility (AC50-229440).

The Department of Environmental Protection has permitting jurisdiction, under Florida Statutes 403.087, to issue or deny permits for air pollution sources. Through a specific operating agreement with the Department of Environmental Protection, the Palm Beach County Public Health Unit (hereinafter referred to as the Health Unit) has been delegated the authority to issue or deny permits for this type of air pollution source located in Palm Beach County. This project is not exempt by rule from the requirement to obtain an air pollution permit.

The Health Unit intends to issue this permit based on Florida Administrative Code (F.A.C.) Chapter 62-4 and Chapters 62-209 through 62-297, and the belief that the applicant has provided reasonable assurance indicating the proposed project will not adversely impact air quality.

Pursuant to Section 403.815, Florida Statutes and FDEP Rule 17-103.150, F.A.C., you (the applicant) are required to publish, at your own expense, the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "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. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the Health Unit at the address and/or telephone number listed below. The applicant shall provide proof of publication to the Health Unit at, 901 Evernia Street, P.O. Box 29, West Palm Beach, Florida 33402-0029 within 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.

The Health Unit will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S. A person whose substantial interests are affected by the Health Unit's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Environmental Control Office of the Palm Beach County Public Health Unit at 901 Evernia Street, P.O. Box 29, West Palm Beach, Florida 33402-0029. Petitions filed by the permit applicant and the parties listed below must be filed within (14) days of receipt of this notice of intent. Petitions filed by other persons must be filed within (14) days of publication of the public notice or within (14) days of their receipt of this notice of intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

Page 1 of 3

DISTRICT IX

PALM BEACH COUNTY PUBLIC HEALTH UNIT • P.O. BOX 29 • WEST PALM BEACH, FLORIDA 33402

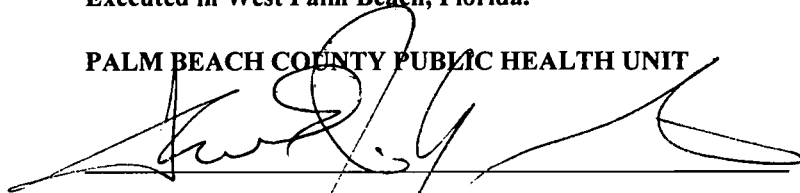
LAWTON CHILES, GOVERNOR

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

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

Executed in West Palm Beach, Florida.

PALM BEACH COUNTY PUBLIC HEALTH UNIT

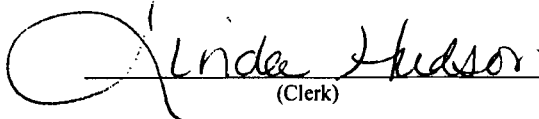


Frank J. Gargiulo, PE, Division Director
Environmental Health and Engineering

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF INTENT TO ISSUE PERMIT and all copies were mailed before the close of business on Nov 14 1995 to the listed persons.

FILING AND ACKNOWLEDGMENT: FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Clerk, receipt of which is hereby acknowledged.



(Clerk)

NOV 14 1995
(Date)

cc: Joe Kahn, P.E., Southeast District - FDEP

Allan Weatherford, Division Environmental Specialist
Florida Gas Transmission Company
601 South Destiny Drive, Maitland, FL 32751

Al Linero, PE, Administrator of New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Road, Tallahassee, FL 32399-2400

NOTICE OF INTENT TO ISSUE PERMIT

PALM BEACH COUNTY PUBLIC HEALTH UNIT

The Palm Beach County Public Health Unit, as delegated by the Florida Department of Environmental Protection, gives notice of its intent to issue air construction permit number 099-0333-002-AC to Mr. William E. Rome, Vice President of Operations for Florida Gas Transmission Company, for the existing Compressor Station No. 21 located on the east side of the Florida Turnpike and the north side of Belvedere Road within the city limits of West Palm Beach. This air pollution permit **modifies** the existing air pollution construction permit for a facility consisting of a pair of identical stationary gas turbines. The draft permit contains limitations on nitrogen oxide emissions, sulfur dioxide emissions, fuel type, fuel consumption, and sulfur content of the fuel. This modification does not increase the potential emissions of any pollutant. Based on the draft permit conditions, the air pollution control devices, and the capacity of the installed equipment, this facility is classified as a non-Title V, minor source of air pollution. The Health Unit believes that reasonable assurances have been provided to indicate the proposed project will not violate air pollution regulations of the county nor the state.

A person whose substantial interests are affected by the Health Unit's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Environmental Control Office of the Palm Beach County Public Health Unit at 901 Evernia Street, P.O. Box 29, West Palm Beach, Florida 33402-0029, within (14) days of receipt of publication of this notice of intent. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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

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

The application 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 the Air Pollution Control Section of the Palm Beach County Public Health Unit located at 901 Evernia Street, West Palm Beach, Florida, 33401.

Filename: 0333002.INT

**TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION**

Florida Gas Transmission Company
*Located on the east side of the Florida Turnpike
and the north side of Belvedere Road within the
city limits of West Palm Beach.*

Air Permit Number 099-0333-002-AC
(Revision of AC50-229440)
Air Construction Permit Modification
Palm Beach County, Florida

Palm Beach County Public Health Unit
Environmental Science and Engineering
Air Pollution Control Section

November 13, 1995

1.0 APPLICATION INFORMATION

1.1 Applicant Name and Address

Florida Gas Transmission Company
 1400 Smith Street
 Houston, TX 77002

Authorized Representative:
 William E. Rome, Vice President of Operations

1.2 Reviewing and Process Schedule

- 10-25-95: Health Unit receives written request to modify construction permit (AC50-229440).
- 10-19-95: BAR approves request to revise original construction permit (AC50-229440) and authorizes Health Unit to process the revision.
- 08-28-95: Health Unit receives verbal request to modify construction permit (AC50-229440).
- 05-30-95: BAR extends construction permit (AC50-229440) from 6/30/95 to 1/30/96.
- 09-24-93: Bureau of Air Regulation FDEP issues construction permit (AC50-229440).

2.0 FACILITY INFORMATION

2.1 Facility Location

Florida Gas Transmission Company

Description: Compressor field station No. 21 supporting a natural gas transmission line.

UTM: Zone 17 ; 584.4 km E ; 2954.7 km N

Directions: *Located on the east side of the Florida Turnpike and on the north side of Belvedere Road within the city limits of West Palm Beach.*

2.2 Standard Industrial Classification Code (SIC #2951)

Major Group Number	49	<i>Electric, Gas, and Sanitary Services</i>
Group Number	492	<i>Gas Production and Distribution</i>
Industry Number	4922	<i>Natural Gas Transmission and Distribution</i>

2.3 Facility Category

Based on the specific conditions in the draft permit and the physical restrictions of the equipment, this facility is classified as a synthetic, non-Title V, *minor source* of air pollution.

3.0 PROJECT DESCRIPTION

3.1 This facility consists of the following emissions units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
01	Unit No. 2101: 6500 bhp natural gas-fired combustion turbine with compressor (Solar Turbines, Inc. Model No. Taurus 60). Controls include dry, low NOX combustion.
02	Unit No. 2102: 6500 bhp natural gas-fired combustion turbine with compressor (Solar Turbines, Inc. Model No. Taurus 60). Controls include dry, low NOX combustion.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

03	Support Equipment , including: 184 bhp natural gas fired emergency generator; 2000 gallon new lube oil tank; 4200 gallon condensate tank; 300 gallon oily water tank; 600 gallon used lube oil tank; 4200 gallon oily water tank; fugitive emissions from valves, flanges, and fittings; and a Mobile Field Compressor (<i>Considered to be insignificant and/or exempt activities or emissions units.</i>).
----	---

3.2 Background

Compressor Station No. 21, to be located in Palm Beach County, is actually part of a larger project. FGTC is beginning the Phase III expansion project which will increase the natural gas transport capacity of the existing Florida gas pipeline system. This phase of the project includes adding turbines with compressors at four existing stations and constructing two new stations. The purpose of the new station in Palm Beach is to support the transmission of natural gas in the pipeline by boosting the line pressure.

3.3 The applicant requested an air construction permit modification to:

- Change the visible emissions standard from 10% to 20% opacity, pursuant to the General Visible Emission Standard [F.A.C. 62-296.310(2)].
- Include only emission limiting standards for NO_x and SO₂ in the units defined in the NSPS. Remove all limits on a pounds per hour or tons per year basis.
- Remove emission limiting standards for CO, VOC, TSP, and PM₁₀. There are no applicable standards in the regulations for these pollutants. Potential emissions for all pollutants are below all major source thresholds.
- Revise testing requirements as follows:

Annual Tests:

- DEP Method 9 for visible emissions
- Fugitive Leak Assessment

Initial Test and Prior to Renewal of Permit:

- EPA Method 1 (Sampling Traverse)
- EPA Method 2 (Velocity and Flow Rate)
- EPA Method 3 or 3A (CO₂, O₂, molecular weight)
- EPA Method 20 (NO_x, SO₂, and O₂.)

This doesn't really say what is changing. However we can't change their intent. Al

Note: SO₂ may be determined from a fuel analysis.)

4.0 RULE APPLICABILITY

The proposed project is subject to preconstruction review under the applicable provisions of Chapter 403, Florida Statutes, and Chapters 62-209 through 62-297 of the Florida Administrative Code (F.A.C.). This facility is located in Palm Beach County, an area designated as "maintenance" for the pollutant ozone and attainment for all other criteria pollutants in accordance with Rule 62-275.410 and 62-275.400 respectively. The proposed project is exempt from review under Rule 62-212.400 F.A.C., Prevention of Significant Deterioration (PSD), because this new source is considered a minor emitting facility for the purpose of PSD regulations (potential to emit less than 250 tons per year of pollutant). The proposed facility shall comply with all applicable provisions of the Florida Administrative Code and, specifically, the following chapters and rules:

- F.A.C. Chapter 62-4 - Permits.
- F.A.C. Rule 62-210.370 - Reports.
- F.A.C. Rule 62-210.650 - Circumvention.
- F.A.C. Rule 62-210.700 - Excess Emissions.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- F.A.C. Rule 62-210.900 - Forms and Instructions.
- F.A.C. Rule 62-212.300 - General Preconstruction Review Requirements.
- F.A.C. Rule 62-296.310 - General Particulate Emission Limiting Standards.
- F.A.C. Rule 62-296.320 - General Pollutant Emission Limiting Standards.
- F.A.C. Rule 62-296.800 - Standards of Performance for New Stationary Sources (NSPS).
- F.A.C. Chapter 62-297 - Stationary Sources - Emissions Monitoring.
- 40 CFR 60, Subpart GG - NSPS, Subpart GG, Stationary Gas Turbines

5.0 SOURCE IMPACT ANALYSIS

5.1 Potential Emissions

Total Facility Emissions (EU-1 and EU-2):

Pollutant	Emission Factor	Limiting Condition	Tons Per Year ⁶
CO	0.45 g/bhp-hr ¹	6500 bhp ⁴	56.58
NO _x	0.62 g/bhp-hr ¹	6500 bhp ⁴	78.10
TSP	5 lb/mmSCF of gas fired ²	0.0684 mmSCF/hr ⁵	3.02
PM ₁₀	5 lb/mmSCF of gas fired ²	0.0684 mmSCF/hr ⁵	3.02
SO ₂	10 grains sulfur/100 SCF ³	0.0684 mmSCF/hr ⁵	17.24
VOC	0.026 g/bhp-hr ¹	6500 bhp ⁴	3.24

Footnotes:

- ¹ - Based on manufacturer's design test data for low NO_x turbine.
- ² - Based on the AP-42 emission factors for the combustion of natural gas.
- ³ - Based on maximum expected sulfur content from historical fuel analysis the of natural gas.
- ⁴ - Based on the design capacity.
- ⁵ - Based on the permit limit.
- ⁶ - Based on continuous operation, 860 hours per year.

5.2 Approval of Modification Request

The applicant's requests are acceptable. This project was inadvertently caught up in larger expansion projects that required PSD review and/or BACT determinations. The applicant requested concurrent review of these projects by the Bureau of Air Regulation for purposes of consistency between the air construction permits. The belief was that this would make the Title V process easier on all parties by incorporating the same emission limiting standards and test requirements. After the initial air construction permit was issued, the state legislature changed the definition of Title V sources to exclude facilities subject to NSPS but that do not trigger any Title V pollutant thresholds. During the application for the minor source operation permit, the applicant requested these modifications as this facility was no longer subject to Title V. The following changes are acceptable:

- (a) The visible emission standard is changed to 20% opacity, pursuant to the General Visible Emission Standard [F.A.C. 62-296.310(2)]. There are no rules or regulations which justify more stringent limits for visible emissions (or particulate matter) nor require the installation of particulate control equipment.
- (b) The emission limiting standards for NO_x and SO₂ is established in the units defined by the NSPS. However, the following restrictions specified in the original construction permit remain:

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- NO_x Limit: 42 ppm_{dv} @ 15% O₂
- Fuel Sulfur Content Limit: 10 grains per 100 SCF of natural gas
- Fuel Consumption Limit: 0.0684 MMCF per hour
- Heat Input Limit: 71.52 mmBTU per hour

The limits for NO_x and SO₂ must remain because they were the basis for the potential emissions of these pollutants. Similarly, the fuel consumption and heat input limits were also the basis for potential emissions of the other criteria pollutants. Therefore, this permit revision does not change the previous calculations of the potential to emit for any pollutant.

- (c) All emission limits on a pounds per hour or tons per year basis are removed.
- (d) The emission limiting standards for CO, VOC, TSP, and PM₁₀ are removed. There are no applicable requirements in the regulations for these pollutants. Previous limits were based on AP-42. Potential emissions for all pollutants are below all major source thresholds.
- (e) As there are no longer limits for CO, VOC, TSP, and PM₁₀, testing requirements for these pollutants are removed. Method 9 and Method 20 is still required. However, testing frequency will be established in the operation permit. Testing requirements are changed to:

Annual Tests:

- DEP Method 9 for visible emissions
- Fugitive Leak Assessment

Initial Test and Prior to Renewal of Permit:

- EPA Method 1 (Sampling Traverse)
- EPA Method 2 (Velocity and Flow Rate)
- EPA Method 3 or 3A (CO₂, O₂, molecular weight)
- EPA Method 20 (NO_x, SO₂, and O₂.)

- Note:
1. SO₂ may be determined from a fuel analysis.
 2. Test frequencies will be established in the operation permit.

5.3 Air Quality Analysis

These changes do not relax any state nor federal requirements nor increase any potential pollutant emissions above those established in the original air construction permit. Al Linero, the Administrator of the New Source Review Section of FDEP, authorized the Health Unit to process this permit revision for a minor source. Theresa Heron, the original FDEP air permit engineer, reviewed and approved these changes. A revised draft permit will be issued for the facility which must be public noticed to make the changes federally enforceable. From a technical review of the application, the Health Unit has determined that this permit revision will not have a detrimental impact on Florida's ambient air quality.

6.0 CONCLUSION

Based on the information provided by the applicant, the Health Unit has a reasonable assurance that the proposed project, as described in this evaluation, and subject to the conditions in the proposed draft permit, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 62-209 through 62-297 of the Florida Administrative Code.

Permit Engineer: J. Koerner
[Filename: 0333002.TE]

(DRAFT)

AIR POLLUTION CONSTRUCTION PERMIT

PALM BEACH COUNTY PUBLIC HEALTH UNIT
ENVIRONMENTAL HEALTH AND ENGINEERING
P.O. Box 29, West Palm Beach, Florida 33402-0029
Telephone: (407) 355-3070

ISSUED TO:

Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

ARMS No.:	099-0333
Permit No.:	099-0333-002-AC
Issued:	(DRAFT)
Expires:	(DRAFT)

Authorized Representative:
William E. Rome, Vice President of Operations

LOCATED AT:

Florida Gas Transmission Company
Description: Compressor field station No. 21 supporting a natural gas transmission line. [Primary SIC: 4922]
UTM: Zone 17 ; 584.4 km E ; 2954.7 km N
Directions: *Located on the east side of the Florida Turnpike and on the north side of Belvedere Road within the city limits of West Palm Beach.*

STATEMENT OF BASIS:

The Palm Beach County Public Health Unit (Health Unit) issues this permit under the provisions of: Chapter 403 of the Florida Statutes; the Florida Administrative Code Chapters 62-4, 62-103, 62-210, 62-296, and 62-297; and the Code of Federal Regulations Title 40, Part 60, Subpart GG. The above named permittee is authorized to construct 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 Health Unit and the Department of Environmental Protection (Department). The Department has permitting jurisdiction, under Florida Statutes 403.087, to issue or deny permits for sources of air pollution in the state of Florida. However, The Department and the Health Unit have entered into a Specific Operating Agreement which designates the Health Unit as the approved local air pollution control program in Palm Beach County. In this agreement, the Department delegated the authority to issue or deny permits to the Health Unit for this type of air pollution source located in Palm Beach County.

NOTE:

This permit revises and supersedes the original air construction permit number AC50-229440.

ISSUED BY:

PALM BEACH COUNTY PUBLIC HEALTH UNIT
Executed in West Palm Beach, Florida.

(DRAFT)

Frank J. Gargiulo, PE, Division Director
Environmental Health and Engineering

SECTION I. SUMMARY INFORMATION
(DRAFT)

PERMIT CONTENT

- Permit Section I - Summary Information
- Permit Section II - Facility-Wide Specific Conditions
- Permit Section III - Emission Unit Specific Conditions
- Appendix A - General Permit Conditions
- Appendix B - Definitions, Abbreviations, and Citation Format
- Appendix C - Forms and Application Procedures
- Appendix D - Summary of Testing Requirements
- Appendix E - Summary of NSPS Requirements
- Appendix F - Exempt and Insignificant Activities

EMISSION UNITS

This permit addresses the following emission units:

EMISSIONS UNIT NO.	EMISSIONS UNIT DESCRIPTION
01	Unit No. 2101 - Combustion turbine with compressor
02	Unit No. 2102 - Combustion turbine with compressor
03	Support equipment, including insignificant and exempt activities

REGULATORY CLASSIFICATION

This facility is subject to the requirements of F.A.C. 62-296.800(2)(a) which incorporates 40 CFR 60, Subpart GG, the New Source Performance Standards (NSPS) for Stationary Gas Turbines. Originally, this facility was designated as a Title V source because the Florida Administrative Code defined all facilities subject to NSPS as Title V sources. In mid 1995, the Florida legislature determined that a facility subject to NSPS must also trigger a Title V emissions threshold in order to also be subject to Title V. Therefore, although subject to NSPS, this facility is classified as a minor, synthetic, non-Title V source based on the capacity of the equipment and the federally enforceable limitations of this air construction permit. During review of the application for an operation permit, the applicant requested: removal of emission limiting standards placed on several pollutants for which there was no rule basis; removal of the requirement to test these pollutants; removal of the requirement for annual testing; and a custom fuel monitoring schedule. The Bureau of Air Regulation approved these changes and authorized the Health Unit to revise this permit.

PERMIT HISTORY

- 11-02-95: Request to change testing and monitoring requirements in air construction permit (AC50-229440).
- 05-30-95: Bureau of Air Regulation extends construction permit (AC50-229440) from 6/30/95 to 1/30/96.
- 10-24-94: Florida Gas Transmission notifies the Bureau of Air Regulation and the Health Unit of change in the turbine model name *only* (from "Centaur-Taurus T-6502" to "Taurus 60").
- 10-19-93: Bureau of Air Regulation issues exemption from air permit requirements for a Mobile Field Compressor (Waukesha Model No. 6-LRORB-13).
- 09-24-93: Bureau of Air Regulation FDEP issues construction permit number AC50-229440.

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS
(DRAFT)

1.0 ADMINISTRATIVE

- 1.1 **Regulating Agencies:** All applications, reports, tests, and notifications shall be submitted to the Air Pollution Control Section of the Palm Beach County Public Health Unit (Health Unit) located at 901 Evernia Street (P.O. Box 29), West Palm Beach, Florida, 33402-0029, and phone number (407) 355-3070. In addition, *copies* shall be submitted to the Air Program, Southeast District Office, Florida Department of Environmental Protection (FDEP) located at 1900 South Congress Avenue (P.O. Box 15425), West Palm Beach, Florida, 33416-5425, and phone number (407) 433-2650. **[Specific Operating Agreement]**
- 1.2 **General Conditions:** The owner and operators shall be aware of, and operate under, the attached General Permit Conditions G.1 through G.15 listed in *Appendix A*. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. **[F.A.C. 62-4.160]**
- 1.3 **Terminology:** The terms used in this permit have specific meanings as defined in the corresponding chapter of the Florida Administrative Code. Key definitions, abbreviations, and rule citation formats are provided in *Appendix B*.
- 1.4 **Forms and Application Procedures:** The permittee shall use the applicable forms listed in F.A.C. Rule 62-210.900 (*see Appendix C*) and follow the application procedures in F.A.C. Chapter 62-4. **[F.A.C. 62-210.900]**
- 1.5 **Expiration:** This air construction permit shall expire (DRAFT). **[F.A.C. 62-210.300(1)]**
- 1.6 **Application for Operation Permit:** The applicant has previously submitted the processing fee and an application for an operation permit. This air construction permit revises specific permit conditions to reflect the current applicable requirements of the state. Emissions stack testing required by this permit has already been performed and shows satisfactory compliance with all standards. Therefore, the air operation permit will be issued based on this revised permit. *No further action is required of the applicant.* **[F.A.C. 62-210.300(1)]**
- 1.7 **Applicable Regulations:** This facility is subject to the following regulations: Florida Administrative Code Chapters 62-4; 62-210; 62-296; 62-297; and the Code of Federal Regulations Section 40, Part 60. Specifically, the combustion gas turbines are subject to the New Source Performance Standards (NSPS) for Stationary Gas Turbines identified by the Code of Federal Regulations Section 40, Part 60, Subpart GG, and incorporated by reference in the Florida Administrative Code regulation 62-296.800(2)(a)37. 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. **[F.A.C. 62-210.300(1) and the SOA]**

2.0 EMISSION LIMITING STANDARDS

- 2.1 **General Visible Emissions Standard:** No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere any air pollutants from new, or existing emissions units, the opacity of which is equal to or greater than 20 percent. **[F.A.C. 62-296.310(2)]**
- 2.2 **Unconfined Emissions of Particulate Matter [F.A.C. 62-296.310(3)]**
 - (a) The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.
 - (b) Reasonable precautions shall include the following:
 - Confining abrasives or dust from sand blasting, sanding, and/or grinding to the facility property.

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS
(DRAFT)

- Cleaning and maintaining paved parking and traffic areas free of excess dust.
- Applying of asphalt, water, chemicals, or other dust suppressants to unpaved roads, yards, open stock piles, and other sources of fugitive dust, as necessary.

NOTE: Facilities that cause frequent, valid complaints may be required by the Health Unit to take these or other reasonable precautions. In determining what constitutes reasonable precautions for a particular source, the Health Unit shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

2.3 General Pollutant Emission Limiting Standards: [F.A.C. 62-296.320]

- (a) The owner or operator shall not store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems.
- (b) No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

NOTE: An objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [F.A.C. 62-296.200(123)]

3.0 OPERATION AND MAINTENANCE

- 3.1 **Changes/Modifications:** The owner or operator shall submit to the Health Unit for review any changes in, or modifications to: the method of operation; process or pollution control equipment; increase in hours of operation; equipment capacities; or any change which would result in an increase in potential emissions. Depending on the size and scope of the modification, it may be necessary to submit an application for, and obtain, an air construction permit prior to making the desired change. *Routine maintenance of equipment described in this permit would not constitute a modification of this permit.* [F.A.C. 62-4.030, 62-210.300 and 62-4.070(3)]
- 3.2 **Plant Operation - Problems:** If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the owner or operator shall notify the Health Unit 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. [F.A.C. 62-4.130]
- 3.3 **Circumvention:** The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [F.A.C. Rules 62-210.650]
- 3.4 **Excess Emissions Requirements** [F.A.C. 62-210.700]
 - (a) Excess emissions resulting from start-up, shutdown or malfunction of these emissions units shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized, but in no case exceed two hours in any 24 hour period unless specifically authorized by the Health Unit for longer duration. [F.A.C. 62-210.700(1)]

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS
(DRAFT)

- (b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited. [F.A.C. 62-210.700(4)]
- (c) In case of excess emissions resulting from malfunctions, the owner or operator shall notify the Air Pollution Control Section of the Palm Beach County Public Health Unit within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the problem; and the corrective actions being taken to prevent recurrence. [F.A.C. 62-210.700(6)]

4.0 TEST REQUIREMENTS

- 4.1 Test procedures shall meet all applicable requirements of the Florida Administrative Code Chapter 62-297. See *Appendix D* for a summary of these requirements. [F.A.C. 62-297.100]
- 4.2 Test Notification: The owner or operator shall notify the Health Unit in writing at least (30) days prior to each scheduled compliance test of the test date, the expected test time, the facility contact person for the test, and the person or company conducting test. The (30) day notification requirement may be waived at the discretion of the Health Unit. Likewise, if circumstances prevent testing during the test window specified for the emission unit, the owner or operator may request an alternate test date before the expiration of this window. [F.A.C. 62-297.340(1)(i) and 40 CFR 60.8]
- 4.3 Special Compliance Tests: When the Health Unit, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Rule 62-210, 62-212, 62-252, 62-272, 62-273, 62-275, 62-296, or 62-297, F.A.C. or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the Health Unit. [F.A.C 62-297.340(2)]
- 4.4 Stack Testing Facilities: The owner or operator shall install stack testing facilities in accordance with F.A.C. 62-297.345(1). These requirements are summarized in *Appendix D*.
- 4.5 Exceptions and Approval of Alternate Procedures and Requirements: An Alternate Sampling Procedure (ASP) may be requested from the Bureau of Air Regulation of the Florida Department of Environmental Protection in accordance with the procedures specified in F.A.C. Rule 62-297.620 and listed in *Appendix D*.

5.0 REPORTS AND RECORDS

- 5.1 Duration: All reports and records required by this permit shall be kept for at least (3) years from the date the information was recorded. [F.A.C. 62-160(14)(b)]
- 5.2 Emission Compliance Stack Test Reports:
 - (a) A test report indicating the results of the required compliance tests shall be filed with the Health Unit as soon as practical, but no later than 45 days after the last sampling run is completed. [F.A.C. 62-297.570(2)]
 - (b) The report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Health Unit 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 F.A.C. 62-297.570(3) and listed in *Appendix D*. Additional report information may be specified in the emission unit subsection of this permit.

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS
(DRAFT)

- 5.3 Excess Emissions Report: If excess emissions occur, the owner or operator shall notify the Air Compliance Section of the Health Unit 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 Health Unit may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, and summarized in *Appendix E* of this permit. [F.A.C 62-4.130 and 62-210.700(6)]
- 5.4 Annual Operating Report for Air Pollutant Emitting Facility: Before March 1st of each year, the owner or operator shall submit to the Health Unit this required report [DEP Form No. 62-210.900(5)], which summarizes operations for the previous calendar year. [F.A.C. 62-210.370(2)]

6.0 OTHER REQUIREMENTS

- 6.1 Waste Disposal: The owner or operator shall treat, store, and dispose of all liquid, solid, and hazardous wastes in accordance with all applicable Federal, State, and Local regulations. This air pollution permit does not preclude the permittee from securing any other types of required permits, licenses, or certifications.

**SECTION III. EMISSION UNIT SPECIFIC CONDITIONS
 (DRAFT)**

SUBSECTION A. This subsection addresses the following emission units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
01	Unit No. 2101: 6500 bhp natural gas-fired combustion turbine with compressor (Solar Turbines, Inc. Model No. Taurus 60)
02	Unit No. 2102: 6500 bhp natural gas-fired combustion turbine with compressor (Solar Turbines, Inc. Model No. Taurus 60)

1.0 EMISSION LIMITING STANDARDS

1.1 New Source Performance Standards (NSPS): Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG:

(a) **Standard for Nitrogen Oxides. [40 CFR 60.332(a), (c)]**

No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = (0.015) \times [14.4 \div Y] + F]$$

Where:

STD = Allowable NO_x emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = Manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO_x emission allowance for fuel-bound nitrogen as defined in the following table:

Fuel bound nitrogen (percent by weight)	F (NO _x percent by volume)
N < or = 0.015	0
0.015 < N < or = 0.1	0.04 x (N)
0.1 < N < or = 0.25	0.004 + (0.0067) x (N - 0.1)
N > 0.25	0.005

Where, (N) is the nitrogen content of the fuel (percent by weight), OR,

Manufacturers may develop custom fuel-bound nitrogen allowances for each gas turbine model they manufacture. These fuel-bound nitrogen allowances shall be substantiated with data and must be approved for use by the Administrator before the required initial performance test. Notices of approval of custom fuel-bound nitrogen allowances will be published in the Federal Register.

(b) **Standard for Sulfur Dioxide. [40 CFR 60.333(a), (b)]**

(1) The owner or operator shall not cause to be discharged into the atmosphere from any gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS
(DRAFT)

- (2) The owner or operator shall not burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.8 percent by weight.
- 1.2 **State Limits:** In accordance with the original air construction permit [AC50-229440] which more stringently limited the potential emissions of nitrogen oxides and sulfur dioxide:
- (a) **Nitrogen Oxides:** Emission of oxides of nitrogen from each stationary gas turbine shall not exceed 42 parts per million by volume at 15 percent oxygen, on a dry basis.
- (b) **Sulfur Dioxide:** The sulfur content of the fuel burned in each stationary gas turbine is limited to 10 grains per 100 standard cubic feet of natural gas on a monthly average.
- 1.3 **Visible Emissions:** Visible emissions from the stationary gas turbine exhaust stacks shall not exceed 20% opacity. [F.A.C. 62-296.310(2)]

2.0 OPERATIONAL RESTRICTIONS

- 2.1 **New Source Performance Standards (NSPS):** Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG: The owner or operator shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight. [40 CFR 60.333(b)]
- 2.2 **Restricted Hours of Operation:** The stationary gas turbines may operate continuously at 8760 hours per year. [Permit No. AC50-229440]
- 2.3 **Operational Limitations:** [F.A.C. 62-4.070(3) and Permit No. AC50-229440]
- (a) Fuel for each turbine is limited to natural gas with a maximum fuel consumption rate not to exceed (0.0684) million cubic feet per hour (*based on a daily average*).
- (b) For each stationary gas turbine, the maximum design heat input shall not exceed (71.52) mm BTU per hour (*based on the daily average fuel consumption and the heat content of the natural gas determined from the most recent fuel analysis*).

3.0 CONTINUOUS ASSURANCE MONITORING (CAM) REQUIREMENTS

- 3.1 **New Source Performance Standards (NSPS):** Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG:
- (a) **Monitoring of operations.** [40 CFR 60.334(b)]

The owner or operator shall monitor the sulfur content and nitrogen content of the fuel being fired in the gas turbines. The frequency of determination of these values shall be as follows:

- (1) If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
- (2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. However, owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS
(DRAFT)

characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Health Unit before they can be used to comply with this requirement. *Custom schedules shall be included as conditions of the operation permit.*

- (b) **Excess Emissions.** [40 CFR 60.334(c)]: Reportable periods of excess emissions shall be defined as follows:
- (1) *Nitrogen oxides.* Any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in 60.8. Each report shall include the average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions.
 - (2) *Sulfur dioxide.* Any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 percent.

Periods of excess emissions shall be reported in accordance with 40 CFR 60.7 (see *Appendix E*).

- 3.2 **Continuous Assurance Monitor (CAM):** In accordance with the manufacturer's recommendations, the owner or operator shall install, calibrate, maintain, and operate a monitoring system to continuously record the natural gas consumption. The system shall be accurate to within 5.0 percent. The monitoring equipment shall be on line and functioning properly while the gas turbines are in operation. [40 CFR 60.334(a) and F.A.C. 62-4.070(3)]

4.0 TESTING REQUIREMENTS

- 4.1 **New Source Performance Standards (NSPS):** Pursuant to F.A.C. 62-296.800, the stationary gas turbines are subject to the following standards of 40 CFR 60, Subpart GG:

- (a) **Test methods and procedures.** [40 CFR 60.335]

Method 20 Stack Test: To show compliance with the NSPS emission limiting standards, the owner or operator shall have EPA Method 20 conducted on each gas turbine to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The performance test shall be conducted in accordance with: the test methods and procedures defined in 40 CFR 60, Appendix A; the requirements of 40 CFR 60.8 (see *Appendix E* of this permit); and the following requirements:

- (1) *Span Values:* The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. [40 CFR 60.335(c)]
- (2) *Initial Test:* Within 60 days after achieving the maximum production rate at which the gas turbines will be operated, but not later than 180 days after initial startup, the owner or operator of such facility shall conduct the initial performance tests and furnish the Health Unit with a written report of the results. [40 CFR 60.8]
- (3) *NO_x Correction:* The nitrogen oxides emissions (NO_x) shall be computed for each run using the following equation [40 CFR 60.335(c)(1)]:

$$NO_x = (NO_{xO}) \times (P_R / P_O) \times (0.5) \times (e^{(19) \times (H_o - 0.00633)}) \times (288^\circ K \div T_A) \times (1.53)$$

Where:

NO_x = NO_x emissions at 15% O₂ and ISO standard ambient conditions, volume percent.
NO_{xO} = Observed NO_x concentration, ppm by volume.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS
(DRAFT)

P_R	=	Reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.
P_O	=	Observed combustor inlet absolute pressure at test, mm Hg.
H_o	=	Observed humidity of ambient air, grams H_2O per gram of air.
e	=	Transcendental constant, 2.718.
T_A	=	Ambient temperature, °K.

- (4) Alternate Test Method: Instead of using the equation specified to correct for NO_x , manufacturers may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test to ISO standard day conditions. These factors are developed for each gas turbine model they manufacture in terms of combustion inlet pressure, ambient air pressure, ambient air humidity, and ambient air temperature. They shall be substantiated with data and must be approved for use by the Administrator before the initial required performance test. Notices of approval of custom ambient condition correction factors will be published in the Federal Register. [40 CFR 60.335(f)(1)]
- (b) Fuel Sampling and Analyses: To show compliance with the nitrogen and sulfur contents of the fuel being burned, the owner or operator shall use the following sampling and analyses methods:
- (1) To compute the nitrogen oxides emissions, the owner or operator shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator to determine the nitrogen content of the fuel being fired. [40 CFR 60.335(a)]
 - (2) The owner or operator shall determine compliance with the sulfur content of the fuel as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator. [40 CFR 60.335(d)]

The 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. [40 CFR 60.335(e)]

- 4.2 Visible Emissions Tests: To show compliance with the visible emissions (opacity) standard of this permit, the owner or operator shall have EPA Method 9, *Visual Determination of the Opacity of Emissions from Stationary Sources*, conducted in accordance with the methods and procedures provided in 40 CFR 60, Appendix A. The test shall be conducted for at least (30) minutes. [F.A.C. 62-297.340]
- 4.3 Fugitive Leak Assessment: The owner or operator shall perform a visual inspection of the gas turbine, compressor engine, filters, exhaust stack and ductwork, and natural gas piping system for rust spots, cracks, leaks, and/or odors. In addition, all safety mechanisms shall be inspected in order to ensure proper functioning. A report on the findings of the inspection and any corrective actions taken shall be submitted along with the required visible emission test report. [F.A.C 62-4.070(3)]

4.0 RECORDS AND REPORTS

- 4.1 Fuel Sampling Log: The owner or operator shall record and keep the results of the required fuel sampling and analyses in a log suitable for inspection. This log shall remain on site at the facility and made available to the Health Unit upon request. At a minimum this log shall include [F.A.C. 62-4.070(3)]:
- Date fuel sample was taken and by which party.
 - Method of analyses.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS
(DRAFT)

- Party performing analyses.
 - Results of analyses: nitrogen content in percent by weight; sulfur content in percent by weight *and* grains per 100 standard cubic feet of natural gas; and heat content in mmBTU per standard cubic feet of natural gas.
- 4.2 Test Reports: The following reports shall be submitted to the Health Unit indicating the results of the tests required by this subsection :
- (a) *EPA Method 20*: The report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Health Unit 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 62-297.570(3), F.A.C., and included as *Appendix D*. [40 CFR 60.335]
- (b) *EPA Method 9*: This test report shall include the following information [F.A.C. 62-4.070(3)]:
- Visible Emissions Observation Form.
 - Observer Certification.
 - Average natural gas consumption rate.
 - Compliance status.
 - Results of Fugitive Leak Assessment.
- 4.3 Continuous Assurance Monitor Log: The owner or operator shall maintain a complete file of all measurements, including continuous monitor system, monitoring device, and performance testing measurements; all continuous monitor system performance evaluations; all continuous monitor system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required, recorded in a permanent legible form suitable for inspection. The file shall be retained at the facility for at least three years following the date of such measurements, maintenance, reports and records. [F.A.C. 62-4.070(3)]
- 4.4 Daily Operation and Maintenance (O&M) Log: Operators shall keep a daily O&M log to include, *at a minimum*, the following information [F.A.C. 62-4.070(3)]:
- Date.
 - Name of operator.
 - Average fuel consumption in million cubic feet of natural gas per hour.
 - Average heat input in mmBTU per hour (*based on the average fuel consumption and the most recent heat content determined by sampling and analysis*).
 - Any maintenance performed on the gas turbines and/or monitoring equipment. (*Log should indicate the problem, the maintenance or repair made, and the person or company performing the work.*)
 - Any comments on the performance of the gas turbines beneficial to the next operator.

SECTION III. EMISSION UNIT SPECIFIC CONDITIONS
(DRAFT)

SUBSECTION B. This subsection addresses the following emissions units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
03	Support Equipment , including: 184 bhp natural gas fired emergency generator; 2000 gallon new lube oil tank; 4200 gallon condensate tank; 300 gallon oily water tank; 600 gallon used lube oil tank; 4200 gallon oily water tank; fugitive emissions from valves, flanges, and fittings; and a Mobile Field Compressor (<i>See Appendix F for a list of insignificant and/or exempt activities or emissions units.</i>).

1.0 OPERATIONAL RESTRICTIONS

In accordance with the Conditional Exemption issued on October 19, 1993:

1.1 Restricted Hours of Operation

- (a) The 182 hp natural gas fired emergency electrical generator shall not operate more than 400 hours per consecutive (12) month period.
- (b) The 439 hp natural gas fired Mobile Field Compressor (Waukesha Model 6-LRORB-13) shall not operate more than 168 hours per consecutive (12) month period.

1.2 Fuel Limitations: Fuel for the emergency generator and mobile field compressor is limited to natural gas.

LIST OF APPENDICES

ATTACHMENT	DESCRIPTION
A	General Permit Conditions
B	Definitions, Abbreviations, and Citation Format
C	Forms and Permit Application Procedures
D	Summary of State Testing Requirements
E	Summary of Miscellaneous NSPS Requirements
F	Exempt and Insignificant Sources

ATTACHMENT A
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.

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.

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

- 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 (*BACT is not applicable*);
 - (b) Determination of Prevention of Significant Deterioration (*PSD is not applicable*); and
 - (c) Compliance with New Source Performance Standards (*NSPS is applicable*).
- 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.

ATTACHMENT B
DEFINITIONS, ABBREVIATIONS, AND CITATION FORMAT

62-296.200 Definitions.

The following words and phrases when used in this chapter shall, unless content clearly indicates otherwise, have the following meanings:

- (12) Allowable Emissions: The emission rate calculated using the maximum rated capacity of the emissions unit, as limited or modified by any state or federally enforceable restrictions on the operating rate or hours of operation, or both, and the most stringent state or federal emission limiting standard applicable to the emissions unit; or the maximum allowable emission rate specified by any state or federally enforceable permit conditions.
- (56) Department: The State of Florida Department of Environmental Protection.
- (59) Emission: The discharge or release into the atmosphere of one or more air pollutants.
- (60) Emission Limiting Standard or Emission Standard or Emission Limitation or Performance Standard: Any restriction established in or pursuant to a regulation adopted by the Department which limits the quantity, rate, concentration or opacity of any pollutant released, allowed to escape or emitted, whether intentionally or unintentionally, into the atmosphere, including any restriction which prescribes equipment, sets fuel specifications, or prescribes operation or maintenance procedures for an emissions unit to assure emission reduction or control.
- (61) Emission Point or Discharge Point: The point at which an air pollutant first enters the atmosphere.
- (62) Emissions Unit: Any part or activity of a facility that emits or has the potential to emit any air pollutant.
- (65) Environmental Protection Agency or EPA: The United States Environmental Protection Agency.
- (66) Excess Emissions: Emissions of pollutants in excess of those allowed by any applicable rule of the Department or by a permit issued pursuant to any such rule or Chapter 62-4, F.A.C. The term applies only to conditions which occur during startup, shutdown, sootblowing, load changing or malfunction.
- (72) Facility: All of the emissions units which are located on one or more contiguous or adjacent properties and which are under the control of the same person (or persons under common control).
- (107) Malfunction: Any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.
- (122) Nonattainment Area: Any area not meeting ambient air quality standards and designated as a nonattainment area under Rule 62-275.410, F.A.C. Such an area may be designated as a particulate, sulfur dioxide, nitrogen dioxide, carbon monoxide, lead or ozone nonattainment area, depending on which ambient standard has been violated. An area may be designated as nonattainment for more than one air pollutant. Ozone nonattainment areas may be transitional, marginal, moderate, serious, severe, or extreme as classified in Rule 62-275.410, F.A.C. *Palm Beach County is currently designated as a moderate nonattainment area for the pollutant ozone.*
- (123) Objectionable Odor: Any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.
- (126) Opacity: A condition which renders material partially or wholly impervious to rays of light causing obstruction of observer's view.
- (131) Owner or Operator: Any person or entity who or which owns, leases, operates, controls or supervises an emissions unit or facility.

ATTACHMENT B
DEFINITIONS, ABBREVIATIONS, AND CITATION FORMAT

- (159) **Secretary**: The Secretary of the Department of Environmental Protection.
- (161) **Shutdown**: The cessation of the operation of an emissions unit for any purpose.
- (171) **Stack**: A pipe, duct, chimney, or other functionally equivalent device that confines and conveys air pollutants from an emissions unit or group of emissions units into the atmosphere through an emission point designed to discharge air pollutants into the atmosphere, but not including flares.
- (174) **Startup**: The commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
- (192) **Unconfined Emissions**: Emissions which escape and become airborne from unenclosed operations or which are emitted into the atmosphere without being conducted through a stack.
- (199) **Visible Emission**: An emission greater than 5 percent opacity as measured by standard methods.

ABBREVIATIONS:

°F: Degrees Fahrenheit

CFR: Code of Federal Regulations

DARM: Division of Air Resource Management, Florida Department of Environmental Protection

EPA: United States Environmental Protection Agency

F.A.C.: Florida Administrative Code

FDEP: Florida Department of Environmental Protection

F.S.: Florida Statutes

Health Unit: Palm Beach County Public Health Unit, Division of Environmental Science and Engineering

LAT: Latitude

LONG: Longitude

PBCPHU: Palm Beach County Public Health Unit, Division of Environmental Science and Engineering

PTE: Permanent Total Enclosure

SOA: Palm Beach County Specific Operating Agreement

UTM: Universal Transverse Measurements

VOC: Volatile Organic Compounds

ATTACHMENT B
DEFINITIONS, ABBREVIATIONS, AND CITATION FORMAT

CITATION FORMAT

The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, guidance memorandums, ID numbers, and permit numbers.

Guidance Memorandums from the Bureau of Air Regulation, Florida Department of Environmental Protection:

Example: [DARM-PER/GEN-12] (*Refers to a specific, numbered guidance memorandum.*)

Florida Administrative Code (F.A.C.) Regulations:

Example: [F.A.C. 62-4.070]

Where: 62 - Title 62
62-4 - Chapter 62-4
62-4.070 - Rule 62-4.070

Code of Federal Regulations:

Example: [40 CFR 60.334]

Where: 40 - Title 40
CFR - Code of Federal Regulations
60 - Part 60
60.334 - Rule 60.334

Permit or Application File Numbers:

Example: 099-0333-002-AC, or
099-0333-001-AO

Where:

AC - Air Construction Permit
AO - Air Operation Permit
099 - Number code identifying the facility is located in Palm Beach County
0333 - 4-digit facility identification number assigned by permit tracking database
001 or 002 - 3-digit sequential file number assigned by permit tracking database

Air Resources Management System (ARMS) Identification (ID) Number:

Example: ARMS ID No.: 099-0333

Where:

099 = Number code identifying the facility is located in Palm Beach County.
0333 = 4-digit facility identification number assigned by state database.

ATTACHMENT C
FORMS AND PERMITTING PROCEDURES

Forms [F.A.C Chapter 62-1]

62-1.200 Approved Forms and Instructions.

As a result of changes to Chapter 120, F.S., the Department no longer lists forms in a single rule. Forms that are adopted as rules will be listed or referenced in the rule to which the form is applicable. A complete list of all forms in current use by the Department is available from the Department's Information Center, Phone Number (904) 488-0890 at the address listed in Chapter 17-101, F.A.C. The following is a list of the most commonly used forms:

- Application for Air Permit - Long Form [FDEP Form no. 62-210.900(1)], Effective 11-23-94
- Application for Air Permit - Short Form [FDEP Form No. 62-210.900(2)], Effective 11-23-94
- Annual Operating Report For Air Pollutant Emitting Facility, [FDEP Form No. 62-210.900(5)], Effective 11-23-94
- Application for Transfer of Permit [FDEP Form No. 17-1.201(1)], Effective 11-30-82
- Notification of Intent to Relocate Air Pollutant Emitting Facility [FDEP Form No. 62-210.900(3)], Effective 11-23-94,

The above forms are also available from the Palm Beach County Public Health Unit at 901 Evernia Street, West Palm Beach, Florida, 33401, phone number (407) 355-3070.

Permit Procedures [F.A.C Chapter 62-4]

This chapter was transferred from Title 17, effective Aug. 10, 1994, due to a merger of the Department of Environmental Regulation and the Department of Natural Resources.

- **Part I** of this chapter defines the: permit requirements; application procedures; permit processing fees; consultation; standards for issuing or denying permits; modification of permit conditions; permit renewals; suspension and revocation of permits; financial responsibility of the applicant; transfer of ownership of permits; problems with plant operation and notification; public hearings and review; and general conditions for all permits.
- **Part II** of this chapter defines: the requirements and procedures for construction permits; the requirements and application procedures for operation permits for new sources; and the preservation of rights.
- **Part III** of this chapter defines the procedures for general permits.

If necessary, copies of this chapter may also be obtained from the above sources.

ATTACHMENT D
SUMMARY OF STATE TESTING REQUIREMENTS

This chapter was transferred from Title 17, effective Aug. 10, 1994, due to a merger of the Department of Environmental Regulation and the Department of Natural Resources. This attachment is ONLY a summary of portions of this chapter that may be of interest to the permittee for this particular facility. Please contact the Health Unit for a complete set of the rules of this chapter or regarding any questions concerning this chapter at 901 Evernia Street, West Palm Beach, Florida, 33401, phone number (407) 355-3070.

62-297.100 Purpose and Scope.

This chapter, along with Rules 62-252.500, 62-296.500, 62-296.800 and 62-296.810, F.A.C., establishes the test procedures that shall be used to determine the compliance of air pollutant sources with emission limiting standards specified in or established pursuant to any provisions of Rule 62-210, 62-212, 62-252, 62-272, 62-273, 62-275, 62-296, or 62-297, F.A.C.

62-297.330 Applicable Test Procedures.

This section, along with Rules 62-296.800 and 62-296.810, F.A.C., identifies the DEP and EPA test methods that are applicable for conducting compliance tests for all air pollution sources for which an emission limiting standard is specified in or established pursuant to Rule 62-210, 62-212, 62-252, 62-272, 62-273, 62-275, 62-296, or 62-297, F.A.C., and establishes required sampling times, minimum sample volumes and special test requirements, as applicable, for each category of sources.

(1) **Required Sampling Time.**

- (a) Unless otherwise specified in Table 297.330-1, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
- (b) **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified (in Table 297.330-1) as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for major sources, and thirty (30) minutes for minor sources not subject to a multiple valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - 1. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
 - 2. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.340(3), F.A.C., Waiver of Compliance Test Requirement, shall be established on a case-by-case basis as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
 - 3. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(2) **Minimum Sample Volume.** Unless otherwise specified in the following table the minimum sample volume per run shall be 25 dry standard cubic feet.

(3) **Required Flow Rate Range.** For DEP Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the

ATTACHMENT D
SUMMARY OF STATE TESTING REQUIREMENTS

average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

- (4) Calibration. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.330-2.
- (5) EPA Method 5. When EPA Method 5 is cited in Table 297.330-1 the following modification is allowed; the heated filter may be separated from the impingers by a flexible tube.
- (6) Alternate Test Procedures Not Subject to Prior Approval. A visible emission test indicating no visible emissions (5 percent opacity) may be submitted in lieu of a particulate stack test for materials handling sources subject to Rule 62-296.711, F.A.C., where the source is equipped with a baghouse.

62-297.345 Stack Sampling Facilities Provided by the Owner of an Air Pollution Point Source.

This section describes the minimum requirements for stack sampling facilities that are necessary to sample point sources. Sampling facilities include sampling ports, work platforms, access and electrical power. Sources must provide these facilities at their expense. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR 1910, Subparts D and E. A copy of this reference document is available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. and may be inspected at the Department's Tallahassee office.

- (1) Permanent Test Facilities. The owner or operator of a source that is required to conduct a compliance test, other than a visible emission test, on at least an annual basis, shall install and maintain permanent stack testing facilities.
- (2) Temporary Test Facilities. The owner or operator of a source that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary test facilities. If the owner chooses to use temporary test facilities on any source, such temporary facilities shall be installed on the source within 5 days of a request by the Department and remain on the source until the test is completed.
- (3) Test Facilities.
 - (a) Sampling Ports.
 1. All sampling ports shall have a minimum inside diameter of 3 inches.
 2. The ports shall be capable of being sealed when not in use.
 3. Location of sampling ports.
 - a. The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, construction or other flow disturbances.
 - b. For sources which do not comply with the criteria set forth in a. above, the source owner or operator shall demonstrate to the Department, within 12 months after the effective date of this rule, that sampling port locations for such source are not subject to flow disturbances which result in invalid test results. If the source cannot make such a demonstration to the Department's satisfaction, the Department, after full review of all data timely submitted by the source, shall specify appropriate sampling procedures or port locations in the source's operating permit.

ATTACHMENT D
SUMMARY OF STATE TESTING REQUIREMENTS

4. For sources for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For sources for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
 5. On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. For sources not subject to Rule 62-296.800, F.A.C., (Standards of Performance for New Stationary Sources) or Rule 62-296.810, F.A.C., (Emissions Standards for Hazardous Air Pollutants) and which have submitted a complete application for a permit to construct prior to December 1, 1980, DEP Method 1 may be substituted for EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.
- (b) Work Platforms.
1. Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
 2. On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
 3. On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
 4. All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.
- (c) Access.
1. Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
 2. Walkways over free fall areas shall be equipped with safety rails and toe boards.
- (d) Electrical Power.
1. A minimum of two 120 volts AC, 20 amps outlets shall be provided at the sampling platform with 20 feet of each sampling port.
 2. If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.
- (e) Sampling Equipment Support.
1. An eyebolt and angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts. The eyebolt shall be capable of supporting a 500

ATTACHMENT D
SUMMARY OF STATE TESTING REQUIREMENTS

pound working load. The dimensions and placement of these fixtures are shown on Figure 297.345-1. A complete monorail or dual rail arrangement may be substituted for the eyebolt and bracket.

2. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.
3. When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

62-297.570 Test Reports.

- (1) The owner or operator of an air pollution source, for which a compliance test is required, shall file a report with the Department on the results of each such test.
- (2) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
- (3) The test report shall provide sufficient detail on the source tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than an EPA or DEP Method 9 test, shall provide information on:
 - (a) The type, location, and designation of the source tested.
 - (b) The facility at which the source is located.
 - (c) The owner or operator of the source.
 - (d) The normal type and amount of fuels used and materials processed and the types and amounts of fuels used and material processed during each test run.
 - (e) The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 - (f) The type of air pollution control devices installed on the source, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 - (g) A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 - (h) The date, starting time and duration of each sampling run.
 - (i) The test procedures used including any alternative procedures authorized pursuant to Rule 62-297,620, F.A.C.. Where optional procedures are authorized in this chapter, indicate which option was used.
 - (j) The number of points sampled and configuration and location of the sampling plane.
 - (k) For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
 - (l) The type, manufacturer and configuration of the sampling equipment used.
 - (m) Data related to the required calibration of the test equipment.
 - (n) Data on the identification, processing and weights of all filters used.
 - (o) Data on the types and amounts of any chemical solutions used.
 - (p) Data on the amount of pollutant collected from each; the sampling probe, the filters, and the impingers, are reported separately for the compliance test.
 - (q) The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
 - (r) All measured and calculated data required to be determined by each applicable test procedure for each run.
 - (s) The detailed calculations for one run that relate the collected data to the calculated emission rate.
 - (t) The applicable emission standard, and the resulting maximum allowable emission rate for the source, plus the test result in the same form and unit of measure.

ATTACHMENT D
SUMMARY OF STATE TESTING REQUIREMENTS

- (u) A certification that to the knowledge of the owner or his authorized agent, all data submitted is true and correct.

When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

ATTACHMENT E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

60.7 Notification and record keeping.

- (a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification as follows:
- (1) A notification of the date construction (or reconstruction as defined under 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
 - (2) A notification of the anticipated date of initial startup of an affected facility postmarked not more than 60 days nor less than 30 days prior to such date.
 - (3) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.
 - (4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
 - (5) A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.
 - (6) A notification of the anticipated date for conducting the opacity observations required by 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.
 - (7) A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 60.8 in lieu of Method 9 observation data as allowed by 60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.
- (b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
- (c) Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

ATTACHMENT E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

- (1) The magnitude of excess emissions computed in accordance with 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
 - (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
 - (3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
 - (4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- (d) The summary report form shall contain the information and be in the format shown in figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility. *(See page E-4 for Figure 1.)*
- (1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 60.7(c) need not be submitted unless requested by the Administrator.
 - (2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 60.7(c) shall both be submitted.
- (e) (1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:
- (i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;
 - (ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the applicable standard; and
 - (iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.
- (2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of

ATTACHMENT E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

- (3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.

- (f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records.

- (g) If notification substantially similar to that in paragraph (a) of this section is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of paragraph (a) of this section.

- (h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

ATTACHMENT E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

Figure 1--Summary Report-- Gaseous and Opacity Excess Emission and Monitoring System Performance

Pollutant (Circle One): SO₂ NO_x TRS H₂S CO Opacity

Reporting period dates: From _____ to _____

Company: _____

Emission Limitation: _____

Address: _____

Monitor Manufacturer: _____

Model No.: _____

Date of Latest CMS Certification or Audit: _____

Process Unit(s) Description: _____

Total source operating time in reporting period: _____

Emission data summary ^{1,2}	CMS performance summary ^{1,2}
1. Duration of excess emissions in reporting period due to: a. Startup/shutdown b. Control equipment problems c. Process problems d. Other known causes e. Unknown causes 2. Total duration of excess emissions 3. Total duration of excess emissions x (100) / [Total source operating time]	1. CMS downtime in reporting period due to: a. Monitor equipment malfunctions b. Non-Monitor equipment malfunctions c. Quality assurance calibration. d. Other known causes e. Unknown causes 2. Total CMS Downtime 3. [Total CMS Downtime] x (100) / [Total source operating time]

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 60.7(c) shall be submitted.

Note: On a separate page, describe any changes since last quarter in CMS, process or controls.

I certify that the information contained in this report is true, accurate, and complete.

Name: _____

Signature: _____ Date: _____

Title: _____

ATTACHMENT E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

60.8 Performance tests.

- (a) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).
- (b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.
- (c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
- (d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present.
- (e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:
 - (1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test 1 methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
 - (2) Safe sampling platform(s).
 - (3) Safe access to sampling platform(s).
 - (4) Utilities for sampling and testing equipment.
- (f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

ATTACHMENT E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

60.330 Applicability and designation of affected facility.

- (a) The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour, based on the lower heating value of the fuel fired.
- (b) Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after October 3, 1977, is subject to the requirements of this part except as provided in paragraphs (e) and (j) of 60.332.

60.331 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

- (a) Stationary gas turbine means any simple cycle gas turbine, regenerative cycle gas turbine or any gas turbine portion of a combined cycle steam/electric generating system that is not self propelled. It may, however, be mounted on a vehicle for portability.
- (b) Simple cycle gas turbine means any stationary gas turbine which does not recover heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine, or which does not recover heat from the gas turbine exhaust gases to heat water or generate steam.
- (c) Regenerative cycle gas turbine means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine.
- (d) Combined cycle gas turbine means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to heat water or generate steam.
- (e) Emergency gas turbine means any stationary gas turbine which operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation.
- (f) Ice fog means an atmospheric suspension of highly reflective ice crystals.
- (g) ISO standard day conditions means 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.
- (h) Efficiency means the gas turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output based on the lower heating value of the fuel.
- (i) Peak load means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.
- (j) Base load means the load level at which a gas turbine is normally operated.
- (k) Fire-fighting turbine means any stationary gas turbine that is used solely to pump water for extinguishing fires.
- (l) Turbines employed in oil/gas production or oil/gas transportation means any stationary gas turbine used to provide power to extract crude oil/natural gas from the earth or to move crude oil/natural gas, or products refined from these substances through pipelines.
- (m) A Metropolitan Statistical Area or MSA as defined by the Department of Commerce.
- (n) Offshore platform gas turbines means any stationary gas turbine located on a platform in an ocean.
- (o) Garrison facility means any permanent military installation.

ATTACHMENT E
SUMMARY OF MISCELLANEOUS NSPS REQUIREMENTS

- (p) Gas turbine model means a group of gas turbines having the same nominal air flow, combustor inlet pressure, combustor inlet temperature, firing temperature, turbine inlet temperature and turbine inlet pressure.
- (q) Electric utility stationary gas turbine means any stationary gas turbine constructed for the purpose of supplying more than one-third of its potential electric output capacity to any utility power distribution system for sale.
- (r) Emergency fuel is a fuel fired by a gas turbine only during circumstances, such as natural gas supply curtailment or breakdown of delivery system, that make it impossible to fire natural gas in the gas turbine.
- (s) Regenerative cycle gas turbine means any stationary gas turbine that recovers thermal energy from the exhaust gases and utilizes the thermal energy to preheat air prior to entering the combustor.

ATTACHMENT F
EXEMPT AND INSIGNIFICANT SOURCES

The following items have been identified by the owner as insignificant sources of air pollution or are exempt from air pollution permit requirements:

Description of Equipment or Activity	Insignificant / Exempt
184 bhp natural gas fired emergency generator	Conditional exemption
439 Hp natural gas fired mobile field compressor	Conditional exemption
2000 gallon new lube oil tank	Insignificant activity and exempt by 62-4.040
4200 gallon condensate tank	Insignificant activity and exempt by 62-4.040
300 gallon oily water tank	Insignificant activity and exempt by 62-4.040
600 gallon used lube oil tank	Insignificant activity and exempt by 62-4.040
4200 gallon oily water tank	Insignificant activity and exempt by 62-4.040
Fugitive emissions of natural gas from valves, flanges, and fittings.	Insignificant activity and exempt by 62-4.040



STATE OF FLORIDA
DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES

September 7, 1995

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

RECEIVED

SEP 11 1995

Bureau of
Air Regulation

SUBJECT: Unwarranted Emission Limits and Testing Requirements in AC Permit
Florida Gas Transmission - Station No. 21
Air Construction Permit No. AC50-229440

Dear Mr. Fancy:

I am currently working on an application for the initial, minor source operation permit for the above facility which consists of two stationary gas turbines with compressors. Although subject to NSPS, the total emissions for these units do not trigger major source thresholds and, therefore, the facility is not subject to Title V. The applicant has contacted me concerning several specific conditions that are in the air construction permit issued by the Bureau of Air Regulation that he believes are not justified. These include the following items:

- (1) Emission Limiting Standards: In addition to the applicable requirements of the NSPS, the permit places limits on the **maximum allowable emissions¹ from each gas turbine** for the following pollutants:

POLLUTANT	POUNDS PER HOUR ⁶	TONS PER YEAR ⁷	EMISSION FACTOR
Visible Emissions	N/A	N/A	Not to exceed 10% opacity ⁸
Nitrogen Oxides (NO _x) ²	8.92	39.05	0.620 gram per brake horsepower-hour ³
Carbon Monoxide (CO)	6.46	28.29	0.450 gram per brake horsepower-hour ³
Volatile Organic Compounds (VOC)	0.37	1.62	0.026 gram per brake horsepower-hour ³
Particulate Matter (TSP)	0.35	1.51	5 lb/MMscf of natural gas ⁴
Particulate Matter (PM ₁₀)	0.35	1.51	5 lb/MMscf of natural gas ⁴
Sulfur Dioxide (SO ₂) ²	1.97	8.62	10 grains sulfur per 100 scf ⁵

Footnotes:

- ¹ - Based on 100% load conditions.
² - The NO_x and SO₂ emission limits (NSPS) shall not be exceeded. These standards are:
 NO_x: < 42 ppmdv @ 15% O₂ and ISO conditions.
 SO₂: < 0.015% by volume, dry @ 15% O₂ and fuel limited to < 0.80% sulfur, by weight.
³ - Based on manufacturer data.
⁴ - Based on AP-42 emission factor.

- 5 - Based on limit in natural gas contract.
- 6 - Compliance with the pounds per hour limits shall be shown in the annual Emissions Compliance Stack Test Report.
- 7 - Compliance with the tons per year limits shall be shown in the Annual Operating Report.
- 8 - There is no rule citation in the permit for the 10% opacity limit.

(2) Annual Testing Requirements: The air construction permit also contains a condition to conduct the following tests *annually*:

- EPA or DEP Method 1 (Sampling Traverse)
- EPA or DEP Method 2 (Volumetric Flow Rate)
- EPA or DEP Method 3 or 3A (Gas Analysis)
- EPA or DEP Method 9 (Visible Emissions)
- EPA Method 10 (Carbon Monoxide)
- EPA Method 18 (VOC)¹
- EPA Method 20 (NO_x, SO₂, and Diluent Gases)²
- EPA Method 25A (VOC)¹

Notes:

- ¹ - Either EPA Method 18 or EPA Method 25A may be used to determine compliance with the emission limiting standards for VOC. However, the total organics measured by Method 25A must all be assumed to be VOCs.
- ² - SO₂ may be determined by fuel analysis.
- ³ - Since initial compliance was shown with the VOC limit, compliance will be assumed as long as the CO allowable emission rate is maintained.

(3) Daily Fuel Monitoring: The NSPS for stationary gas turbines [40 CFR 60, Subpart GG] requires *daily* monitoring for nitrogen and sulfur content of fuel that is not temporarily stored prior to use. It does allow the applicant to request a *custom schedule* that will show reasonable assurance of compliance.

After a review of the air construction permit, the applicable regulations, and your recent draft guidance memorandum [July 17th - Use of Permit Application Data in Air Permits], I agree with the applicant. However, our Specific Operating Agreement with FDEP requires the local program to include all air construction permit conditions in the air operation permit. Since this facility is designated as an NSPS source not subject to Title V, I recommend the following actions:

- (1) Palm Beach County should revise, at no cost to the applicant, the air construction permit in the following manner:
- Visible emissions should be limited to 20% opacity, pursuant to the General Visible Emission Standard [F.A.C. 62-296.310(2)].
 - Include only emission limiting standards for NO_x and SO₂ in the units defined in the NSPS. (Do not include any limits on a pounds per hour or tons per year basis.)
 - Emission limiting standards for CO, VOC, TSP, and PM10 should be omitted entirely.
 - Existing permit conditions limiting the type of fuel allowed, fuel consumption rate, heat input rate, etc. should remain in the construction and operation permits.

- The testing requirements should be revised as follows:

Annual Tests:

- ◇ DEP Method 9 for visible emissions

Tests Prior to Renewal of Permit:

- ◇ EPA or DEP Method 1 (Sampling Traverse)
- ◇ EPA or DEP Method 2 (Velocity and Flow Rate)
- ◇ EPA or DEP Method 3 or 3A (CO₂, O₂, MW)
- ◇ EPA Method 20 (NO_x, SO₂, O₂, and CO₂. Note: SO₂ may be determined from a fuel analysis.)

- (2) The initial operation permit would then include the revised construction permit conditions.
- (3) The applicant has also requested (attached) a custom monitoring schedule for sampling and analyzing nitrogen and sulfur in the natural gas. These gas turbines with compressors burn only natural gas with a negligible amount of nitrogen and sulfur. The initial compliance tests showed values much less than all construction permit limits. Florida Gas Transmission supplies the gas to customers in accordance with strict contracts. The content of the gas supply is expected to remain constant with little variability. I agree with the applicant that reasonable assurance of compliance can be maintained by monthly record keeping of the nitrogen and sulfur content of the natural gas. I plan to include this custom monitoring schedule in the initial operation permit.

I would like to complete these changes by September 15th, if possible. Please let me know whether or not the above changes are acceptable to the Department. For your convenience, I have enclosed a copy of the air construction permit, the request for a custom monitoring schedule, and the fuel analysis. If you need any other information or have any questions please contact me at the numbers below.

Sincerely,

For the Division Director
Environmental Science and Engineering



Jeffery F. Koerner, P.E.
Palm Beach County Local Air Program
Username: KOERNER @ EPIC66
Phone: (407) 355-4549 FAX: (407) 355-2442 SunCom: 273-4549

Att: Request for Custom Monitoring Schedule
Fuel Analysis

cc: Al Linero, P.E., Administrator
New Source Review Section, BAR-FDEP

Stephanie Brooks, P.E., Air Program
Southeast District Office, Department of Environmental Protection



Florida Gas Transmission Company

P. O. Box 945100 Maitland, Florida 32794-5100 (407) 875-5800

September 6, 1995

Via Fax 407-355-2442

Mr. Jeff Koerner
Air Pollution Control Section
Palm Beach County Health Unit
PO Box 29
West Palm Beach, FL 33402-0029

Dear Mr. Koerner:

**RE: Florida Gas Transmission Company
Compressor Station 21, West Palm Beach, FL
Air Permit No. A050-268530**

As we discussed on the phone yesterday, Florida Gas Transmission Company (FGT) requests that the permit requirement for daily monitoring of sulfur be relaxed to a monthly schedule and that the permit requirement for daily monitoring of nitrogen be eliminated entirely. These changes will significantly reduce the amount of recordkeeping required by the permit without reducing compliance assurances.

The natural gas that is transported via FGT's pipeline system is high quality gas that is extremely low in sulfur content. Because of FGT's customer contract limits and other limitations specific to sulfur, the sulfur content of the gas is never expected to exceed ten grains per one-hundred standard cubic feet (10g/100scf) of gas. In fact, the actual sulfur content is consistently much lower than 10g/100scf as reflected in a recent gas analysis (attached). Monthly monitoring for sulfur will provide complete assurance that compliance is maintained.

Also, as you will see on the attached gas analysis, the nitrogen content of the gas is so low that it should be considered negligible. FGT believes that monitoring of fuel-bound nitrogen does not provide any useful compliance information and should be eliminated as a permit requirement.

Please call me at 407-875-5816 if you need any information to support this request.

Sincerely,

Allan Weatherford, R.E.M.
Division Environmental Specialist

bc/aw0906jk

c Charlie Thompson
Dennis Kurlish

An **ENRON/SONAT** Affiliate

Gas Fuel F Factor & Heating Value Calculation

Client Florida Gas Transmission Company
 Sample ID pipeline natural gas (residue gas)
 Time 9:25
 Date 7/28/95

CALCULATION OF DENSITY AND HEATING VALUE @ 60°F and 30 in Hg

Component	% Volume	Molecular Wt.	Density (lb/ft3)	% volume		Component Gross Btu/lb	Weight Fract. Btu	Gross Heating Value (Btu/SCF)	Volume Fract. Btu
				x Density	weight %				
Hydrogen		2.016	0.0053	0.00000	0.0000	61100	0.00	325.0	0
Oxygen		32.000	0.0846	0.00000	0.0000	0	0.00	0.0	0
Nitrogen	0.3850	28.016	0.0744	0.00029	0.6409	0	0.00	0.0	0
CO2	0.8100	44.010	0.1170	0.00095	2.1204	0	0.00	0.0	0
CO		28.010	0.0740	0.00000	0.0000	4347	0.00	322.0	0
Methane	95.8240	16.041	0.0424	0.04063	90.9050	23879	21707.21	1013.0	970.697
Ethane	2.3110	30.067	0.0803	0.00186	4.1521	22320	926.74	1792.0	41.4131
Ethylene		28.051	0.0746	0.00000	0.0000	21644	0.00	1614.0	0
Propane	0.3840	44.092	0.1196	0.00046	1.0276	21661	222.58	2590.0	9.9456
propylene		42.077	0.1110	0.00000	0.0000	21041	0.00	2336.0	0
Isobutane	0.0960	58.118	0.1582	0.00015	0.3398	21308	72.40	3363.0	3.22848
n-butane	0.0750	58.118	0.1582	0.00012	0.2655	21257	56.43	3370.0	2.5275
Isobutene		56.102	0.1480	0.00000	0.0000	20840	0.00	3068.0	0
Isopentane	0.0310	72.144	0.1904	0.00006	0.1321	21091	27.85	4008.0	1.24248
n-pentane	0.0190	72.144	0.1904	0.00004	0.0809	21052	17.04	4016.0	0.76304
n-hexane	0.0660	86.169	0.2274	0.00015	0.3358	20940	70.32	4762.0	3.14292
H2S		34.076	0.0911	0.00000	0.0000	7100	0.00	647.0	0

total	100.00	Average Density 0.04469		100.0000	Gross Heating Value Btu/lb 23101		Gross Heating Value Btu/SCF 1033.0	
		Specific Gravity 0.58424						

CALCULATION OF F FACTORS

Component	Mol. Wt.	C Factor	H Factor	% volume	Fract. Wt.	Weight Percents			
						Carbon	Hydrogen	Nitrogen	Oxygen
Hydrogen	2.016	0	1	0.00	0.0000				
Oxygen	32.000	0	0	0.00	0.0000				0
Nitrogen	28.016	0	0	0.39	10.7862			0.638538195	
CO2	44.010	0.272273	0	0.81	35.6481	0.574593867			1.53423
CO	28.010	0.42587	0	0.00	0.0000	0			0
Methane	16.041	0.75	0.25	95.82	1537.1128	68.2475429	22.749181		
Ethane	30.067	0.8	0.2	2.31	69.4848	3.290789116	0.82269728		
Ethylene	28.051	0.85714	0.14286	0.00	0.0000	0	0		
Propane	44.092	0.81818	0.181818	0.38	16.9313	0.820086957	0.18224177		
Propene	42.077	0.85714	0.14286	0.00	0.0000	0	0		
Isobutane	58.118	0.82759	0.17247	0.10	5.5793	0.273348786	0.05696597		
n-butane	58.118	0.82759	0.17247	0.08	4.3589	0.213553739	0.04450466		
Isobutene	56.102	0.85714	0.14286	0.00	0.0000	0	0		
Isopentane	72.144	0.83333	0.16667	0.03	2.2365	0.110331355	0.0220668		
n-pentane	72.144	0.83333	0.16667	0.02	1.3707	0.067622443	0.01352481		
n-hexane	86.169	0.83721	0.16279	0.07	5.6872	0.281870365	0.05480785		
H2S	34.076	0	0.0586923	0.00	0.0000	0	0		

Totals				100.00100	1689.1957	73.87973953	23.95	0.638538195	1.53423
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CALCULATED VALUES		
O2 F Factor (dry)	8676	DSCF of Exhaust/MM Btu of Fuel Burned @ 0% excess air
O2 F Factor (wet)	10657	SCF of Exhaust/MM Btu of Fuel Burned @ 0% excess air
Moisture F Factor	1981	SCF of Water/MM Btu of Fuel Burned @ 0% excess air
Combust. Moisture	18.59	volume % water in flue gas @ 0% excess air
CO2 F Factor	1024	DSCF of CO2/MM Btu of Fuel Burned @ 0% excess air
Carbon Dioxide	11.81	volume % CO2 in flue gas @ 0% O2
Predicted Fo Factor	1.77	EPA Method 3a Fo value
Fuel VOC % (non-C1)	6.48%	non-methane fuel VOC content
Fuel VOC % (non-C1,C2)	2.25%	non-methane non-ethane fuel VOC content

RECEIVED

SEP 28 1993

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT

Division of Environmental Engineering
PALM BEACH COUNTY
HEALTH DEPARTMENT

In the matter of an
Application for Permit by:

DER File No. AC 50-229440
Palm Beach County

Mr. Carl D. Schulz, Vice President
Florida Gas Transmission Company
P. O. Box 1188
Houston, Texas 77251-1188

Enclosed is Permit Number AC 50-229440 to construct two 6500 bhp natural gas fired turbines at the Florida Gas Transmission Company's facility located along the east side of the Florida Turnpike, north of the Palm Beach County Wastewater Treatment Plant, Palm Beach County, Florida. This permit is issued pursuant to Section(s) 403, Florida Statutes.

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

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



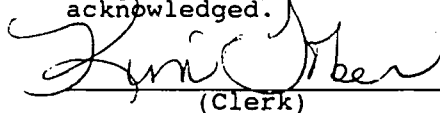
C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 9-24-93 to the listed persons.

Clerk Stamp

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


(Clerk)

9-24-93
(Date)

Copies furnished to:
I. Goldman, SE District
J. Koerner, HRS ✓
B. Andrews, P.E., ENSR

Final Determination

Florida Gas Transmission Company
West Palm Beach County
Florida
Station No. 21

Natural Gas Compressor Engine
Permit No. AC 50-229440

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

September 23, 1993

FINAL DETERMINATION

The Technical Evaluation and Preliminary Determination for the permit to construct two 6500 bhp natural gas fired turbines at the Florida Gas Transmission Company facility located along the east side of the Florida Turnpike, north of the Palm Beach County Wastewater Treatment Plant in Palm Beach County, Florida, was distributed on July 9, 1993. The Notice of Intent was published in the Palm Beach Post on July 17, 1993. Copies of the evaluation were available for inspection at the Department's offices in West Palm Beach and Tallahassee.

Florida Gas Transmission Company (FGTC's) application for a permit to construct two natural gas fired turbines in West Palm Beach, Florida, has been reviewed by the Bureau of Air Regulation in Tallahassee.

Comments regarding the Permit Specific Conditions were submitted by Mr. V. Duane Pierce, Ph.D., Air Quality Supervisor for Florida Gas Transmission Company and Barry Andrews, P.E., representing FGTC as the professional engineer of record. The Bureau has considered Mr. Pierce's and Mr. Andrews' comments and agreed to the changes proposed to the draft specific conditions of the permit since these changes will not affect the air quality analysis considered during the evaluation of this project. The amendments to the Specific Conditions of the permit are as follows:

SPECIFIC CONDITION No. 5:

FROM:

The permitted operating parameters and utilization rates for this natural gas compressor engine shall not exceed the values stated in the application. The parameters include, but are not limited to:

Maximum natural gas consumption shall not exceed 0.057 MMCF/hr.
Maximum heat input shall not exceed 59.60 MMBTU/hr

TO:

The permitted operating parameters and utilization rates for this natural gas compressor engine shall not exceed the values stated in the application. The parameters include, but are not limited to:

Maximum natural gas consumption shall not exceed 0.0684 MMCF/hr
(based on a fuel heating value of 1040 BTU/CF).
Maximum heat input shall not exceed 71.52 MMBTU/hr.

SPECIFIC CONDITION No. 1:

FROM:

Emission Limits

1. The maximum allowable emissions from each gas turbine shall not exceed the emission rates as follows:

<u>Pollutant</u>	<u>lbs/hr</u>	<u>tons/yr</u>	<u>Emission Factor</u>
Nitrogen Oxides*	8.92	39.05	0.62 g/bhp-hr
Carbon Monoxide	6.46	28.29	0.45 g/bhp-hr
Volatile Organic Compounds	0.37	1.62	0.026 g/bhp-hr
(non-methane)			
Particulate Matter (TSP)	0.29	1.26	5 lbs/MMscf
Particulate Matter (PM ₁₀)	0.29	1.26	5 lbs/MMscf
Sulfur Dioxide	1.64	7.18	10 gr/100scf

*NOx Emission Standard of 42 ppmvd at 15% O₂ shall not be exceeded

TO:

Emission Limits

1. The maximum allowable emissions* from each gas turbine shall not exceed the emission rates as follows:

<u>Pollutant</u>	<u>lbs/hr</u>	<u>tons/yr</u>	<u>Emission Factor</u>
Nitrogen Oxides**	8.92	39.05	0.62 g/bhp-hr
Carbon Monoxide	6.46	28.29	0.45 g/bhp-hr
Volatile Organic Compounds	0.37	1.62	0.026 g/bhp-hr
(non-methane)			
Particulate Matter (TSP)	0.35	1.51	5 lbs/MMscf
Particulate Matter (PM ₁₀)	0.35	1.51	5 lbs/MMscf
Sulfur Dioxide	1.97	8.62	10 gr S/100scf

**NOx Emission Standard of 42 ppmvd at 15% O₂ shall not be exceeded

*Based on 100% load conditions.

The final action of the Department will be to issue construction permit AC 50-229440 with the changes noted above.



Florida 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 Gas Transmission Company
P.O. Box 1188
Houston, Texas 77251-1188

Permit Number: AC 50-229440
Expiration Date: June 30, 1995
County: Palm Beach
Latitude/Longitude: 26°44'49N
80°08'0"W

Project: Natural Gas Turbine
Engines No. 2101, 2102 and
Supporting Equipment

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-210, 212, 272, 275, 296, and 297; and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the construction of two natural gas fired turbine engines and supporting equipment to be located within the limits of the city of West Palm Beach, adjacent to the Florida Turnpike in Palm Beach County, Florida. The UTM coordinates are Zone 17, 586.031 km East and 2957.102 km North.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. DEP Form 17-1.202(1) Application to Operate/Construct Air Pollution Sources.

PERMITTEE: Florida Gas Transmission Company Permit Number: AC 50-229440
Expiration Date: June 30, 1995

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed 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.

PERMITTEE:

Florida Gas Transmission Company

Permit Number:

AC 50-229440

Expiration Date:

June 30, 1995

GENERAL CONDITIONS:

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 any 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.

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.

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

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

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.

PERMITTEE: Florida Gas Transmission Company **Permit Number:** AC 50-229440
Expiration Date: June 30, 1995

GENERAL CONDITIONS:

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, 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.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards (NSPS)

14. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the dates analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

GENERAL CONDITIONS:

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.

SPECIFIC CONDITIONS:

Emission Limits

1. The maximum allowable emissions* from each gas turbine shall not exceed the emission rates as follows:

Pollutant	lbs/hr	tons/yr	Emission Factor
Nitrogen Oxides*	8.92	39.05	0.62 g/bhp-hr
Carbon Monoxide	6.46	28.29	0.45 g/bhp-hr
Volatile Organic Compounds (non-methane)	0.37	1.62	0.026 g/bhp-hr
Particulate Matter (TSP)	0.35	1.51	5 lbs/MMscf
Particulate Matter (PM ₁₀)	0.35	1.51	5 lbs/MMscf
Sulfur Dioxide	1.97	8.62	10 gr S/100scf

**NOx Emission Standard of 42 ppmvd at 15% O₂ shall not be exceeded

*Based on 100% load conditions.

2. Visible emissions shall not exceed 10% opacity.

Operating Rates

3. Each source is allowed to operate continuously (8760 hours per year). The emergency electrical generator is allowed to operate not more than 400 hours per year.

4. Each source is allowed to use natural gas only.

5. The permitted operating parameters and utilization rates for each natural gas turbine engine shall not exceed the values stated in the application. The parameters include, but are not limited to:

- Maximum natural gas consumption shall not exceed 0.0684 MMcf/hr (based on a fuel heating value of 1040 BTU/CF).
- Maximum heat input shall not exceed 71.52 MMBtu/hr

6. Any change in the method of operation, equipment or operating hours shall be submitted to the DEP's Bureau of Air Regulation, Southeast District and the Air Pollution Control Section of the Palm Beach County Public Health Unit (PBCPHU) offices.

7. Any other operating parameters established during compliance testing and/or inspection that will ensure the proper operation of this facility shall be included in the operating permit.

PERMITTEE:
Florida Gas Transmission Company

Permit Number AC 50-229440
Expiration Date: June 30, 1995

SPECIFIC CONDITIONS:

Compliance Determination

8. Compliance with the allowable emission limits shall be determined within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after initial start-up and annually thereafter except as provided in Specific Condition 10, below, by the following reference methods as described in 40 CFR 60, Appendix A (July 1992 version) and adopted by reference in Chapter 17-297, F.A.C.

- ✓ - Method 1 Sample and Velocity Traverses
- ✓ - Method 2 Volumetric Flow Rate
- ✓ - Method 3 or 3A Gas Analysis
- ✓ - Method 9 Determination of the Opacity of the Emissions from Stationary Sources
- ✓ - Method 10 Determination of the Carbon Monoxide Emissions from Stationary Sources
- ✓ - Method 20 Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Gas Turbines
- ✓ - Method 18 Measurement of Gaseous Organic Compound Emissions by Gas Chromatography
- ✓ - Method 25A Determination of Total Gaseous Organic Concentrations Using a Flame Ionization Analyzer

✓ 9. Other DEP approved methods may be used for compliance testing after prior Department approval. Compliance with the SO₂ emission limit can be determined by calculations based on fuel analysis using ASTM D1072-80, D3031-81, D4084-82, or D3246-81 for sulfur content of gaseous fuels.

✓ 10. Initial compliance with the volatile organic compound (VOC) emissions limits will be demonstrated by EPA Method 25A or Method 18. Thereafter, except as provided in Rule 17-297.340(2), compliance with the VOC emission limits will be assumed, provided the CO allowable emission rate is achieved.

✓ 11. During performance tests, to determine compliance with the NO_x standard, measured NO_x emissions at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_x \text{ obs}) \left(\frac{P_{\text{ref}}}{P_{\text{obs}}} \right)^{0.5} e^{19} (H_{\text{obs}} - 0.00633) \frac{(288^\circ\text{K})}{T_{\text{AMB}}} 1.53$$

where:

NO_x = Emissions of NO_x at 15 percent oxygen and ISO standard ambient conditions.

NO_x obs = Measured NO_x emission at 15 percent oxygen, ppmv.

PERMITTEE:

Florida Gas Transmission Company

Permit Numb.

AC 50-229440

Expiration Date:

June 30, 1995

SPECIFIC CONDITIONS:

Pref = Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.

Pobs = Measured combustor inlet absolute pressure at test ambient pressure.

Hobs = Specific humidity of ambient air at test.

e = Transcendental constant (2.718).

TAMB = Temperature of ambient air at test.

- ✓ 12. Stack sampling facilities shall be required and shall comply with the requirements of F.A.C. Rule 17-297.345. Test results will be the average of 3 valid runs. The Southeast District and the PBCPHU offices will be notified at least 30 days in writing in advance of the compliance test(s). The source shall operate between 90% and 100% of maximum capacity for the ambient conditions experienced during compliance test(s). Compliance test results shall be submitted to the Southeast District and the PBCPHU offices no later than 45 days after completion.
- ✓ 13. Sulfur and nitrogen content and the lower heating value of the fuel being fired in the combustion turbine shall be determined as specified in 40 CFR 60.334(b). Any request for a future custom monitoring schedule shall be made in writing and directed to the Southeast District and the PBCPHU offices. Any custom schedule approved by DEP pursuant to 40 CFR 60.334(b) will be recognized as enforceable provisions of the permit, provided that the holder of this permit demonstrates that the provisions of the schedule will be adequate to assure continuous compliance.
- ✓ 14. The permittee shall annually perform a visual inspection of the turbine compressor engine, filters, associated piping system for rust spots, cracks, leaks and odors. Also ensure that safety valves and the stack are in proper order and working properly. The permittee shall document the findings and corrective action taken.
- ✓ 15. When the Department, after investigation, has good reason (such as odor complaints, increased visible emissions, excess emissions, etc.), to conclude that any applicable emission standard contained in this permit is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of air pollutant emissions from the facility and to provide a report of said tests to the Department (F.A.C. Rule 17-297.340(2)).

PERMITTEE:
Florida Gas Transmission Company

Permit Number AC 50-229440
Expiration Date: June 30, 1995

SPECIFIC CONDITIONS:

Rule Requirements

- ✓ 16. This source shall comply with all applicable provisions of Chapter 403, Florida Statutes, Chapters 17-210, 212, 275, 296, 297 and 17-4, Florida Administrative Code and 40 CFR 60 (July, 1992 version).
- ✓ 17. This source shall comply with all requirements of 40 CFR 60, Subpart GG and F.A.C. Rule 17-296.800, (2) (a), Standards of Performance for Stationary Gas Turbines.
- ✓ 18. 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 (F.A.C. Rule 17-210.300(1)).
- ✓ 19. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor pursuant to F.A.C. Rule 17-296.320(2). Objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonable interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance pursuant to F.A.C. Rule 17-296.200(123).
- ✓ 20. This source shall be in compliance with all applicable provisions of F.A.C. Rules 17-210.650: Circumvention; 17-210.700: Excess Emissions; 17-296.800: Standards of Performance for New Stationary Sources (NSPS); Chapter 17-297: Stationary Sources-Emissions Monitoring; Chapter 17-296: Stationary Source-Emission Standards and, 17-4.130: Plant Operation-Problems.
- ✓ 21. Fugitive dust emissions, during the construction period, shall be minimized by covering or watering dust generation areas.
- ✓ 22. Pursuant to F.A.C. Rule 17-210.300(2), Air Operating Permits, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. These reports shall include, but are not limited to the following: sulfur and nitrogen content, lower heating value of the fuel being fired, fuel usage, turbine inlet and outlet temperature, RPM, hours of operation, air emissions limits, etc. Annual reports shall be sent to the Department's Southeast District and the Air Pollution Control Section of the Palm Beach County Public Health Unit (PBCPHU) offices by March 1 of each calendar year.
- ✓ 23. 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 (F.A.C. Rule 17-4.090).

PERMITTEE:

Florida Gas Transmission Company

Permit Number

AC 50-229440

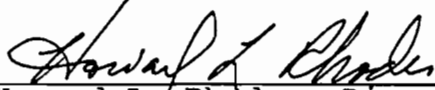
Expiration Date: June 30, 1995

SPECIFIC CONDITIONS:

24. An application for an operation permit must be submitted to the Southeast District and the Air Pollution Control Section of the Palm Beach County Public Health Unit (PBCPHU) offices at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this 23 day
of September, 1993

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION**


Howard L. Rhodes, Director
Division of Air Resources
Management

al



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

April 26, 1995

RECEIVED

MAY 1 1995

Mr. Jeff Koerner
Air Pollution Control Section
Palm Beach County Public Health Unit
P.O. Box 29
West Palm Beach, Florida 33402-0029

Bureau of
Air Regulation

RE: Air Permit Nos. AC50-229440 / AO50-268530
FGT Compressor Station No. 21, Palm Beach County
Operating Permit Application

Dear Mr. Koerner:

This is in response to your letter dated 14 April 1995 in which additional information was requested. This information is provided below and is itemized according to the numbers on your attachment entitled "Completeness Summary, Air Pollution Permit Application."

1) Test report.

An additional copy of the test report has been enclosed with this letter. Attachment A contains a copy of the U. S. Postal Service Certified Mail Return Receipt for the copy that was delivered to Mr. Al Grasso on 24 March 1995. A copy was also sent to Mr. Tom Tittle of the FDEP Southeast District.

2) Emissions Unit Number 3

The operating schedule of 8760 hours for Emissions Unit Number 3 is incorrect. This emissions unit is an emergency generator that will not be operated more than 400 hours per year. A corrected application page is attached as Attachment B. Thank you for the copy of the FDEP Guidance Memorandum. Records of hours of operation are maintained for this unit.

3) **Additional Emissions Units**

FGT requests that each of these emissions units be exempted from the requirement to obtain a permit on the basis that emissions are insignificant.

The additional emissions units listed in the application for an operating permit were also listed in the original application for a permit to construct submitted to the FDEP in Tallahassee on 2 April 1993. The FDEP in Tallahassee decided not to include these sources in the air construction permit (Permit No. AC 50-229440). They were included in the application for an operating permit for completeness and also due to confusion as to the proper use of the new air permit application forms and the relationship of this application to the Title V program.

Whether these units should be part of the non-Title V operating permit for reporting purposes or whether exemptions should be requested is not clear to FGT. FGT believes that the simplest approach at this time would be to request an exemption from permitting (non-Title V) for these sources at this time. This appears to be consistent with the actions of the FDEP in Tallahassee in reviewing the original application for a permit to construct.

Attachment C contains documentation concerning emissions from these units for your review and evaluation. This information is from the original application for a permit to construct and a letter submitted to the FDEP on 23 November 1993 that revised information on the emergency generator.

If you have any questions or need further information, please call me at (713) 646-7323 or Mr. Allan Weatherford at (407) 875-5816.

Sincerely,



V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project

ATTACHMENT A

Return Receipt

Is your RETURN ADDRESS completed on the reverse side?	SENDER Complete items 1 and/or 2 for additional services. Complete items 3 and 4a & b. Print your name and address on the reverse of this form so that we can return this card to you. Attach this form to the front of the mailpiece, or on the back if space does not permit. Write Return Receipt Requested on the mailpiece below the article number. The Return Receipt will show to whom the article was delivered and the date delivered.	I also wish to receive the following services (for an extra fee): 1. <input checked="" type="checkbox"/> Addressee's Address 2. <input checked="" type="checkbox"/> Registered Delivery (Consult postmaster for fee)	
	3. Article Addressed to: Attn: Al Grasso PB County Public Health Unit P.O. Box 99 WPB, FL 33402	4a. Article Number: <u>2-1115-1188</u> Return Receipt Requested	4b. Service Type: <input checked="" type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input checked="" type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
	5. Signature (Addressee)	6. Signature (Agent)	7. Date of Delivery: <u>5/24/98</u>
	PS Form 3811, December 1991 U.S. GPO: 1993-352-714	DOMESTIC RETURN RECEIPT	

Thank you for using Return Receipt Service

ATTACHMENT B
Revised Application Page

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :

hours/day

days/week

weeks/year

400 hours/year

ATTACHMENT C
Emissions Information

Information contained in Attachment C

1. Table 2-5 from Original Application Summarizing Sources

Note: Size of emergency generator was changed. See No. 4 below.

2. Table 2-4 from Original Application Summarizing Fugitive Emissions Calculations

3. Portion of Attachment D of the Original Application Showing Emission Calculation Methodology for Emergency Generator

Note: This is included to show the methodology only. Values from No. 4 below should be used.

4. 23 November 1993 Letter Revising Emergency Generator Parameters

5. Portion of Attachment D of the Original Application Showing Emission Calculations for Tanks

1. Table 2-5 from Original Application Summarizing Sources

TABLE 2-5

**Annual (TPY) Emission Levels
FGTC's Compressor Station No. 21**

SOURCE ID	DESCRIPTION	NO _x	CO	VOC (NM/NE, HC)	SO ₂	PM
PROJECT RELATED:						
	COMPRESSOR ENGINES:					
2101	6,500 bhp ISO Turbine Engine	39.05	28.29	1.62	7.18	1.26
2102	6,500 bhp ISO Turbine Engine	39.05	28.29	1.62	7.18	1.26
	EMERGENCY GENERATOR:					
Generator	102 bhp Generator	0.36	0.13	0.005	0.005	0.0009*
	TANKS:					
Tank No. 1	New Lube Oil	--	--	0.00**	--	--
Tank No. 2	Condensate	--	--	0.09	--	--
Tank No. 3	Oily Water	--	--	0.00*	--	--
Tank No. 4	Used Lube Oil	--	--	0.00*	--	--
Tank No. 5	Oily Water Tank	--	--	0.00*	--	--
	FUGITIVE	--	--	0.22	--	--
STATION TOTAL		78.46	56.71	3.56	14.37	2.52
* actual emissions are insignificant at 0.0009 tpy ** actual emissions are insignificant at 0.000003 tpy for Tank No. 1, 0.00013 for Tank No. 3, 0.0003 for Tank No. 4 and 0.0016 for Tank No. 5						

2. Table 2-4 from Original Application Summarizing Fugitive Emissions Calculations

TABLE 2-4
FGTC's Compressor Station No. 21
Fugitive VOC Emission Calculation
and Summary

COMPONENT TYPE	SERVICE	COMPONENT COUNT	EMISSION FACTORS	NM/NE * FRACTION	EMISSIONS		
					LBS/HR	LBS/DAY	TONS/YR
CURRENT:							
Valve	Gas	0	1.06 Lbs/Day (a)	0.005	0.000	0.00	0.00
Flange	Gas	0	0.57 Lbs/Day (a)	0.005	0.000	0.00	0.00
Compressor Seal	Gas	0	39.7 Lbs/Day (a)	0.005	0.000	0.00	0.00
				Total	0.000	0.00	0.00
PROJECT ADDED							
Valve	Gas	78	1.06 Lbs/Day (a)	0.005	0.017	0.41	0.08
Flange	Gas	141	0.57 Lbs/Day (a)	0.005	0.017	0.40	0.07
Compressor Seal	Gas	2	39.7 Lbs/Day (a)	0.005	0.017	0.40	0.07
				Total	0.051	1.21	0.22
FUTURE: (b)							
Valve	Gas	78			0.017	0.41	0.08
Flange	Gas	141			0.017	0.40	0.07
Compressor Seal	Gas	2			0.017	0.40	0.07
				Total:	0.051	1.21	0.22
Notes: (a) – EPA-450/3-83-007, page 3-9 (b) – Future = current + project added * – NM/NE = non-methane / non-ethane							

3. Portion of Attachment D of the Original Application Showing Emission Calculation Methodology for Emergency Generator

**CRITERIA POLLUTANT
EMISSION CALCULATIONS**

MAXIMUM HEAT INPUT:

EMERGENCY ELECTRICAL GENERATOR:

Generator No. 1:

Engine Rating	= 102 bhp
Brake Specific Fuel Consumption	= 9,075 Btu/bhp-hr
Maximum Heat Input = MMBtu/Hr	= (Btu/bhp-hr * hp)/10 ⁶
	= (9,075 * 102)/10 ⁶
	= 0.93 MMBtu/hr
	= 890 CF/hr

POLLUTANT EMISSION FACTORS:

EMERGENCY ELECTRICAL GENERATOR:

Generator No. 1:

NO _x :	8.10 grams/bhp-hr	Manufacturer's Data
CO:	2.80 grams/bhp-hr	Manufacturer's Data
HC:	1.10 grams/bhp-hr	Manufacturer's Data
NMHC:	0.11 grams/bhp-hr	(10% of HC)
SO ₂ :	10 grains/100 CF	Contract Limit on Sulfur Content
	0.11 grams/bhp-hr	
PM:	5 lb/10 ⁶ CF	Table 1.4-1, AP-42
	0.020 grams/bhp-hr	

HOURS OF OPERATION:

The generator will operate no more than 400 hours per year.

NO_x EMISSIONS

EMERGENCY ELECTRICAL GENERATOR

Generator No. 1:

$$\begin{aligned}
 \text{lb NO}_x/\text{hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\
 &= (8.10 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\
 &= 1.82 \text{ lb/hour}
 \end{aligned}$$

$$\begin{aligned}
 \text{tons NO}_x/\text{yr} &= (\text{lb NO}_x/\text{hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
 &= (1.82 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
 &= 0.36 \text{ tons/year}
 \end{aligned}$$

Emissions Summary:

$$\text{lb NO}_x/\text{hr} = 1.82 \text{ lb NO}_x/\text{hr}$$

$$\text{tons NO}_x/\text{yr} = 0.36 \text{ TPY NO}_x$$

CO EMISSIONS**EMERGENCY ELECTRICAL GENERATOR****Generator No. 1:**

$$\begin{aligned}\text{lb CO/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (2.80 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\ &= 0.63 \text{ lb/hour}\end{aligned}$$

$$\begin{aligned}\text{tons CO/yr} &= (\text{lb CO/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (0.63 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 0.13 \text{ tons/year}\end{aligned}$$

Emissions Summary:

$$\text{lb CO/hr} = 0.63 \text{ lb CO/hr}$$

$$\text{tons CO/yr} = 0.13 \text{ TPY CO}$$

NMHC EMISSIONS**EMERGENCY ELECTRICAL GENERATOR****Generator No. 1:**

$$\begin{aligned}\text{lb NMHC/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.11 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\ &= 0.025 \text{ lb/hour}\end{aligned}$$

$$\begin{aligned}\text{tons NMHC/yr} &= (\text{lb NMHC/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (0.025 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 0.005 \text{ tons/year}\end{aligned}$$

Emissions Summary:

$$\text{lb NMHC/hr} = 0.025 \text{ lb NMHC/hr}$$

$$\text{tons NMHC/yr} = 0.005 \text{ TPY NMHC}$$

SO₂ EMISSIONS**EMERGENCY ELECTRICAL GENERATOR****Generator No. 1:**

$$\begin{aligned}\text{lb SO}_2/\text{hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.11 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\ &= 0.025 \text{ lb/hour}\end{aligned}$$

$$\begin{aligned}\text{tons SO}_2/\text{yr} &= (\text{lb SO}_2/\text{hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (0.025 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 0.005 \text{ tons/year}\end{aligned}$$

Emissions Summary:

$$\text{lb SO}_2/\text{hr} = 0.025 \text{ lb SO}_2/\text{hr}$$

$$\text{tons SO}_2/\text{yr} = 0.005 \text{ TPY SO}_2$$

PM EMISSIONS

EMERGENCY ELECTRICAL GENERATOR

Generator No. 1:

$$\begin{aligned}
 \text{lb PM/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\
 &= (0.020 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\
 &= 0.0045 \text{ lb/hour}
 \end{aligned}$$

$$\begin{aligned}
 \text{tons PM/yr} &= (\text{lb PM/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
 &= (0.0045 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
 &= 0.0009 \text{ tons/year}
 \end{aligned}$$

Emissions Summary:

$$\text{lb PM/hr} = 0.0045 \text{ lb PM/hr}$$

$$\text{tons PM/yr} = 0.0009 \text{ TPY PM}$$

4. 23 November 1993 Letter Revising Emergency Generator Parameters



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

November 23, 1993

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

RE: Air Permit AC 50-229440
Natural Gas Compressor Station No. 21, Palm Beach County

Dear Mr. Fancy:

As discussed in telephone conversations with Ms. Teresa Heron of your staff on November 17 and today, Florida Gas Transmission Company's (FGT) Phase III Expansion Engineering Group has refined the design of the Phase III expansion for Compressor Station No. 21 and FGT proposes to make some desirable minor changes from the original design submitted in the original air permit application. FGT is also being required by the Federal Energy Regulatory Commission (FERC) to relocate this new compressor station to another location. FGT has no choice in this relocation. FGT understands that a new public notice (14 days) will be required. It is extremely important to FGT that the start of construction not be delayed.

These proposed changes do not involve increases in any air emissions or air quality impacts from the turbines covered by this permit. Additionally, air dispersion modeling of NO_x emissions has been performed using the U.S. EPA's ISCLT2 model to evaluate the relative effect on air quality impacts of these proposed changes. The modeling demonstrates that these proposed changes will result in an improvement in the already minimal air quality impacts of this project.

CHANGES

The proposed changes are described below.

1. The site intended for this new compressor station was unacceptable to FERC and FERC

is requiring FGT to move the station to an alternate site in Palm Beach County that is approximately 3.7 miles SSW of the currently permitted site. This new site is located on the east side of the Florida Turnpike and on the north side of Belvedere Road. Meteorological data for this site is the same as for the permitted site. The new source coordinates are:

UTM East 584427 m UTM North 2952702 m
Latitude 26 ° 41 ' 40 " Longitude 80 ° 9 ' 5 "

This change in location will not alter air quality impacts. A revised plot plan showing the new property line and a revised area map showing the new site location are attached as Attachment A.

- Both the new Compressor Building and the Auxiliary Building will have increased heights. Since these increases could cause changes in air quality impacts, the height of the Compressor and Emergency Generator stacks are also being changed. The original and new heights are given in the table below.

Height Changes

BUILDING	ORIGINAL	NEW
COMPRESSOR BUILDING	30' (9.14 m)	35' (10.67 m)
AUXILIARY BUILDING	18.5' (5.64 m)	19.75' (6.02 m)
EM. GEN. STACK	20' (6.10 m)	25' (7.62 m)
COMPRESSOR STACKS	55' (16.76 m)	63' (19.20 m)

- The Emergency Generator size requirement has been increased and will be changed from 102 hp to 184 hp. The unit will still not be operated more than 400 hours per year. NO_x, CO and VOC lb/hr emission rates will all decrease slightly and some other parameters will be changed. Some of these changes have the potential to change impacts, therefore the stack height has been increased. The changes are summarized in the table below. Vendor information is provided in Attachment B.

Revised Emergency Generator Parameters

PARAMETER	ORIGINAL	NEW
Size (hp)	102	184
Stack Height (ft)	20 (6.10 m)	25 (7.62 m)
Stack Diameter (ft)	0.29 (0.09 m)	0.33 (0.10 m)
Exhaust Flow Rate (acfm)	580 (16.42 m ³)	1250 (35.39 m ³)
Exhaust Temperature (° F)	1150 (621° C)	NO CHANGE
NO _x Emissions (lb/hr)	1.82	1.78
CO Emissions (lb/hr)	0.63	0.61
VOC Emissions (lb/hr)	0.025	0.024

DISPERSION MODELING

Air dispersion modeling was performed using ISCLT2 to compare the relative effects on air quality impacts of these changes. The same meteorology used in the original application (West Palm Beach, upper and surface data, 1982-1986) was used for this dispersion modeling. The model input files used in the original application were modified to reflect the proposed changes as follows:

- 1) Downwash parameters were changed to reflect the new Compressor and Auxiliary Building heights, the new Emergency Generator and Compressor stack heights and the new configuration shown in the plot plan. The same input file and downwash program (Bowman Engineering's GEP Program) that were used in the original application were used to generate downwash parameters for the modeling of these proposed changes.
- 2) Stack coordinates and stack parameters were changed to reflect the new values.
- 3) The receptor grids were revised to meet the limitations of the ISCLT2 version used. This version limits the number of receptors to 500. Since the original modeling used receptor grids larger than 500, the grid sizes had to be reduced. The reduced grids were located so that they included

the receptors with the highest impacts in the original application modeling.

The maximum concentration resulting from the ISCLT2 modeling decreased from 0.250 ug/m³ with our permitted stack and building heights to 0.216 ug/m³ with the new values. As stated above, this indicates that the proposed changes should result in even lower ambient air quality impacts than the already predicted low impacts. The output from the modeling runs and the downwash program and a computer disk with both input and output files have been sent to Mr. Cleveland Holladay of the FDEP under separate cover.

NO_x Air Dispersion Modeling Results

PARAMETERS	MAXIMUM OFFSITE CONCENTRATION (ug/m ³)	YEAR	RECEPTOR LOCATION	
			East meters	North meters
Original	0.250	1983	0	-100
Proposed	0.216	1982	-200	0

In summary, the changes in the Emergency Generator stack parameters, the Compressor and Auxiliary Building heights, the Compressor stack height and location should result in improved air quality impacts compared to what was proposed in FGT's original application.

Should you have any questions concerning these changes or need additional information, please do not hesitate to call me at (713) 853-3569.

Sincerely,



V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project
Florida Gas Transmission Company

cc: Carlon Nelson
William Osborne
Allan Weatherford
Files

FILE: 21FDER03.LTR

Engine: Cummins G12 in-line, 6-cylinder Naturally Aspirated

25192070

POWER RATINGS (without fan)

COMPRESSION RATIO	10:1	12:1
Bore: 5 1/8" (130 mm)		
Stroke: 6" (152 mm)	Propane	Nat. Gas
STANDBY POWER (ENGINE OUTPUT POWER) RATING - HP (Kw) - WITHOUT FAN		
RPM	1800	175(130) 184(137)

Cooling	
Heat Rejection To Coolant	5112 Btu/Min
Coolant Capacity(with radiator)	14.75 US Gal
Coolant Flow Rate	87 Gal/Min
Maximum Coolant Friction Head	5.0 psi
Maximum Coolant Static Head	46 ft
Radiator Fan Load	6.7 HP
Air	
Combustion Air	250 cfm
Maximum Air Cleaner Restriction	10 in H ₂ O
Alternator Cooling Air	950 cfm
Radiator Cooling Air	14000 cfm
Minimum Air Opening to Room	20 sq ft
Minimum Discharge Opening	10 sq ft
Maximum Restriction at Radiator Discharge (static)	0.5 in H ₂ O
Exhaust	
Gas Flow (Full Load)	913 cfm
Gas Temperature	1350 °F
Maximum Back Pressure	27.2 in H ₂ O

Data shown above represents gross engine performance capabilities obtained and corrected in accordance with SAE J1349 conditions of 29.61 in. Hg. (100kPa) barometric pressure [300 ft. (91m) altitude], 77° F (25° C) inlet air temperature, and 0.30 in. Hg. (1kPa) water vapor pressure using dry processed natural gas fuel with 905 BTU per standard cubic foot (33.72 k J/l) lower heating value.

Cooling System: High flow centrifugal pump with spin-on corrosion resistor/additive filter. High ambient 125° F radiator cooling system.

Exhaust System: Dry exhaust manifold. High performance tuned.

Fuel System: Balanced intake manifold for even fuel distribution. Impco carburetor developed for high altitude application.

Ignition System: Highly reliable, solid state, breakerless, low tension system. Low cranking speed firing from a magneto-type power source for easy starting. Long spark plug life and fully sealed modular-type electronics for low maintenance.

Lubrication: Positive pressure feed to all bearings and wear surfaces. Includes large tubular oil cooler and high capacity oil pan for extended service intervals. The lube oil capacity is 30 US quarts and the oil that is required is API CD 15W-40. The lube oil filter is the canister type.

Valve Train: Specifically designed for natural gas. Includes hard, high alloy valves, valve inserts, and positive action rotators on intake and exhaust ports.

Speed Control: Adjustable hydraulic governor provides stable RPM control under all load conditions.

EMERGENCY STANDBY RATING

Emergency Standby Rating is applicable for supplying emergency electric power for the duration of the utility power outage. NO OVERLOAD capability is available for this rating.

All data is based on the engine operating with fuel system, water pump, lubricating oil pump, air cleaner, and muffler; not included are alternator, compressor, fan, optional equipment, driven components or installation of a catalytic converter.

Altitude and Ambient Temperature Requirements:

The generator set may be operated at the STANDBY RATING up to 1000 ft. (304m) altitude and 100° F (38° C) inlet air temperature. For sustained operation at high load factors at higher altitudes and temperatures, see Southern Plains Power or your distributor.

FUEL APPLICATION GUIDE

COMPRESSION RATIO	12:1	10:1	8.5:1
Dry, Processed, Natural Gas	X	X	X
Propane (HD-5)	-	X	X

All other gases, such as field gas and digester/sewage gas, will require an analysis and pre-approval from SPP. Consult your Cummins Distributor for details.

EQUIPMENT SPECIFICATION SHEET

PROJECT: FGT Phase III Expansion
ITEM: Emergency Generator Engine
LOCATION: Station 21, Palm Beach County, FL
REQUISITION NO.: S2213102
ITEM NO.: 90-101-0001
VENDOR: Southern Plains Power

MAXIMUM EMISSION RATES (Rates Vendor guarantees which will not be exceeded over the engine power range in grams per brake horsepower-hour):

NOX: 4.4
CO: 1.5
Non-Methane HC: 0.06

ENGINE PARAMETERS:

Air / Fuel Ratio: 10.5:1
Exhaust Mass Flow (LB/HR): 1856
Exhaust Temperature (°F): 1175 ± 75
Exhaust Stack Inside Diameter: 4"

VENDOR'S SIGNATURE AND DATE:

James L. Conrad
Nov. 22, 1993
James L. Conrad
Senior Technical Representative
SOUTHERN PLAINS POWER, INC.

5. Portion of Attachment D of the Original Application Showing Emission Calculations for Tanks

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References

	Tank Identification	C.S. 21 - Tank 1 (pressurized = 15 psig)		
	Contents	New Lube Oil		
Mv	Vapor Molecular Weight	(lb/lb mol)	190	(See AP-42, Table 4.3-2)
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure	(psia)		
	@ Max Temp		0.0019	(See Note)
	@ Avg Temp		0.0019	
Wl	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	13.7	
D	Tank Diameter	(feet)	5	
V	Tank Volume	(gallons)	2,000	
	Tank Throughput	(gal/yr)	600	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	2,000	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	6.85	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.25	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	0.30	(Annual throughput/V)
Kn	Turnover Factor		1	(See AP-42, Fig. 4.3-7)

Equations:

Lb	Breathing Loss	(lb/yr)	$0.0226 * Mv * (P / (14.7 - P))^{0.68} * D^{1.73} * H^{0.51} * T^{0.5} * Fp * C * Kc$	
Lw	Working Loss	(lb/yr)	$2.4 * 10^{-5} * Mv * P * V * N * Kn * Kc$	
	Annual Loss	(tons/yr)	$(Lb + Lw) / 2000$	
	Max. Short-term Loss	(lb/hr)	$(Lw, lb/yr * FRm) / (N * V)$ (TACB, 1992)	

			@Max Temp	@Avg Temp
Breathing Loss (Lb)	(lb/yr)	0.00	(as tank is pressurized)	0.00 (as tank is pressurized)
Working Loss (Lw)	(lb/yr)	0.01		0.01
Max. Short-term Loss	(lb/hr)	0.02		0.02
Annual Loss	(tons/year)	0.00		0.00

Note: Vendor information indicates a vapor pressure of <0.1 mm Hg.

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References
	Tank Identification	C.S. 21 - Tank 2		
	Contents	Condensate		
Mv	Vapor Molecular Weight	(lb/lb mol)	53	ENRON
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure	(psia)		
	@ Max Temp		2.8000	ENRON
	@ Avg Temp		2.8000	
Wl	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	8	
D	Tank Diameter	(feet)	9.5	
V	Tank Volume	(gallons)	4,200	
	Tank Throughput	(gal/yr)	1,156,620	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	132	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	4	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.5	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	275.40	(Annual throughput/V)
Kn	Turnover Factor		0.27	(See AP-42, Fig. 4.3-7)
Equations:				
Lb	Breathing Loss	(lb/yr)	$0.0226 \cdot Mv \cdot (P/(14.7-P))^{0.68} \cdot D^{1.73} \cdot H^{0.51} \cdot T^{0.5} \cdot Fp \cdot C \cdot Kc$	
Lw	Working Loss	(lb/yr)	$2.4 \cdot 10^{-5} \cdot Mv \cdot P \cdot V \cdot N \cdot Kn \cdot Kc$	
	Annual Loss	(tons/yr)	$(Lb + Lw)/2000$	
	Max. Short-term Loss	(lb/hr)	$(Lw, lb/yr \cdot FRm)/(N \cdot V)$ (TACB, 1992)	
			@ Max Temp	@ Avg Temp
	Breathing Loss (Lb)	(lb/yr)	143.15	143.15
	Working Loss (Lw)	(lb/yr)	34.96	34.96
	Max. Short-term Loss	(lb/hr)	0.00	0.00
	Annual Loss	(tons/year)	0.09	0.09

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References
	Tank Identification	C.S. 21 - Tank 3		
	Contents	Oily Water Tank		
Mv	Vapor Molecular Weight	(lb/lb mol)	190	(See AP-42, Table 4.3-2)
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure	(psia)		
	@ Max Temp		0.0019	(See Note)
	@ Avg Temp		0.0019	
Wl	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	2.5	
D	Tank Diameter	(feet)	4.5	
V	Tank Volume	(gallons)	300	
	Tank Throughput	(gal/yr)	3,600	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	600	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	2	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.16	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	12.0	(Annual throughput/V)
Kn	Turnover Factor		1	(See AP-42, Fig. 4.3-7)

Equations:

Lb	Breathing Loss	(lb/yr)	$0.0226 \cdot Mv \cdot (P/(14.7-P))^{0.68} \cdot D^{1.73} \cdot H^{0.51} \cdot T^{0.5} \cdot Fp \cdot C \cdot Kc$	
Lw	Working Loss	(lb/yr)	$2.4 \cdot 10^{-5} \cdot Mv \cdot P \cdot V \cdot N \cdot Kn \cdot Kc$	
	Annual Loss	(tons/yr)	$(Lb + Lw)/2000$	
	Max. Short-term Loss	(lb/hr)	$(Lw, \text{lb/yr} \cdot FRm)/(N \cdot V)$	(TACB, 1992)

			@ Max Temp	@ Avg Temp
Breathing Loss (Lb)	(lb/yr)		0.19	0.19
Working Loss (Lw)	(lb/yr)		0.06	0.06
Max. Short-term Loss	(lb/hr)		0.01	0.01
Annual Loss	(tons/year)		0.00	0.00

Note: Vendor information indicates a vapor pressure of <0.1 mm Hg.

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References
	Tank Identification	C.S. 21 - Tank 4		
	Contents	Used Lube Oil		
Mv	Vapor Molecular Weight	(lb/lb mol)	190	(See AP-42, Table 4.3-2)
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure	(psia)		
	@ Max Temp		0.0019	(See Note)
	@ Avg Temp		0.0019	
Wl	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	2.5	
D	Tank Diameter	(feet)	6.4	
V	Tank Volume	(gallons)	600	
	Tank Throughput	(gal/yr)	600	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	1,800	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	4	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.16	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	1.00	(Annual throughput/M)
Kn	Turnover Factor		1	(See AP-42, Fig. 4.3-7)

Equations:

Lb	Breathing Loss	(lb/yr)	$0.0226 \cdot Mv \cdot (P/(14.7-P))^{0.68} \cdot D^{1.73} \cdot H^{0.51} \cdot T^{0.5} \cdot Fp \cdot C \cdot Kc$	
Lw	Working Loss	(lb/yr)	$2.4 \cdot 10^{-5} \cdot Mv \cdot P \cdot V \cdot N \cdot Kn \cdot Kc$	
	Annual Loss	(tons/yr)	$(Lb + Lw)/2000$	
	Max. Short-term Loss	(lb/hr)	$(Lw \cdot lb/yr \cdot FRm)/(N \cdot V)$ (TACB, 1992)	

			@ Max Temp	@ Avg Temp
Breathing Loss (Lb)	(lb/yr)		0.50	0.50
Working Loss (Lw)	(lb/yr)		0.02	0.02
Max. Short-term Loss	(lb/hr)		0.05	0.05
Annual Loss	(tons/year)		0.00	0.00

Note: Vendor information indicates a vapor pressure of <0.1 mm Hg.

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References
	Tank Identification	C.S. 21 - Tank 5		
	Contents	Oily Water Tank		
Mv	Vapor Molecular Weight	(lb/lb mol)	190	(See AP-42, Table 4.3-2)
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure	(psia)		
	@ Max Temp		0.0019	(See Note)
	@ Avg Temp		0.0019	
Wl	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	8	
D	Tank Diameter	(feet)	9.5	
V	Tank Volume	(gallons)	4,200	
	Tank Throughput	(gal/yr)	3,600	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	1,800	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	4	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.5	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	0.86	(Annual throughput/V)
Kn	Turnover Factor		1	(See AP-42, Fig. 4.3-7)

Equations:

Lb	Breathing Loss	(lb/yr)	$0.0226 * Mv * (P / (14.7 - P)) ^ {0.68} * D ^ {1.73} * H ^ {0.51} * T ^ {0.5} * Fp * C * Kc$	
Lw	Working Loss	(lb/yr)	$2.4 * 10 ^ {-5} * Mv * P * V * N * Kn * Kc$	
	Annual Loss	(tons/yr)	$(Lb + Lw) / 2000$	
	Max. Short-term Loss	(lb/hr)	$(Lw, lb/yr * FRm) / (N * V)$ (TACB, 1992)	

			@Max Temp	@Avg Temp
Breathing Loss (Lb)	(lb/yr)		3.11	3.11
Working Loss (Lw)	(lb/yr)		0.01	0.01
Max. Short-term Loss	(lb/hr)		0.01	0.01
Annual Loss	(tons/year)		0.00	0.00

Note: Vendor information indicates a vapor pressure of <0.1 mm Hg.



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

March 31, 1995

COPY

Mr. Jeff Koerner
Air Pollution Control Section
Palm Beach County Public Health Unit
P.O. Box 29
West Palm Beach, Florida 33402-0029

RE: Air Permit No. AC 50-229440
FGT Compressor Station No. 21, Palm Beach County
Operating Permit Application

Dear Mr. Koerner:

Enclosed is one application for an air operating permit for the facilities constructed under the above referenced Air Construction Permit. This application is for a state operating permit only. It is not an application for a Title V permit. A Title V permit application for the entire facility will be submitted by the required submittal date for a Title V permit application.

The short form has been used for this application. This was chosen based on discussions with several Florida Department of Environmental Protection District offices and local program offices. There were differences of opinions as to which form was the appropriate form. The majority of opinions were for the short form. Our analysis of the regulations, the forms and the directions to the forms lead us to conclude that the short form is the most appropriate.

Emissions testing was performed on February 7, 1995, and a report has been submitted to your office by Cubix Corporation.

We understand that a fee is not required since we have paid an annual operating fee for this facility.

We will be requesting an extension for our construction permit to a date 60 days past the due date for our Title V permit application. This will be done through the Department of Environmental Protection in Tallahassee since they issued the Construction Permit. We will copy you on this request.

If you have any questions or need further information, please call me at (713) 646-7323 or Mr. Allan Weatherford at (407) 875-5816.

Sincerely,



V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project

cc: Clair Fancy - FDEP - Tallahassee

Mr. Tom Tittle, Florida Department of Environmental Protection, Southeast District,
P.O. Box 15425, West Palm Beach, Florida 33416 - w/o attachments

William Rome - FGT - w/o attachments

Allan Weatherford - FGT

FGT West Palm Beach Compressor Station No. 21 File

FILE: 21opapp.doc

COPY

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR RESOURCES MANAGEMENT
APPLICATION FOR AIR PERMIT - SHORT FORM**

I. APPLICATION INFORMATION

Identification of Facility Addressed in This Application

Compressor Station No. 21
Florida Gas Transmission Company
East side of the Florida Turnpike and on the north side of Belvedere Road
Palm Beach County, Florida

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official :

Name : William E. Rome
Title : Vice President, Operations

2. Owner or Authorized Representative or Responsible Official Mailing Address :

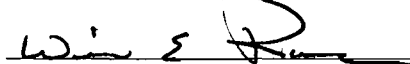
Organization/Firm : Florida Gas Transmission Company
Street Address : 1400 Smith Street
City : Houston
State : TX Zip Code : 77002-____

3. Owner/Authorized Representative or Responsible Official Telephone Numbers :

Telephone : 7138536071 Fax :

4. Owner/Authorized Representative or Responsible Official Statement :

I, the undersigned, am the owner or authorized representative of the facility (non-Title V source) addressed in this Application for Air Permit or the responsible official, as defined in Chapter 62-213, 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. Further, I agree to operate and maintain the air pollutant emissions units and air pollution control equipment described in this application 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. If the purpose of this application is to obtain an air operation permit or operation permit revision for one or more emissions units which have undergone construction or modification, I 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. 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.*


Signature

3/31/95
Date

Scope of Application

Emissions Unit ID	Description of Emissions Unit
01	Compressor Engine No. 2101
01	Compressor Engine No. 2102
Unknown	Emergency Generator
Unknown	2,000 Gallon New Lube Oil Tank
Unknown	4,200 Gallon Condensate Tank
Unknown	300 Gallon Oily Water Tank
Unknown	600 Gallon Used Lube Oil Tank

Scope of Application

<u>Emissions Unit ID</u>	<u>Description of Emissions Unit</u>
Unknown	4,200 Gallon Oily Water tank
Unknown	Fugitive Emissions

Purpose of Application

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 for one or more existing, but previously unpermitted, emissions units.

Initial air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number :
AC 50-229440

Air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number :

Operation permit to be revised :

Air operation permit renewal.

Operation permit to be renewed :

Application Processing Fee

Attached - Amount : _____ NA

Construction/Modification Information

1. Description of Alterations :

No Alterations

2. Date of Commencement of Construction : 3/28/94

Professional Engineer Certification

1. Professional Engineer Name : Jimmy D. Harp

Registration Number : 17362

2. Professional Engineer Mailing Address :

Organization/Firm : Florida Gas Transmission Company

Street Address : 1400 Smith Street

City : Houston

State : TX

Zip Code : 77002-____

3. Professional Engineer Telephone Numbers :

Telephone : 7138531619

Fax : 7138532723

4. Professional Engineer Statement :

I, the undersigned, hereby certified, except as particularly noted herein, that :*

(1) To the best of my knowledge, there is reasonable assurance (a) that the air pollutant emissions unit(s) and the air pollutant 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 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.

Jimmy D. Harp
Signature

3/30/95
Date

Application Contact

1. Name and Title of Application Contact :

Name : Allan Weatherford
Title : Division Environmental Specialist

2. Application Contact Mailing Address :

Organization/Firm : Florida Gas Transmission Company
Street Address : 601 South Lake Destiny Drive
City : Maitland
State : FL Zip Code : 32751-____

3. Application Contact Telephone Numbers :

Telephone : 4078755816 Fax : 4078755896

Application Comment

This application is for a non-Title V operating permit for new sources. A Title V application will be submitted for this facility by the appropriate due date.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Name, Location, and Type

1. Facility Owner or Operator : Florida Gas Transmission Company			
2. Facility Name : Compressor Station No. 21			
3. Facility Identification Number : 50WPB50033			
4. Facility Location Information : Compressor Station No. 21 Florida Gas Transmission Company East side of the Florida Turnpike and on the north side of Belvedere Road Palm Beach County, Florida Facility Street Address : 6789 Belvedere Road City : West Palm Beach County : Palm Beach Zip Code : 33413-____			
5. Facility UTM Coordinates : Zone : 17 East (km) : 584.43 North (km) : 2952.70			
6. Facility Latitude/Longitude : Latitude (DD/MM/SS) : 26 41 40 Longitude (DD/MM/SS) : 80 9 5			
7. Governmental Facility Code :	8. Facility Status Code :	9. Relocatable Facility ?	10. Facility Major Group SIC Code :
0	A	N	49
11. Facility Comment : This is a new facility.			

Facility Contact

1. Name and Title of Facility Contact :

**Name : Alan France
Title : Area Leader**

2. Facility Contact Mailing Address :

**Organization/Firm : Florida Gas Transmission Company
Street Address : 3561 Northwest 126 Avenue
City : Carol Springs
State : FL Zip Code : 33065-2428**

3. Facility Contact Telephone Numbers :

Telephone : 3053410100 Fax : 3057535931

Facility Regulatory Classifications

1. Small Business Stationary Source?	N
2. Title V Source?	
3. Synthetic Non-Title V Source by Virtue of Previous Air Construction Permit?	N
Construction Permit Number/Issue Date : AC 50-229440 09/26/93	
4. Facility Regulatory Classifications Comment :	
Facility is a Title V facility. This application is for a non-Title V operating permit.	

D. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location :	Attachment 1
2. Facility Plot Plan :	Attachment 2
3. Process Flow Diagram(s) :	Attachment 3
4. Precautions to Prevent Emissions of Unconfined Particulate Matter :	NA

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Information Section 1

Type of Emissions Unit Addressed in This Section

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 only.

- 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Compressor Engine No. 2101	
2. ARMS Identification Number : 01	
3. Emissions Unit Status Code : A	4. Emissions Unit Major Group SIC Code : 49
5. Initial Startup Date : 10/14/94	
6. Long-term Reserve Shutdown Date :	
7. Package Unit : Manufacturer : Solar Model Number : Centaur-Taurus 60S	
8. Generator Nameplate Rating : MW	
9. Incinerator Information : Dwell Temperature : °F Dwell Time : seconds Incinerator Afterburner Temperature : °F	
10. Emissions Unit Comment : Model was previously called T-6502	

Emissions Unit Information Section 1

Emissions Unit Control Equipment 1

1. Description :

Dry, Low NOx Combuster

2. Control Device or Method Code : 99

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	72 mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate : Units :		
4. Maximum Production Rate : Units :		
5. Operating Capacity Comment :	Manufacturer rated at 6500 bhp at ISO conditions.	

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8760 hours/year

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 1

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Attachment 3
2. Fuel Analysis or Specification :	Attachment 4
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	Attachment 5
5. Compliance Test Report :	03/24/95
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Other Information Required by Rule or Statute :	NA

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Information Section 2

Type of Emissions Unit Addressed in This Section

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 only.

- 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Compressor Engine No. 2102	
2. ARMS Identification Number : 01	
3. Emissions Unit Status Code : A	4. Emissions Unit Major Group SIC Code : 49
5. Initial Startup Date : 10/14/94	
6. Long-term Reserve Shutdown Date :	
7. Package Unit : Manufacturer : Solar Model Number : Centaur-Taurus 60S	
8. Generator Nameplate Rating : MW	
9. Incinerator Information : Dwell Temperature : °F Dwell Time : seconds Incinerator Afterburner Temperature : °F	
10. Emissions Unit Comment : Model previously was called T-6502.	

Emissions Unit Information Section 2

Emissions Unit Control Equipment 1

1. Description :	
Dry, Low NOx Combuster	
2. Control Device or Method Code :	99

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	72 mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate : Units :		
4. Maximum Production Rate : Units :		
5. Operating Capacity Comment :	Manufacturer rated at 6500 bhp at ISO conditions.	

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :

24 hours/day

7 days/week

52 weeks/year

8760 hours/year

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 2

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Attachment 3
2. Fuel Analysis or Specification :	Attachment 4
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	Attachment 5
5. Compliance Test Report :	3/24/95
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Other Information Required by Rule or Statue :	NA

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Information Section 3

Type of Emissions Unit Addressed in This Section

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 only.

- 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Emergency Generator	
2. ARMS Identification Number : Unknown	
3. Emissions Unit Status Code : A	4. Emissions Unit Major Group SIC Code : 49
5. Initial Startup Date : 10/14/94	
6. Long-term Reserve Shutdown Date :	
7. Package Unit : Manufacturer : Cummins-Onan Model Number : G 12	
8. Generator Nameplate Rating : 0 MW	
9. Incinerator Information : Dwell Temperature : °F Dwell Time : seconds Incinerator Afterburner Temperature : °F	
10. Emissions Unit Comment : The emergency generator will operate no more than 400 hours per year.	

Emissions Unit Information Section _____

Emissions Unit Control Equipment _____

1. Description :

2. Control Device or Method Code :

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	2 mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate : Units :		
4. Maximum Production Rate : Units :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :

24 hours/day

7 days/week

52 weeks/year

8760 hours/year

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 3

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Attachment 3
2. Fuel Analysis or Specification :	Attachment 4
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Other Information Required by Rule or Statue :	NA

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Information Section 4

Type of Emissions Unit Addressed in This Section

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 only.

- 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : 2,000 Gallon New Lube Oil Tank	
2. ARMS Identification Number : Unknown	
3. Emissions Unit Status Code : A	4. Emissions Unit Major Group SIC Code : 49
5. Initial Startup Date : 10/14/94	
6. Long-term Reserve Shutdown Date :	
7. Package Unit : Manufacturer : Model Number :	
8. Generator Nameplate Rating : MW	
9. Incinerator Information : Dwell Temperature : °F Dwell Time : seconds Incinerator Afterburner Temperature : °F	
10. Emissions Unit Comment : New lube oil required by the turbine will be stored in the new 2,000 gallon above ground tank. This will be a pressurized (15 psig) horizontal tank.	

Emissions Unit Information Section _____

Emissions Unit Control Equipment _____

1. Description :

2. Control Device or Method Code :

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	600	
Units :	gal/yr	
4. Maximum Production Rate :		
Units :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8760 hours/year

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 4

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Attachment 3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Other Information Required by Rule or Statue :	NA

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Information Section 5

Type of Emissions Unit Addressed in This Section

- [X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

- [] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

- [] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 only.

- [] 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : 4,200 Gallon Condensate Tank	
2. ARMS Identification Number : Unknown	
3. Emissions Unit Status Code : A	4. Emissions Unit Major Group SIC Code : 49
5. Initial Startup Date : 10/14/94	
6. Long-term Reserve Shutdown Date :	
7. Package Unit : Manufacturer : Model Number :	
8. Generator Nameplate Rating : MW	
9. Incinerator Information : Dwell Temperature : °F Dwell Time : seconds Incinerator Afterburner Temperature : °F	
10. Emissions Unit Comment :	

Emissions Unit Information Section _____

Emissions Unit Control Equipment _____

1. Description :
2. Control Device or Method Code :

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	4200	
Units :	gal/yr	
4. Maximum Production Rate :		
Units :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8760 hours/year

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 5

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Attachment 3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Other Information Required by Rule or Statute :	NA

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Information Section 6

Type of Emissions Unit Addressed in This Section

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 only.

- 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section :	
300 Gallon Oily Water Tank	
2. ARMS Identification Number : Unknown	
3. Emissions Unit Status Code :	4. Emissions Unit Major Group SIC Code :
A	49
5. Initial Startup Date : 10/14/94	
6. Long-term Reserve Shutdown Date :	
7. Package Unit :	
Manufacturer :	
Model Number :	
8. Generator Nameplate Rating : MW	
9. Incinerator Information :	
Dwell Temperature : °F	
Dwell Time : seconds	
Incinerator Afterburner Temperature : °F	
10. Emissions Unit Comment :	
This tank will be located in the compressor building and serve as a short-term holding tank during cleaning operations.	

Emissions Unit Information Section _____

Emissions Unit Control Equipment _____

1. Description :

2. Control Device or Method Code :

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	3600	
Units :	gal/yr	
4. Maximum Production Rate :		
Units :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :

24 hours/day

7 days/week

52 weeks/year

8760 hours/year

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 6

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Attachment 3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Other Information Required by Rule or Statue :	NA

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Information Section 7

Type of Emissions Unit Addressed in This Section

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 only.

- 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : 600 Gallon Used Lube Oil Tank	
2. ARMS Identification Number : Unknown	
3. Emissions Unit Status Code : A	4. Emissions Unit Major Group SIC Code : 49
5. Initial Startup Date : 10/14/94	
6. Long-term Reserve Shutdown Date :	
7. Package Unit : Manufacturer : Model Number :	
8. Generator Nameplate Rating : MW	
9. Incinerator Information : Dwell Temperature : °F Dwell Time : seconds Incinerator Afterburner Temperature : °F	
10. Emissions Unit Comment : This tank will be located in the main compressor building and will be vented to the atmosphere.	

Emissions Unit Information Section _____

Emissions Unit Control Equipment _____

1. Description :

2. Control Device or Method Code :

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	600	
Units :	gal/yr	
4. Maximum Production Rate :		
Units :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8760 hours/year

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 7

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Attachment 3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Other Information Required by Rule or Statute :	NA

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Information Section 8

Type of Emissions Unit Addressed in This Section

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 only.

- 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section :	
4,200 Gallon Oily Water tank	
2. ARMS Identification Number : Unknown	
3. Emissions Unit Status Code :	4. Emissions Unit Major Group SIC Code :
A	49
5. Initial Startup Date : 10/14/94	
6. Long-term Reserve Shutdown Date :	
7. Package Unit :	
Manufacturer :	
Model Number :	
8. Generator Nameplate Rating : MW	
9. Incinerator Information :	
Dwell Temperature :	°F
Dwell Time :	seconds
Incinerator Afterburner Temperature :	°F
10. Emissions Unit Comment :	
This oily water tank will located outside, above ground and will be vented to the atmosphere.	

Emissions Unit Information Section _____

Emissions Unit Control Equipment _____

1. Description :
2. Control Device or Method Code :

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	3600	
Units :	gal/yr	
4. Maximum Production Rate :		
Units :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :

24 hours/day

7 days/week

52 weeks/year

8760 hours/year

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 8

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Attachment 3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Other Information Required by Rule or Statue :	NA

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Information Section 9

Type of Emissions Unit Addressed in This Section

-] 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

-] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 only.

-] 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section :	
Fugitive Emissions	
2. ARMS Identification Number : Unknown	
3. Emissions Unit Status Code :	4. Emissions Unit Major Group SIC Code :
A	49
5. Initial Startup Date : 10/14/94	
6. Long-term Reserve Shutdown Date :	
7. Package Unit :	
Manufacturer : Various	
Model Number : Various	
8. Generator Nameplate Rating : MW	
9. Incinerator Information :	
Dwell Temperature : °F	
Dwell Time : seconds	
Incinerator Afterburner Temperature : °F	
10. Emissions Unit Comment :	
Potential fugitive emissions from Compressor Station No. 21 include emissions from the new valves and flanges that are in gas service.	

Emissions Unit Information Section _____

Emissions Unit Control Equipment _____

1. Description :
2. Control Device or Method Code :

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate : Units :		
4. Maximum Production Rate : Units :		
5. Operating Capacity Comment :	This section is not applicable to fugitive emissions.	

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :

24 hours/day

7 days/week

52 weeks/year

8760 hours/year

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

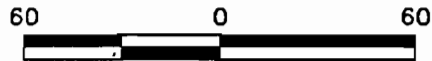
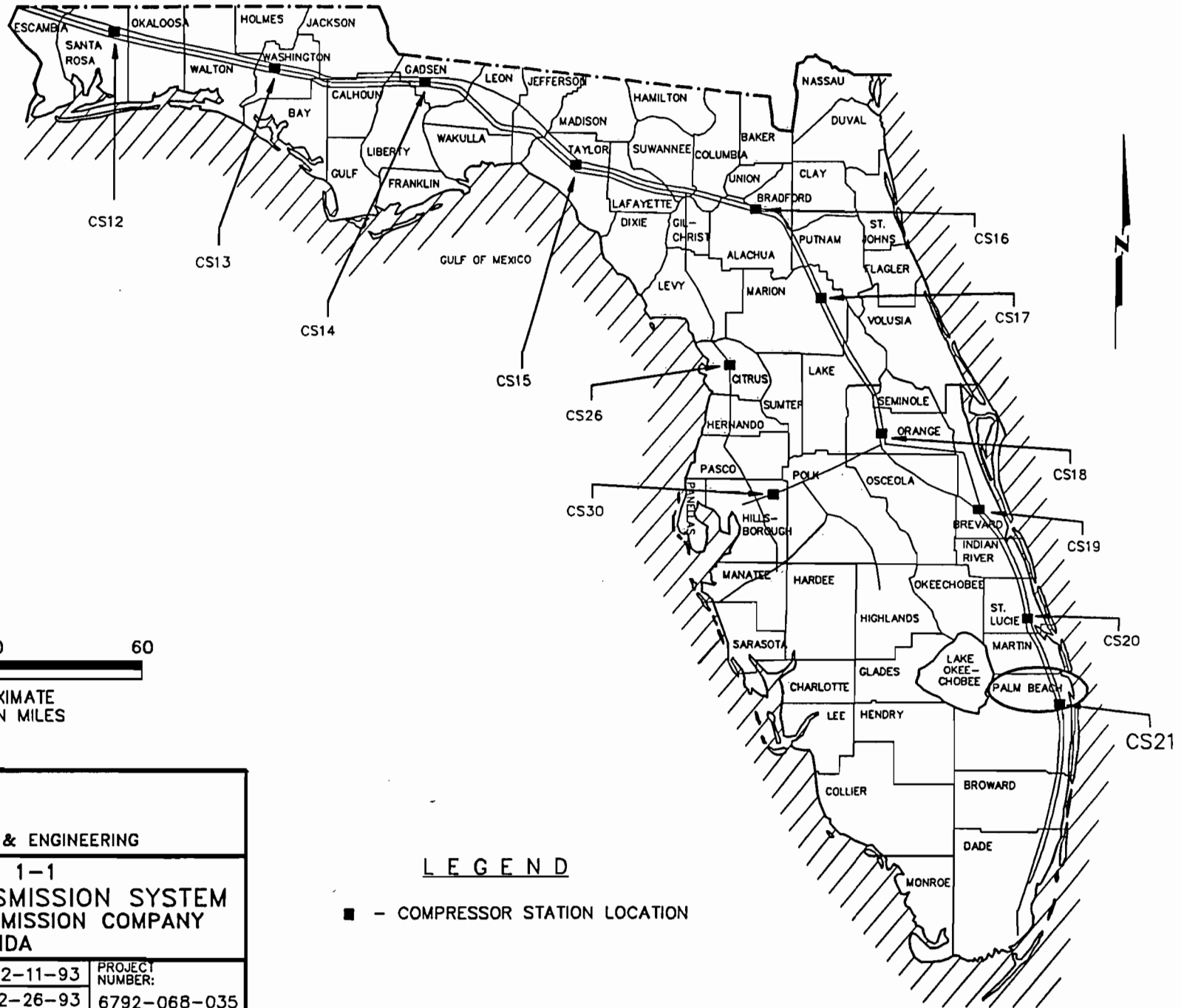
Emissions Unit Information Section 9

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Attachment 3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Other Information Required by Rule or Statue :	NA

ATTACHMENT 1

Area Map



APPROXIMATE
SCALE IN MILES

ENSR™

ENSR CONSULTING & ENGINEERING

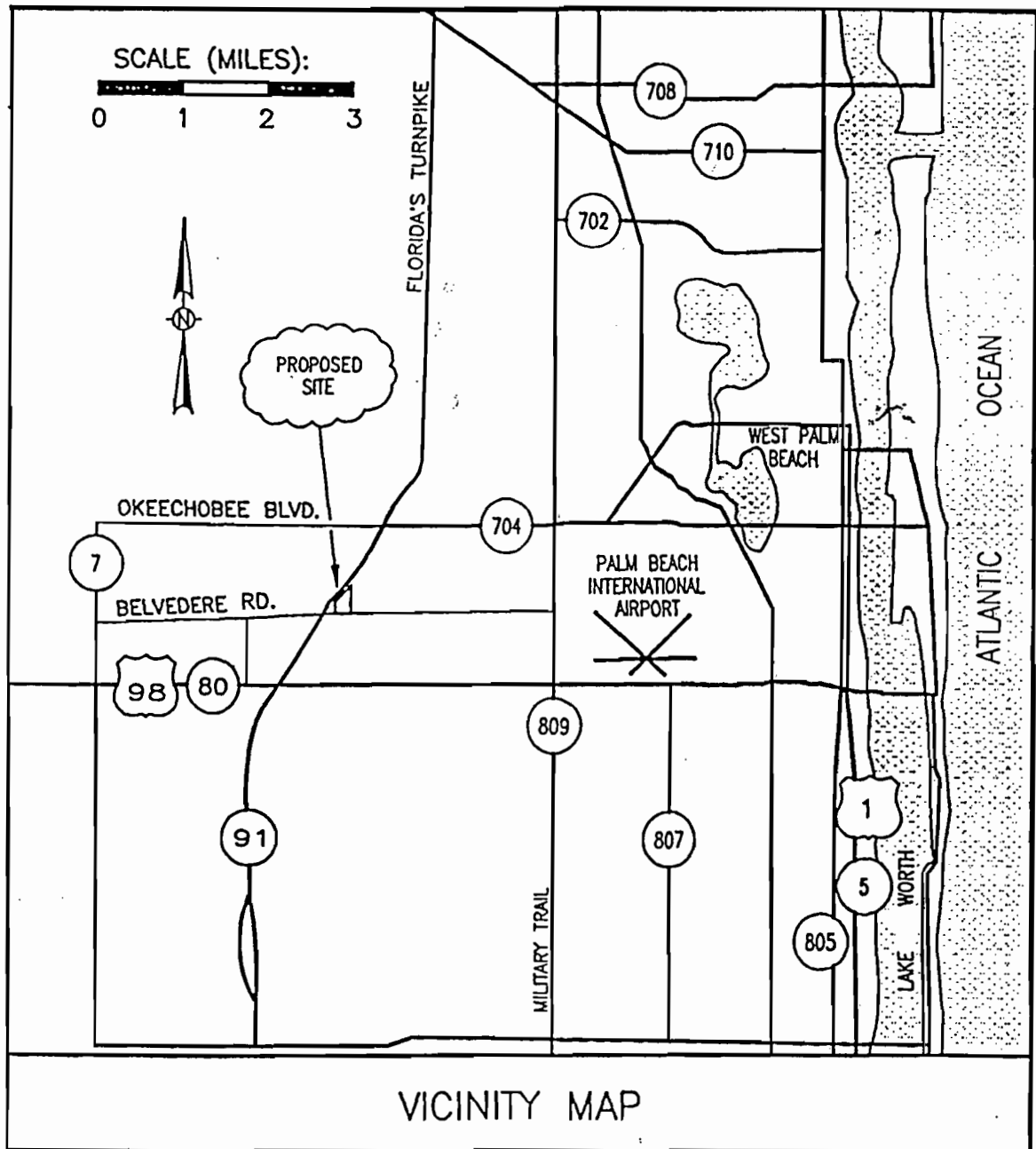
FIGURE 1-1
FGTC'S GAS TRANSMISSION SYSTEM
FLORIDA GAS TRANSMISSION COMPANY
FLORIDA

LEGEND

■ - COMPRESSOR STATION LOCATION

DRAWN: SJF/SH	DATE: 2-11-93	PROJECT NUMBER:
APPVD:	REVISED: 2-26-93	6792-068-035

COMPRESSOR STATION NO. 21



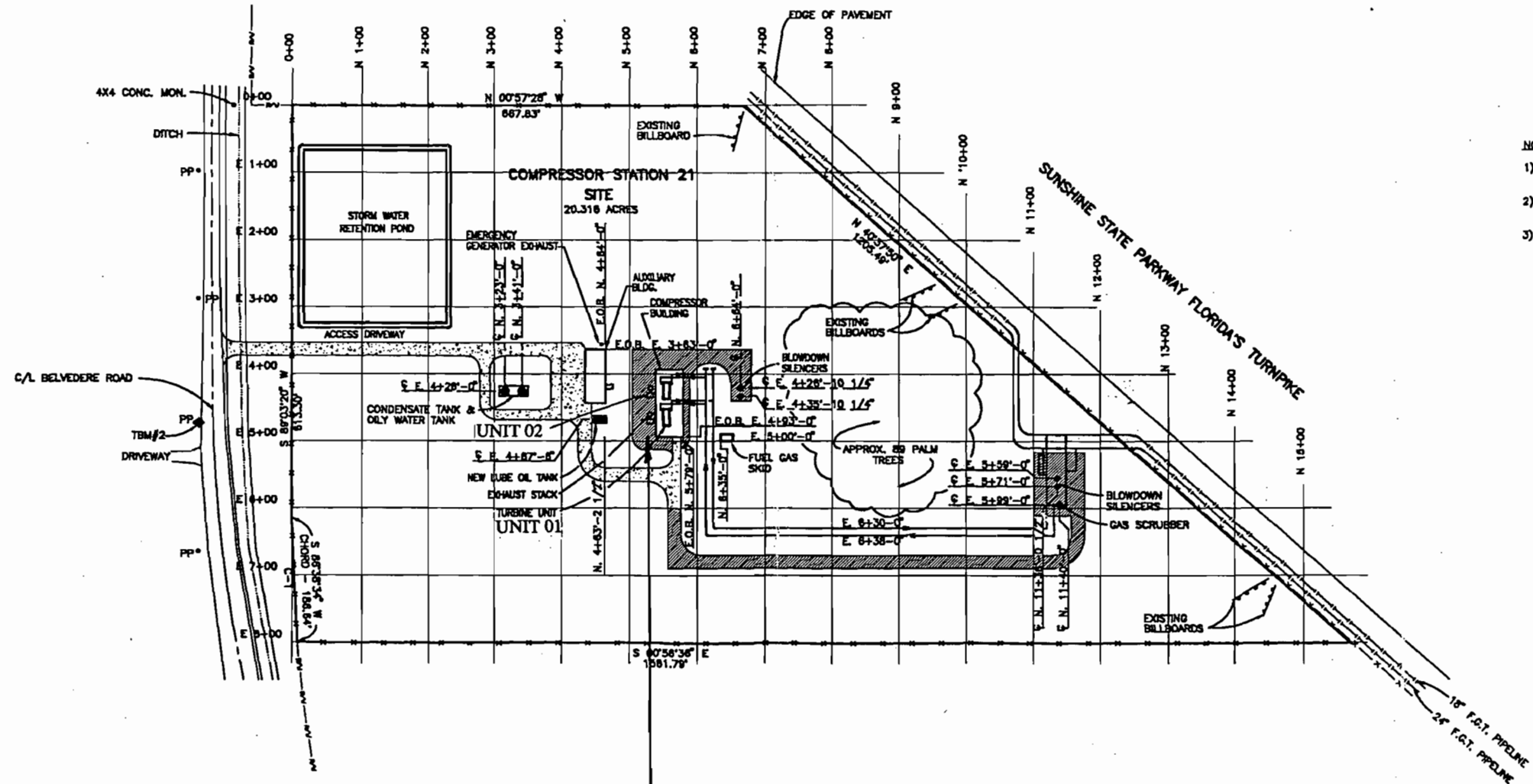
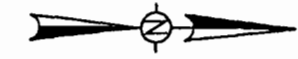
ATTACHMENT 2

Plot Plan

AIR EMISSIONS PLOT PLAN C/S 21

Source I.D. No. 50 WPB 50033301

PALM BEACH COUNTY, FLORIDA
 PART OF TRACTS 15 AND 18, BLOCK 4, PLAT NO. 3,
 PALM BEACH FARMS CO.
 SECTIONS 27, 28 & 34, T 43 S, R 42 E



EXHAUST STACK, UNIT 01 AND 02 - I.D. NO. 50 WPB 50033301

NO.	REVISION	DESCRIPTION	BY	DATE	CHECKED		APPROVED		JOB ORDER NUMBER
					BY	DATE	BY	DATE	
									S22131
									1984 CONSTRUCTION
									DESIGN BY DATE
									DESIGN BY DATE
									CONSTR. BY DATE
									PLOT DATE: 11/05/93

Florida Gas Transmission Company
 Houston, Texas

PHASE III EXPANSION
 COMPRESSOR STATION 21
 AIR PERMIT SITE PLAN
 PALM BEACH COUNTY, FLORIDA

ENRON OPERATIONS CORP.

ATTACHMENT 3

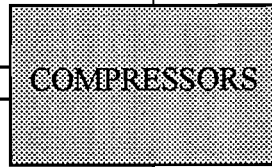
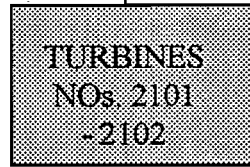
Process Flow Diagrams

50WPB5003330-01

ATMOSPHERE



EXHAUST



SUCTION LINE

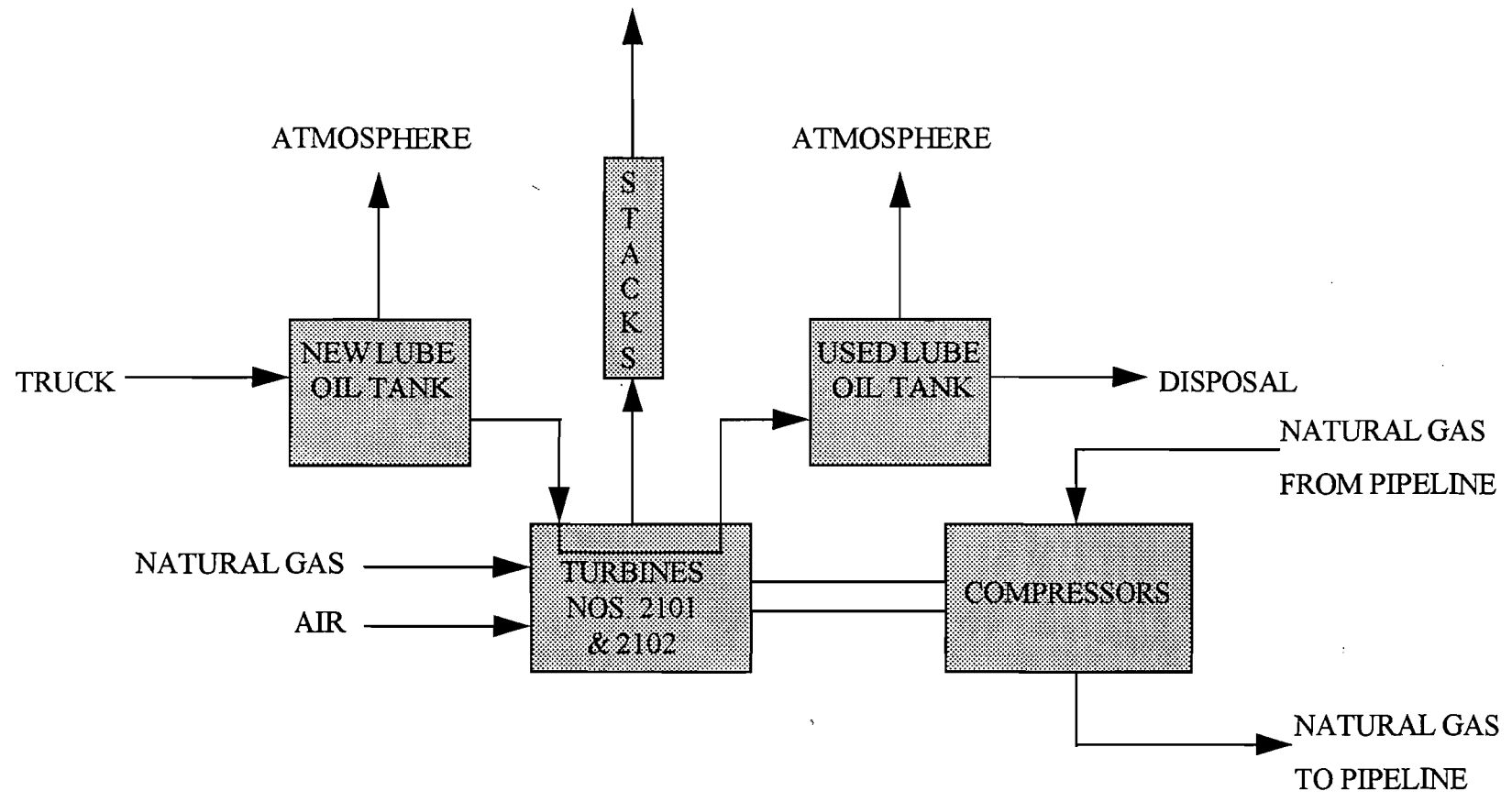
DISCHARGE LINE



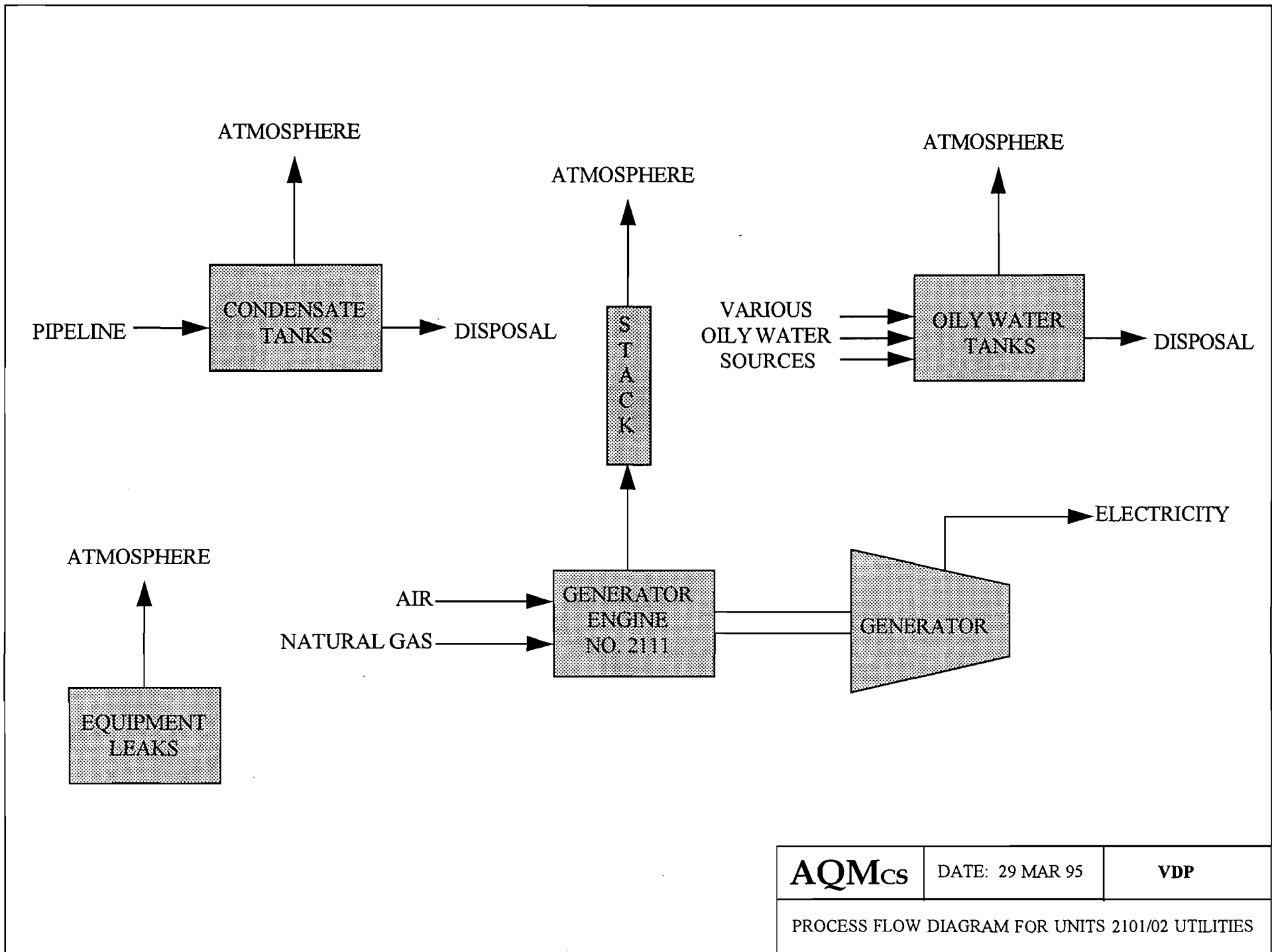
MAIN NATURAL GAS PIPELINE

AQMcs	DATE: 29 MAR 95	VDP
PROCESS FLOW DIAGRAM FOR STATION 21		

ATMOSPHERE
5OWPB5003330-01



AQMcs	DATE: 29 MAR 95	VDP
PROCESS FLOW DIAGRAM FOR UNITS 2101/2102		



ATTACHMENT 4

Typical Fuel Analyses

ANALYSIS

DATE: 05/03/94 ANALYSIS TIME: 345 STREAM SEQUENCE: 1
 TIME: 11:07 CYCLE TIME: 360 STREAM#: 1
 ANALYZER#: 1 MODE: RUN CYCLE START TIME: 11:01

COMP NAME	COMP CODE	MOLE %	GAL/MCF**	B.T.U.*	REL DEN*
HEXANE +	151	0.087	0.0381	4.49	0.0028
PROPANE	152	0.437	0.1204	11.02	0.0087
I-BUTANE	153	0.101	0.0331	3.30	0.0020
N-BUTANE	154	0.092	0.0291	3.02	0.0019
IPENTANE	155	0.040	0.0147	1.61	0.0010
NPENTANE	156	0.025	0.0091	1.01	0.0008
NITROGEN	157	0.385	0.0421	0.00	0.0037
METHANE	158	95.242	18.1435	964.13	0.5275
CO2	159	0.742	0.1285	0.00	0.0113
ETHANE	160	2.848	0.7619	50.52	0.0298
TOTALS		100.000	17.3185	1039.10	0.5871

* @ 14.730 PSIA & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) = 1.0022
 DRY B.T.U. @ 14.730 PSIA & 60 DEG. F CORRECTED FOR (1/Z) = 1041.4
 REAL RELATIVE DENSITY = 0.5881
 UNNORMALIZED TOTAL = 100.00
 ANALOG INPUT CHANNEL 1 = H₂S 140 = .15029
 ANALOG INPUT CHANNEL 2 = WATER 144 = 3.7902

ACTIVE ALARMS

NONE

FLORIDA GAS TRANSMISSION CO.
 BROOKER LAB- Main Line
 STANDARD GAS 1041.8 / 0.5939
 CERTIFIED VALUE BTU 1041.7 GRAV. 0.5939
 TOTAL SULFUR 0.03 GR/CCF H₂S 0.02 GR/CCF
 H₂O 3.6 #/MMCF BY Ron Steiner

ANALYSIS

DATE: 12/01/93 ANALYSIS TIME: 345 STREAM SEQUENCE: 12
 TIME: 12:38 CYCLE TIME: 360 STREAM#: 1
 ANALYZER#: 1 MODE: RUN CYCLE START TIME: 12:32

COMP NAME	COMP CODE	MOLE %	GAL/MCF**	B.T.U.*	REL DEN*
HEXANE +	151	0.076	0.0333	3.92	0.0025
PROPANE	152	0.580	0.1599	14.64	0.0088
I-BUTANE	153	0.119	0.0388	3.87	0.0024
N-BUTANE	154	0.126	0.0398	4.12	0.0025
IPENTANE	155	0.041	0.0150	1.64	0.0010
NPENTANE	156	0.026	0.0094	1.04	0.0006
NITROGEN	157	0.460	0.0504	0.00	0.0044
METHANE	158	94.190	15.9651	953.48	0.5217
CO2	159	0.747	0.1273	0.00	0.0114
ETHANE	160	3.635	0.9724	64.48	0.0377
TOTALS		100.000	17.4114	1047.20	0.5931

* @ 14.730 PSIA & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) = 1.0023
 DRY B.T.U. @ 14.730 PSIA & 60 DEG. F CORRECTED FOR (1/Z) = 1049.6
 REAL RELATIVE DENSITY = 0.5942
 UNNORMALIZED TOTAL = 99.97

ACTIVE ALARMS

NONE

FLORIDA GAS TRANSMISSION CO.
 BROOKER LAB- WET
 STANDARD GAS 1041.9 0.5940
 CERTIFIED VALUE BTU 1042.0 GRAY. 0.5940
 TOTAL SULFUR 0.15 GR/CCF H²S 0.02 GR/CCF
 H²O 2.8 #/MMCF BY Carlock

ANALYSIS.

DATE: 01/12/93 ANALYSIS TIME: 345 STREAM SEQUENCE: 12
 TIME: 12:32 CYCLE TIME: 360 STREAM#: 1
 ANALYZER#: 1 MODE: RUN CYCLE START TIME: 12:26

COMP NAME	COMP CODE	MOLE %	GAL/MCF**	B.T.U.*	SP. GR.*
HEXANE +	151	0.073	0.0319	3.76	0.0024
PROPANE	152	0.930	0.2561	23.44	0.0142
I-BUTANE	153	0.189	0.0618	6.16	0.0038
N-BUTANE	154	0.228	0.0718	7.45	0.0046
IPENTANE	155	0.057	0.0210	2.31	0.0014
NPENTANE	156	0.040	0.0144	1.60	0.0010
NITROGEN	157	0.810	0.0000	0.00	0.0078
METHANE	158	93.511	0.0000	946.61	0.5180
CO2	159	0.774	0.0000	0.00	0.0118
ETHANE	160	3.388	0.9064	60.10	0.0352
<i>note</i>		<i>4.905</i>			
TOTALS		100.000	1.3634	1051.41	0.6000

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) = 1.0023
 DRY B.T.U. @ 14.730 PSIA & 60 DEG. F CORRECTED FOR (1/Z) = 1053.8
 SAT B.T.U. @ 14.730 PSIA & 60 DEG. F CORRECTED FOR (1/Z) = 1035.5
 REAL SPECIFIC GRAVITY = 0.6011
 UNNORMALIZED TOTAL = 100.17

ACTIVE ALARMS

NONE

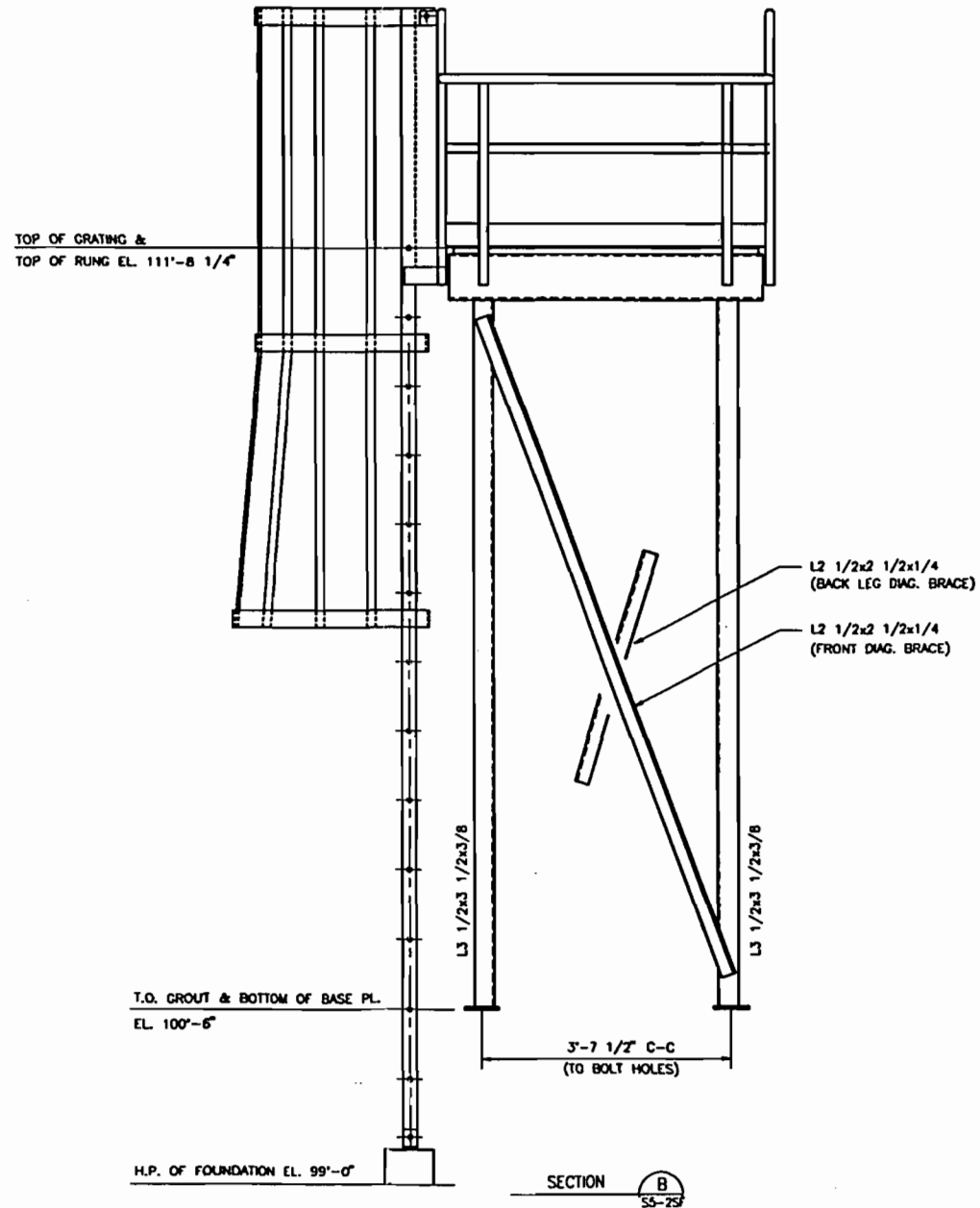
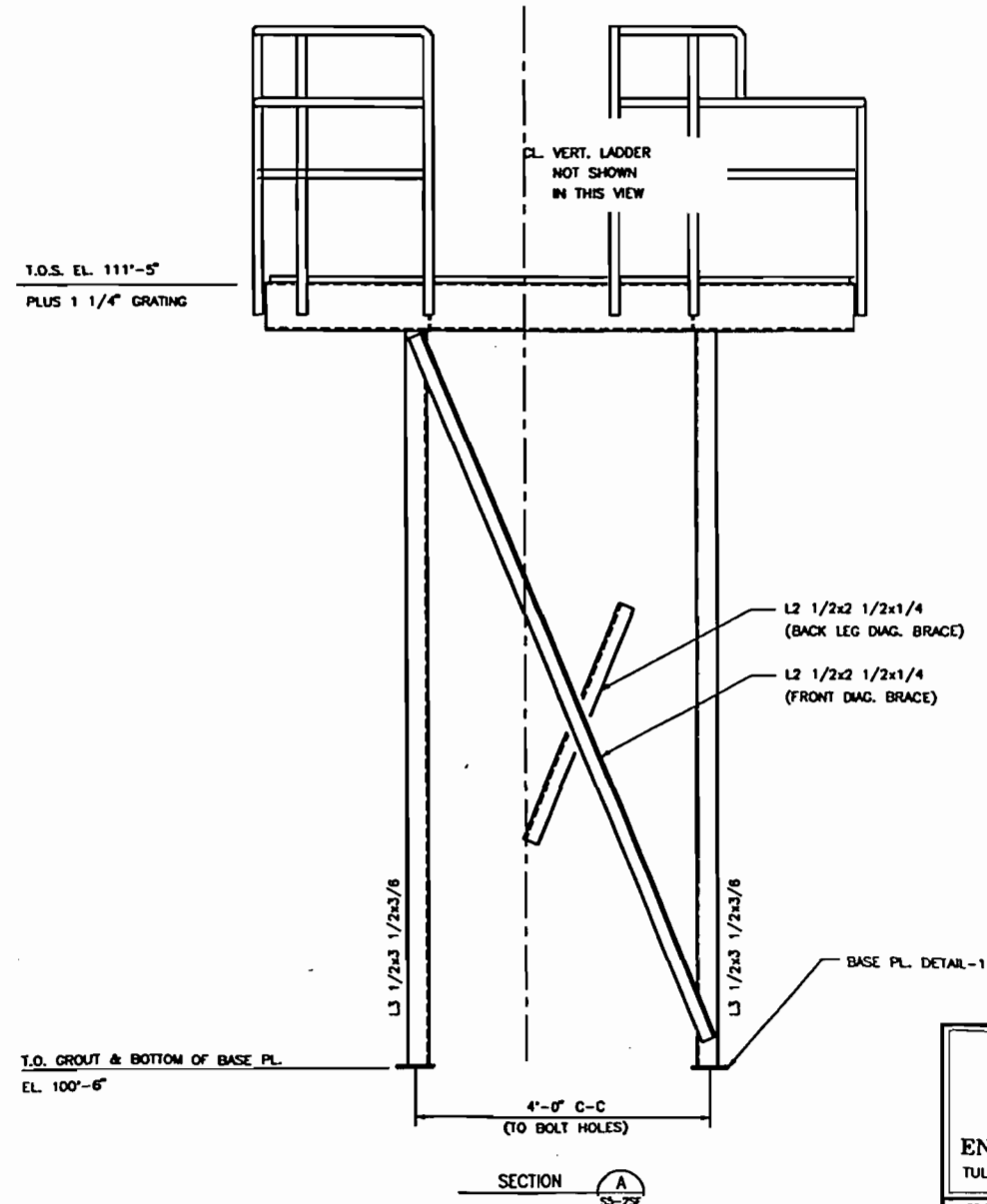
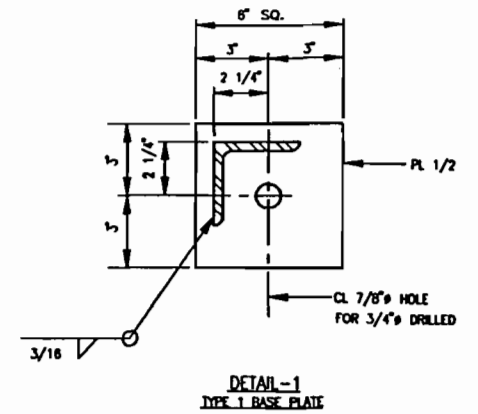
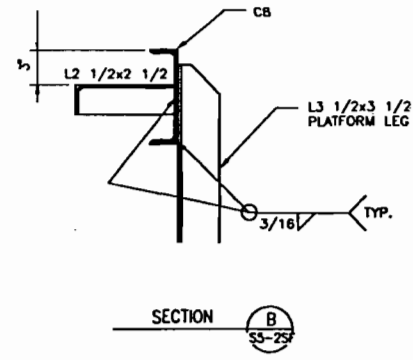
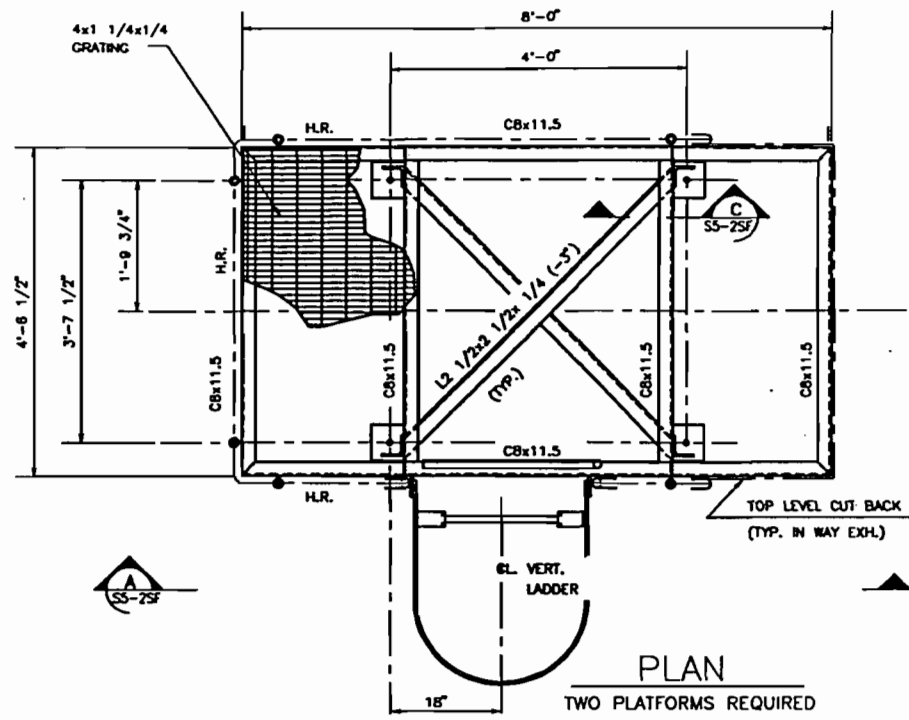
FLORIDA GAS TRANSMISSION CO.

BROOKER LAB- WET
 STANDARD GAS 1041.9 / 0.5940
 CERTIFIED VALUE BTU 1042.0 GRAV. 0.5940
 TOTAL SULFUR 0.48 GR/CCF H²S 0.03 GR/CCF
 H²O 2.7 #/MMCF BY Bill Stinson (9)

RECEIVED
 JAN 14 1993
 TECH OPERATIONS

ATTACHMENT 5

Sampling Facility Drawings



NEW ISSUE

- REFERENCE DRAWINGS:
- S0-1C GENERAL NOTES
 - SS-2B COMPRESSOR BUILDING FOUNDATION PLAN
 - SS-2SJ-1 STANDARD STRUCTURAL STEEL HANDRAIL DETAILS
 - SS-2SJ-2 STANDARD STRUCTURAL STEEL LADDER DETAILS

AED
ARMELLINI ENGINEERING, INC
 TULSA OKLAHOMA

JOB NUMBER 1092-918

NO.	REVISION - DESCRIPTION	BY	DATE	CHK'D	APP'D	DWG. STATUS	CHECKED	APPROVED	WORK ORDER NUMBER
						APP.	BY	DATE	
1	ISSUED FOR CONSTRUCTION	HDM	11/01/93	JRL	FW	PREL.Y			S22131
						BID			1993 CONSTRUCTION
						CONSTR.	JRL	FW	11/01/93
						CADD			

DESIGN	BY	DATE
DESIGN	HDM	10/28/93
DRAWN		
AS BUILT		
MONTHLY		
SCALE		

PLOT DATE: DWG. S52SF21

SCALE 3/4" = 1'-0"

Florida Gas Transmission Company
 Houston, Texas

COMPRESSOR STATION NO. 21
 EXHAUST SILENCER WORK PLATFORM
 PLAN, SECTIONS & DETAILS
 PALM BEACH COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DRAWING NUMBER S5-2SF

SL-9010
EXHAUST SILENCER

UNIT NO. 2101
C-5010
TURBINE COMPRESSOR
738 PSIG INLET
978 PSIG OUTLET
308 MMSCFD

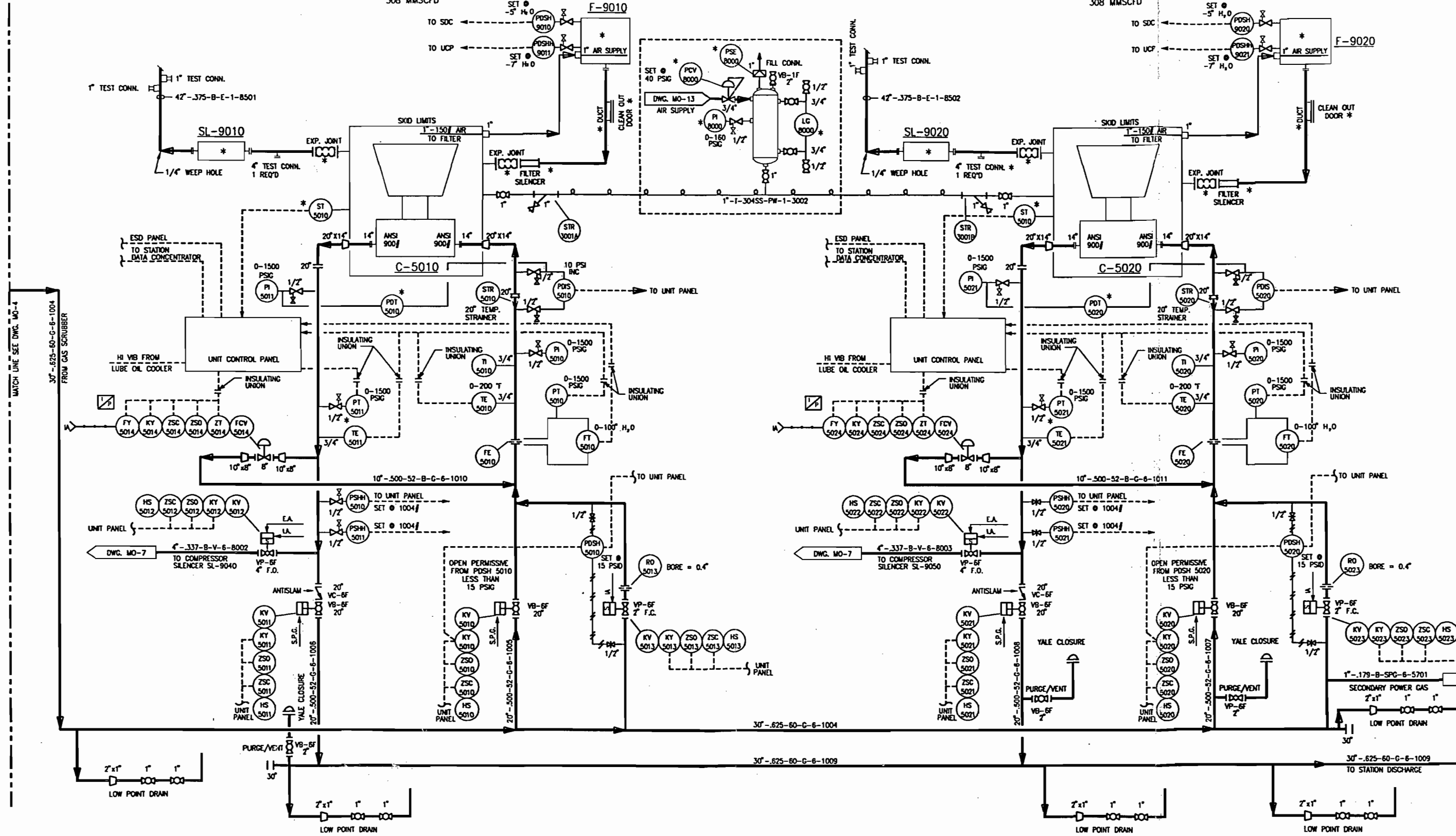
F-9010
AIR INLET FILTER

S-8000
DEIONIZED WATER TANK
20" O.D. x 4'-0" S/S 304 SS
150 PSIG DESIGN @ 120' F

SL-9020
EXHAUST SILENCER

UNIT NO. 2102
C-5020
TURBINE COMPRESSOR
738 PSIG INLET
978 PSIG OUTLET
308 MMSCFD

F-9020
AIR INLET FILTER



* VALVES & INSTRUMENTS TO BE SUPPLIED BY VENDOR & INSTALLED BY CONTRACTOR

AEI
ARMELLINI
ENGINEERING, INC
TULSA OKLAHOMA

JOB NUMBER 1092-918

NO.	REVISION - DESCRIPTION	BY	DATE	CHK'D	APP'D	CHECKED		APPROVED		WORK ORDER NUMBER
						BY	DATE	BY	DATE	
1	ISSUED FOR CONSTRUCTION	BL	12/01/93	DMP	GVK					S22131
0	ISSUED FOR BID	BL	9/07/93	JACO	GVK					1994 CONSTRUCTION
						JACO	9/07/93	GVK	9/07/93	DESIGN
								FWD	9/9/93	BY
								JES	9/9/93	DATE
										2/93
										AS BUILT
										MONTHLY
										PROG
										SCALE
										NONE

Florida Gas Transmission Company
Houston, Texas

COMPRESSOR STATION NO. 21
PIPING AND INSTRUMENT DIAGRAM
COMPRESSORS
PALM BEACH COUNTY, FLORIDA

ENRON OPERATIONS CORP.

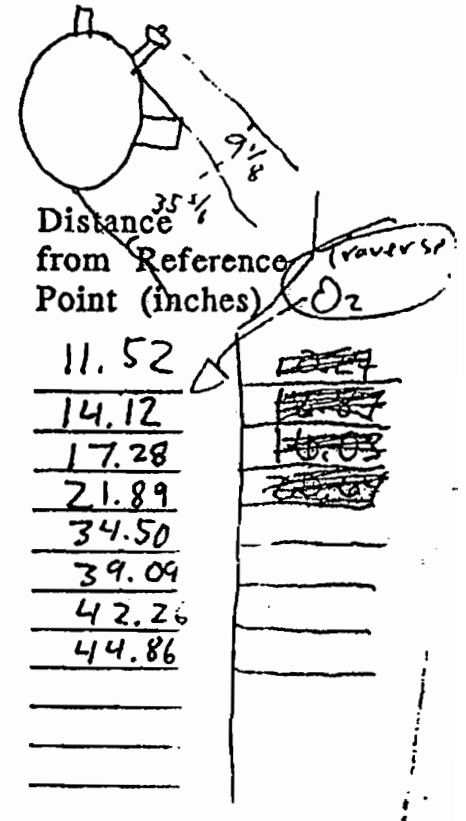
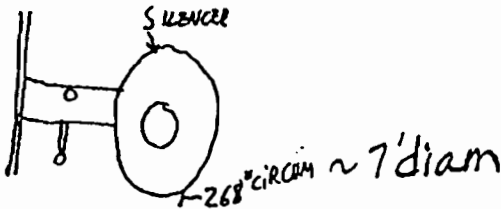
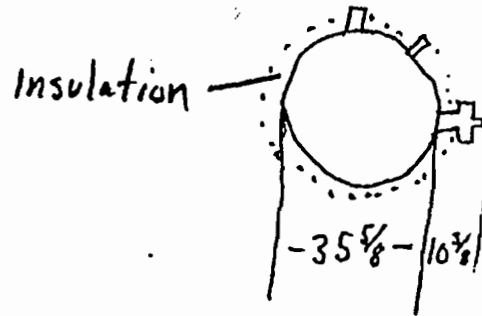
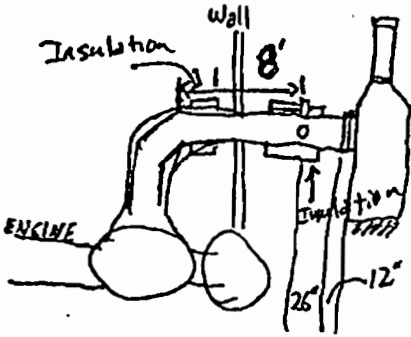
DRAWING NUMBER MO-5

Circular Stack Sampling Traverse Point Layout (EPA Method 1)

Date: 2/6/95
 Plant: FST Stat 21
 Source: Unit 20/ and 2102
 Technician(s): CLB/JC

Port + Stack ID: 46 in.
 Port Extension 10 3/8 in.
 Stack ID: 35 3/8 in.
 Stack Area 6.9221 ft²
 Total Req'd Traverse Pts. 16
 No. of Traverse Pts. 8 /diam.
 No. of Traverse Pts. 8 /port.

Stack Diagram (Side View showing major unit components, dimensions and nearest upstream & downstream flow disturbances)



Traverse Point Number	Length Factor (% of diameter)			
	Number of traverse pts./diameter			
	4	6	8	12
1	6.7	4.4	3.2	2.1
2	25.0	14.6	10.5	8.2
3	75.0	29.6	19.4	11.8
4	93.3	70.4	32.3	17.7
5		85.4	67.7	25.0
6		95.6	80.6	35.6
7			89.5	64.4
8			96.8	75.0
9				82.3
10				88.2
11				93.3
12				97.9



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

RECEIVED

OCT 27 1994

Bureau of
Air Regulation

October 24, 1994

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

RE: Turbine Model Name Change
Permit No. AC 62-229319/PSD-FL-202
Florida Gas Transmission Company, Compressor Station No. 15, Taylor County
Permit No. AC 50-229440
Florida Gas Transmission Company, Compressor Station No. 21, Palm Beach County
Permit No. AC 09-229441
Florida Gas Transmission Company, Compressor Station No. 26, Citrus County

Dear Mr. Fancy

The model names of the turbines installed under the above referenced permits have been changed.

Solar Turbines, Inc., has changed the name of its model "Centaur-Taurus T-6502" to "Taurus 60." The old name was used in the permit applications; however, the turbines installed at Compressor Stations 21 and 26 (Permit Nos. AC 50-229440 and AC 09-229441) have the new model name.

Solar Turbines, Inc., has also changed the name of its model "Mars T-12000" to "Mars 90." The old name was used in the permit application; however, the turbines installed at Compressor Station 15 (Permit No. AC 62-229319/PSD-FL-202) have the new model name.

These are model name changes only. There has been no changes in the designs of these turbines.

If you have any questions or need further information, please call me at (713) 646-7323 or Mr. Allan Weatherford at (407) 875-5816.

Sincerely,

V. Duane Pierce, Ph.D.
Air Quality Supervisor

An ENRON/SONAT Affiliate

cc: Jim Pennington, Bureau of Air Regulation, Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400

Chris Kirts, Section Chief, Florida Department of Environmental Protection, Northeast District, 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590

Jeff Koerner, Air Pollution Control Section, Palm Beach County Public Health Unit, P.O. Box 29, West Palm Beach, Florida 33402-0029

B. Thomas, Florida Department of Environmental Protection, Southwest District, 4520 Oak Fair Boulevard, Tampa, Florida 33610-7347

Carlton Nelson - Phase III
Bill Osborne - Phase III
Allan Weatherford - FGT
Phase III Files

FILE:FILENAME

*Dear Patthy Konen: filed 11/89
You asked if we needed to
amend the permits - I checked
with Jurea & we both agree that
in the past we have copied the
district & filed them - Do you
see any reason to do it any
differently? NO Patthy*

ORIGINAL FILED IN AC 62-229319



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

TALL

RECEIVED

OCT 26 1994

Bureau of
Air Regulation

October 24, 1994

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

RE: Notification of Initial Startup
Permit No. AC 62-229319/PSD-FL-202
Florida Gas Transmission Company, Compressor Station No. 15, Taylor County
Permit No. AC 50-229440
Florida Gas Transmission Company, Compressor Station No. 21, Palm Beach County
Permit No. AC 09-229441
Florida Gas Transmission Company, Compressor Station No. 26, Citrus County
Permit No. AC 29-228821
Florida Gas Transmission Company, Compressor Station No. 30, Hillsborough County

Dear Mr. Fancy:

As required by 40 CFR 60.7(a)(3), Florida Gas Transmission Company hereby makes notification of the initial startup of the new turbines at Compressor Stations Nos. 15, 21, 26 and 30 as authorized under the FDEP Permits referenced above.

Startup of the turbines at these sites was initiated on October 14, 1994.

If you have any questions or need further information, please call me at (713) 646-7323 or Mr. Allan Weatherford at (407) 875-5816.

Sincerely,

V. Duane Pierce, Ph.D.
Air Quality Supervisor

An **ENRON/SONAT** Affiliate

cc: Jim Pennington, Bureau of Air Regulation, Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400

Chris Kirts, Section Chief, Florida Department of Environmental Protection, Northeast District, 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590

Jeff Koerner, Air Pollution Control Section, Palm Beach County Public Health Unit, P.O. Box 29, West Palm Beach, Florida 33402-0029

B. Thomas, Florida Department of Environmental Protection, Southwest District, 4520 Oak Fair Boulevard, Tampa, Florida 33610-7347

Sterlin Woodard, Section Chief, Environmental Protection Commission of Hillsborough County, 1410 N. 21st Street, Tampa, Florida 33605

-62
-27
ORIGINAL FILED IN AC 228821



Florida Gas Transmission Company

P. O. Box 945100 Maitland, Florida 32794-5100 (407) 875-5800

September 14, 1994

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SEP 20 1994
Bureau of
Air Regulation

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

Dear Mr. Fancy:

Re: **Florida Gas Transmission Company
Notification of Anticipated Startup**

Permit No. AC50-229440, Station 21, Palm Beach County, FL

Permit No. AC09-229441, Station 26, Citrus County, FL

As required by 40 CFR 60, Florida Gas Transmission Company hereby makes notification of the anticipated startup of the new turbines at the above-referenced facilities. The startup of the new turbines is now anticipated for October 14, 1994.

Notification will be made of actual startup as required. If you have any questions or need further information, please call me at 407-875-5816 or Duane Pierce at 713-646-7323.

Sincerely,

Allan Weatherford, R.E.M.
Division Environmental Specialist

Handwritten notes:
7 FYI
Direct return
for file
~~Patricia...~~

bc
AW0914cf

cc: **Jim Pennington**, Bureau of Air Regulation, FDEP, 2600 Blair Stone Rd, Tallahassee, FL
B. Thomas, FDEP, SW District, 4520 Oak Fair Blvd, Tampa, Florida 33610-7347
I. Goldman, FDEP, SE District, 4520 Oak Fair Blvd, Tampa, Florida 33610-7347
Jeff Koerner, Air Pollution Control Section, Palm Beach County Public Health Unit,
PO Box 29, West Palm Beach, FL 33402-0029

Mike Teal Alan France
Charlie Thompson David Gaines
Glenn Sellars Duane Pierce



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

1. ~~Preston~~
2. ~~Zussa~~

3. Pally - file

Fill

April 19, 1994

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

RECEIVED

APR 26 1994

Bureau of
Air Regulation

RE: Permit No. AC 50-229440
Florida Gas Transmission Company, Compressor Station No. 21, Palm Beach County
Notification of Commencement of Construction

Dear Mr. Fancy:

As required by 40 CFR 60.7(a)(1), Florida Gas Transmission Company hereby makes notification of the commencement of construction for the new turbines at Compressor Station No. 21 as authorized under FDEP Permit No. AC 50-229440. This construction began on March 28, 1994.

If you have any questions or need further information, please call me at (713) 646-7323 or Mr. Bill Osborne at (713) 853-3294.

Sincerely,

V. Duane Pierce, Ph.D.
Air Quality Supervisor

CC: Jim Pennington, Bureau of Air Regulation, Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400

I. Goldman, Florida Department of Environmental Protection, Southeast District, 4520 Oak Fair Boulevard, Tampa, Florida 33610-7347

Jeff Koerner, Air Pollution Control Section, Palm Beach County Public Health Unit, P.O. Box 29, West Palm Beach, Florida 33402-0029



Lawton Chiles
Governor

Florida Department of Environmental Protection

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

Virginia B. Wetherell
Secretary

December 16, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project
Florida Gas Transmission Company
P.O. Box 1188
Houston, Texas 77251-1188

Dear Mr. Pierce:

RE: Request for Permit Amendments
AC 09-229441 Natural Gas Compressor Station No. 26, Citrus
County
AC 50-229440 Natural Gas Compressor Station No. 21, Palm Beach
County
AC 62-229319/PSD-FL-202 Compressor Station No. 15, Taylor
County
AC 56-230129/PSD-FL-203 Compressor Station No. 20, St. Lucie
County

The Department has reviewed your November 24, 1993, letter requesting some minor changes from the design submitted in the original application. As stated in your letter, these proposed changes do not involve increases of any air emissions from the turbines covered by these permits. Air dispersion modeling of NO_x emissions has been performed using the U.S. EPA's ISCLT2 model to evaluate the relative effect on air quality impacts of these proposed changes. No adverse air quality impacts will occur with these. The Department has evaluated these requests and has agreed to the changes as proposed.

Attachment to be Incorporated:

Mr. Duane Pierce's letter dated November 23, 1993.

Mr. Duane Pierce
December 16, 1993
Page Two

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the applicant of the amendment request/application and the parties listed below must be filed within 14 days of receipt of this amendment. Petitions filed by other persons must be filed within 14 days of the amendment issuance or within 14 days of their receipt of this amendment, whichever occurs first. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

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

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this amendment. Persons whose substantial interests will be affected by any decision of the Department with regard to the request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this amendment in the Office of General Counsel at the above

Mr. Duane Pierce
December 16, 1993
Page Three

address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This letter amendment must be attached to construction Permit No. AC 09-229441 and AC 50-229440 and shall become a part of each permit.

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/TH/bjb

Attachment to be Incorporated:

Mr. Duane Pierce's letter of November 23, 1993.

cc: Isidore Goldman - SED
Bill Thomas - SWD

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this AMENDMENT and all copies were mailed by certified mail before the close of business on 12/22/93 to the listed persons.

Clerk Stamp

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


Clerk

12/22/93
Date



Florida Gas Transmission Company

P. O. Box 945100 Maitland, Florida 32794-5100 (407) 875-5800

RECEIVED

DEC - 6 1993

November 30, 1993

Division of Air
Certified Emission Management

Mr. Clair Fancy, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

**RE: Intent to Issue Permit
Proof of Publication - Air Permit
Florida Gas Transmission Company
Compressor Station 21, West Palm Beach, Florida**

An affidavit is attached as proof of public notice publication for the above-referenced permit.

Sincerely,

Allan Weatherford

Allan Weatherford, REM
Compliance Environmentalist

bc
aw1130cf
attach

cc: Glenn Sellars
Alan France
Duane Pierce

J. Nelson
J. Goldman, SE Wash
Q. Stamer, PB County

THE PALM BEACH POST

Published Daily and Sunday
West Palm Beach, Palm Beach County, Florida

PROOF OF PUBLICATION

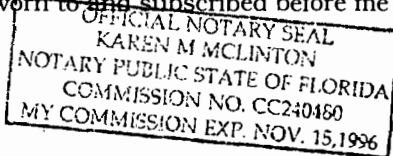
STATE OF FLORIDA
COUNTY OF PALM BEACH

Before the undersigned authority personally appeared Chris Bull
who on oath says that she/he is Class Sales of The Palm Beach Post,
a daily and Sunday newspaper published at West Palm Beach in Palm Beach County,
Florida; that the attached copy of advertising, being a Notice
in the matter of Intent to Issue
in the --- Court, was published in said newspaper in
the issues of November 25, 1993

Affiant further says that the said The Post is a newspaper published at West Palm Beach,
in said Palm Beach County, Florida, and that the said newspaper has heretofore been
continuously published in said Palm Beach County, Florida, daily and Sunday and has been
entered as second class mail matter at the post office in West Palm Beach, in said Palm Beach
County, Florida, for a period of one year next preceding the first publication of the attached
copy of advertisement; and affiant further says that she/he has neither paid nor promised
any person, firm or corporation any discount, rebate, commission or refund for the purpose
of securing this advertisement for publication in the said newspaper.

Chris Bull

Sworn to and subscribed before me this 25 day of November A.D. 19 93



Karen M. McLinton
Karen M. McLinton, Notary Public

Personally known XX or Produced Identification _____

Type of Identification Produced _____

NO. 698014
STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION
NOTICE OF INTENT
TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a permit to Florida Gas Transmission Company, Post Office Box 1188, Houston, Texas 77251-1188, to install two (2) natural gas fired turbines. The Company's facility is located on Belvedere Road, 1/8 mile east of the Florida Turnpike, in Palm Beach County, Florida. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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

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

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-8.207 F.A.C.

The application 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 Park Court-
yard
Tallahassee, Florida
Department of Environmental Protection
Southeast District Office
1900. Son Congress Avenue,
Suite A
West Palm Beach, Florida
33408

Any person may send written comments on the proposed action to Mr. Preston Lewis, at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.
PUB: The Palm Beach Post
November 25, 1993.



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

November 23, 1993

RECEIVED

NOV 24 1993

Division of Air
Resources Management

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

RE: Air Permit AC 50-229440
Natural Gas Compressor Station No. 21, Palm Beach County

Dear Mr. Fancy:

As discussed in telephone conversations with Ms. Teresa Heron of your staff on November 17 and today, Florida Gas Transmission Company's (FGT) Phase III Expansion Engineering Group has refined the design of the Phase III expansion for Compressor Station No. 21 and FGT proposes to make some desirable minor changes from the original design submitted in the original air permit application. FGT is also being required by the Federal Energy Regulatory Commission (FERC) to relocate this new compressor station to another location. FGT has no choice in this relocation. FGT understands that a new public notice (14 days) will be required. It is extremely important to FGT that the start of construction not be delayed.

These proposed changes do not involve increases in any air emissions or air quality impacts from the turbines covered by this permit. Additionally, air dispersion modeling of NO_x emissions has been performed using the U.S. EPA's ISCLT2 model to evaluate the relative effect on air quality impacts of these proposed changes. The modeling demonstrates that these proposed changes will result in an improvement in the already minimal air quality impacts of this project.

CHANGES

The proposed changes are described below.

1. The site intended for this new compressor station was unacceptable to FERC and FERC

is requiring FGT to move the station to an alternate site in Palm Beach County that is approximately 3.7 miles SSW of the currently permitted site. This new site is located on the east side of the Florida Turnpike and on the north side of Belvedere Road. Meteorological data for this site is the same as for the permitted site. The new source coordinates are:

UTM East 584427 m UTM North 2952702 m
Latitude 26 ° 41 ' 40 " Longitude 80 ° 9 ' 5 "

This change in location will not alter air quality impacts. A revised plot plan showing the new property line and a revised area map showing the new site location are attached as Attachment A.

- Both the new Compressor Building and the Auxiliary Building will have increased heights. Since these increases could cause changes in air quality impacts, the height of the Compressor and Emergency Generator stacks are also being changed. The original and new heights are given in the table below.

Height Changes

BUILDING	ORIGINAL	NEW
COMPRESSOR BUILDING	30' (9.14 m)	35' (10.67 m)
AUXILIARY BUILDING	18.5' (5.64 m)	19.75' (6.02 m)
EM. GEN. STACK	20' (6.10 m)	25' (7.62 m)
COMPRESSOR STACKS	55' (16.76 m)	63' (19.20 m)

- The Emergency Generator size requirement has been increased and will be changed from 102 hp to 184 hp. The unit will still not be operated more than 400 hours per year. NO_x, CO and VOC lb/hr emission rates will all decrease slightly and some other parameters will be changed. Some of these changes have the potential to change impacts, therefore the stack height has been increased. The changes are summarized in the table below. Vendor information is provided in Attachment B.

Revised Emergency Generator Parameters

PARAMETER	ORIGINAL	NEW
Size (hp)	102	184
Stack Height (ft)	20 (6.10 m)	25 (7.62 m)
Stack Diameter (ft)	0.29 (0.09 m)	0.33 (0.10 m)
Exhaust Flow Rate (acfm)	580 (16.42 m ³)	1250 (35.39 m ³)
Exhaust Temperature (° F)	1150 (621° C)	NO CHANGE
NO _x Emissions (lb/hr)	1.82	1.78
CO Emissions (lb/hr)	0.63	0.61
VOC Emissions (lb/hr)	0.025	0.024

DISPERSION MODELING

Air dispersion modeling was performed using ISCLT2 to compare the relative effects on air quality impacts of these changes. The same meteorology used in the original application (West Palm Beach, upper and surface data, 1982-1986) was used for this dispersion modeling. The model input files used in the original application were modified to reflect the proposed changes as follows:

- 1) Downwash parameters were changed to reflect the new Compressor and Auxiliary Building heights, the new Emergency Generator and Compressor stack heights and the new configuration shown in the plot plan. The same input file and downwash program (Bowman Engineering's GEP Program) that were used in the original application were used to generate downwash parameters for the modeling of these proposed changes.
- 2) Stack coordinates and stack parameters were changed to reflect the new values.
- 3) The receptor grids were revised to meet the limitations of the ISCLT2 version used. This version limits the number of receptors to 500. Since the original modeling used receptor grids larger than 500, the grid sizes had to be reduced. The reduced grids were located so that they included

the receptors with the highest impacts in the original application modeling.

The maximum concentration resulting from the ISCLT2 modeling decreased from 0.250 ug/m³ with our permitted stack and building heights to 0.216 ug/m³ with the new values. As stated above, this indicates that the proposed changes should result in even lower ambient air quality impacts than the already predicted low impacts. The output from the modeling runs and the downwash program and a computer disk with both input and output files have been sent to Mr. Cleveland Holladay of the FDEP under separate cover.

NO_x Air Dispersion Modeling Results

PARAMETERS	MAXIMUM OFFSITE CONCENTRATION (ug/m ³)	YEAR	RECEPTOR LOCATION	
			East meters	North meters
Original	0.250	1983	0	-100
Proposed	0.216	1982	-200	0

In summary, the changes in the Emergency Generator stack parameters, the Compressor and Auxiliary Building heights, the Compressor stack height and location should result in improved air quality impacts compared to what was proposed in FGT's original application.

Should you have any questions concerning these changes or need additional information, please do not hesitate to call me at (713) 853-3569.

Sincerely,



V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project
Florida Gas Transmission Company

cc: Carlon Nelson
William Osborne
Allan Weatherford
Files

FILE: 21FDER03.LTR

ATTACHMENT A
EMERGENCY GENERATOR
VENDOR INFORMATION

EQUIPMENT SPECIFICATION SHEET

PROJECT: FGT Phase III Expansion
 ITEM: Emergency Generator Engine
 LOCATION: Station 21, Palm Beach County, FL
 REQUISITION NO.: S2213102
 ITEM NO.: 90-101-0001
 VENDOR: Southern Plains Power

MAXIMUM EMISSION RATES (Rates Vendor guarantees which will not be exceeded over the engine power range in grams per brake horsepower-hour):

NOX:	_____	4.4	_____
CO:	_____	1.5	_____
Non-Methane HC:	_____	0.06	_____

ENGINE PARAMETERS:

Air / Fuel Ratio:	_____	10.5:1	_____
Exhaust Mass Flow (LB/HR):	_____	1856	_____
Exhaust Temperature (°F):	_____	1175 ± 75	_____
Exhaust Stack Inside Diameter:	_____	4"	_____

VENDOR'S SIGNATURE AND DATE: James L. Conrad
Nov. 22, 1993
 James L. Conrad
 Senior Technical Representative
 SOUTHERN PLAINS POWER, INC.

Engine: Cummins G12 in-line, 6-cylinder Naturally Aspirated

POWER RATINGS (without fan)

COMPRESSION RATIO	10:1	12:1
Bore: 5 1/8" (130 mm)		
Stroke: 6" (152 mm)	Propane	Nat. Gas
STANDBY POWER (ENGINE OUTPUT POWER) RATING - HP (Kw) - WITHOUT FAN		
RPM	1800	175(130) 184(137)

Cooling	
Heat Rejection To Coolant	5112 Btu/Min
Coolant Capacity(with radiator)	14.75 US Gal
Coolant Flow Rate	87 Gal/Min
Maximum Coolant Friction Head	5.0 psi
Maximum Coolant Static Head	46 ft
Radiator Fan Load	6.7 HP
Air	
Combustion Air	250 cfm
Maximum Air Cleaner Restriction	10 in H ₂ O
Alternator Cooling Air	950 cfm
Radiator Cooling Air	14000 cfm
Minimum Air Opening to Room	20 sq ft
Minimum Discharge Opening	10 sq ft
Maximum Restriction at Radiator Discharge (static)	0.5 in H ₂ O
Exhaust	
Gas Flow (Full Load)	913 cfm
Gas Temperature	1350 °F
Maximum Back Pressure	27.2 in H ₂ O

Data shown above represents gross engine performance capabilities obtained and corrected in accordance with SAE J1349 conditions of 29.61 in. Hg. (100kPa) barometric pressure [300 ft. (91m) altitude], 77° F (25° C) inlet air temperature, and 0.30 in. Hg. (1kPa) water vapor pressure using dry processed natural gas fuel with 905 BTU per standard cubic foot (33.72 k J/l) lower heating value.

Cooling System: High flow centrifugal pump with spin-on corrosion resistor/additive filter. High ambient 125° F radiator cooling system.

Exhaust System: Dry exhaust manifold. High performance tuned.

Fuel System: Balanced intake manifold for even fuel distribution. Impco carburetor developed for high altitude application.

Ignition System: Highly reliable, solid state, breakerless, low tension system. Low cranking speed firing from a magneto-type power source for easy starting. Long spark plug life and fully sealed modular-type electronics for low maintenance.

Lubrication: Positive pressure feed to all bearings and wear surfaces. Includes large tubular oil cooler and high capacity oil pan for extended service intervals. The lube oil capacity is 30 US quarts and the oil that is required is API CD 15W-40. The lube oil filter is the canister type.

Valve Train: Specifically designed for natural gas. Includes hard, high alloy valves, valve inserts, and positive action rotators on intake and exhaust ports.

Speed Control: Adjustable hydraulic governor provides stable RPM control under all load conditions.

EMERGENCY STANDBY RATING

Emergency Standby Rating is applicable for supplying emergency electric power for the duration of the utility power outage. NO OVERLOAD capability is available for this rating.

All data is based on the engine operating with fuel system, water pump, lubricating oil pump, air cleaner, and muffler; not included are alternator, compressor, fan, optional equipment, driven components or installation of a catalytic converter.

Altitude and Ambient Temperature Requirements:

The generator set may be operated at the STANDBY RATING up to 1000 ft. (304m) altitude and 100° F (38° C) inlet air temperature. For sustained operation at high load factors at higher altitudes and temperatures, see Southern Plains Power or your distributor.

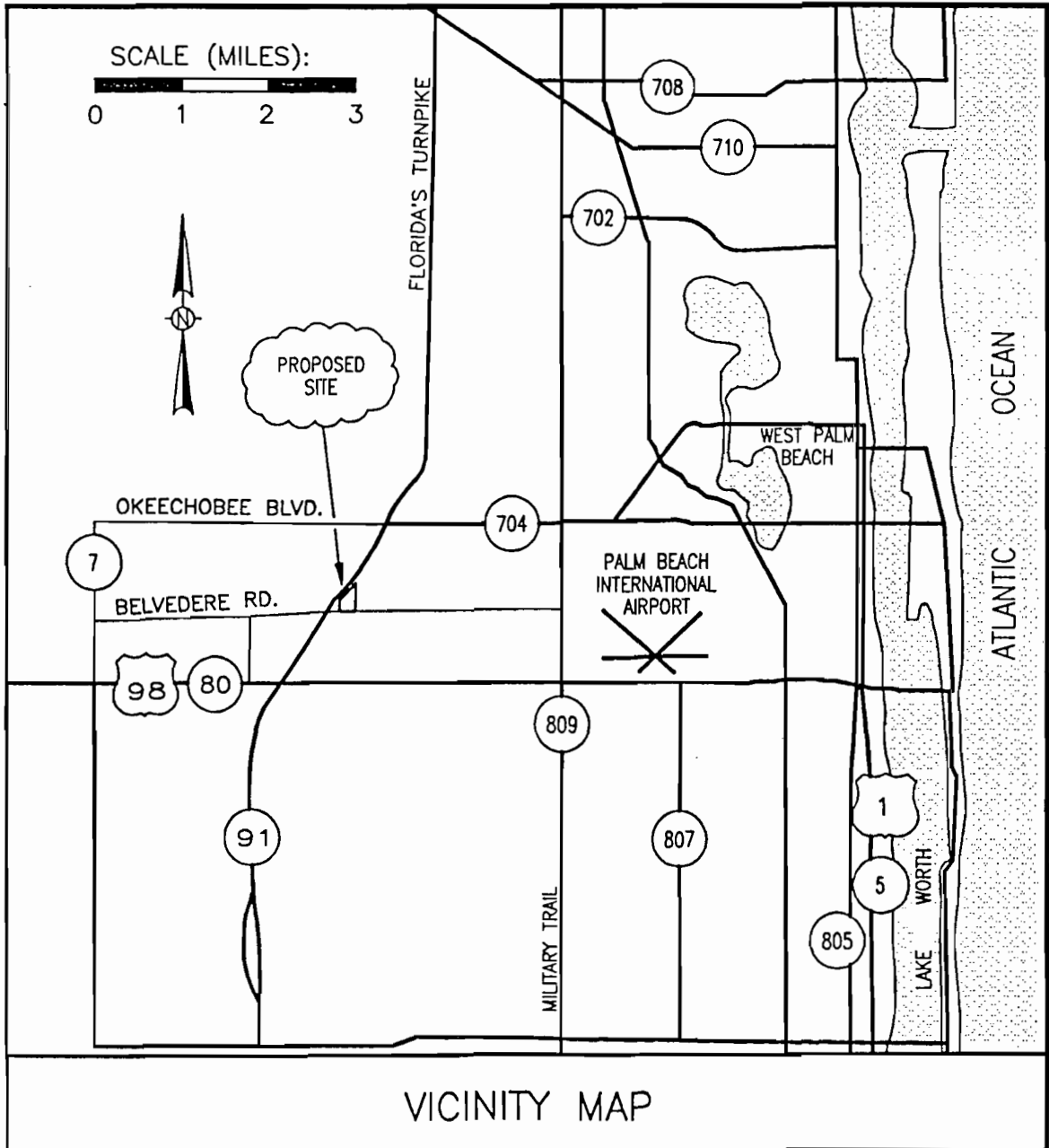
FUEL APPLICATION GUIDE

COMPRESSION RATIO	12:1	10:1	8.5:1
Dry, Processed, Natural Gas	X	X	X
Propane (HD-5)	-	X	X

All other gases, such as field gas and digester/sewage gas, will require an analysis and pre-approval from SPP. Consult your Cummins Distributor for details.

ATTACHMENT B
REVISED PLOT PLAN
AREA MAP

COMPRESSOR STATION NO. 21





**Florida Gas
Transmission
Company**

An **ENRON** / **BENTLEY** Company

**COMMITMENT TO
SAFETY
GET INVOLVED**

**PHASE III ENVIRONMENTAL AFFAIRS
FACSIMILE COVER SHEET
FAX NUMBER: (713) 646-2511**

DATE: 11/22/93

SHEET 1 OF 2 SHEETS

TO: Ms. Teresa Heron

FROM: Duane Pierce

COMPANY: FDEP

COMPANY: Florida Gas Transmission

FAX NUMBER: (904) 922-6979

PHONE NUMBER: (713) 853-3569

COMMENTS: OK talked to FGT 11/23/93

Teresa,

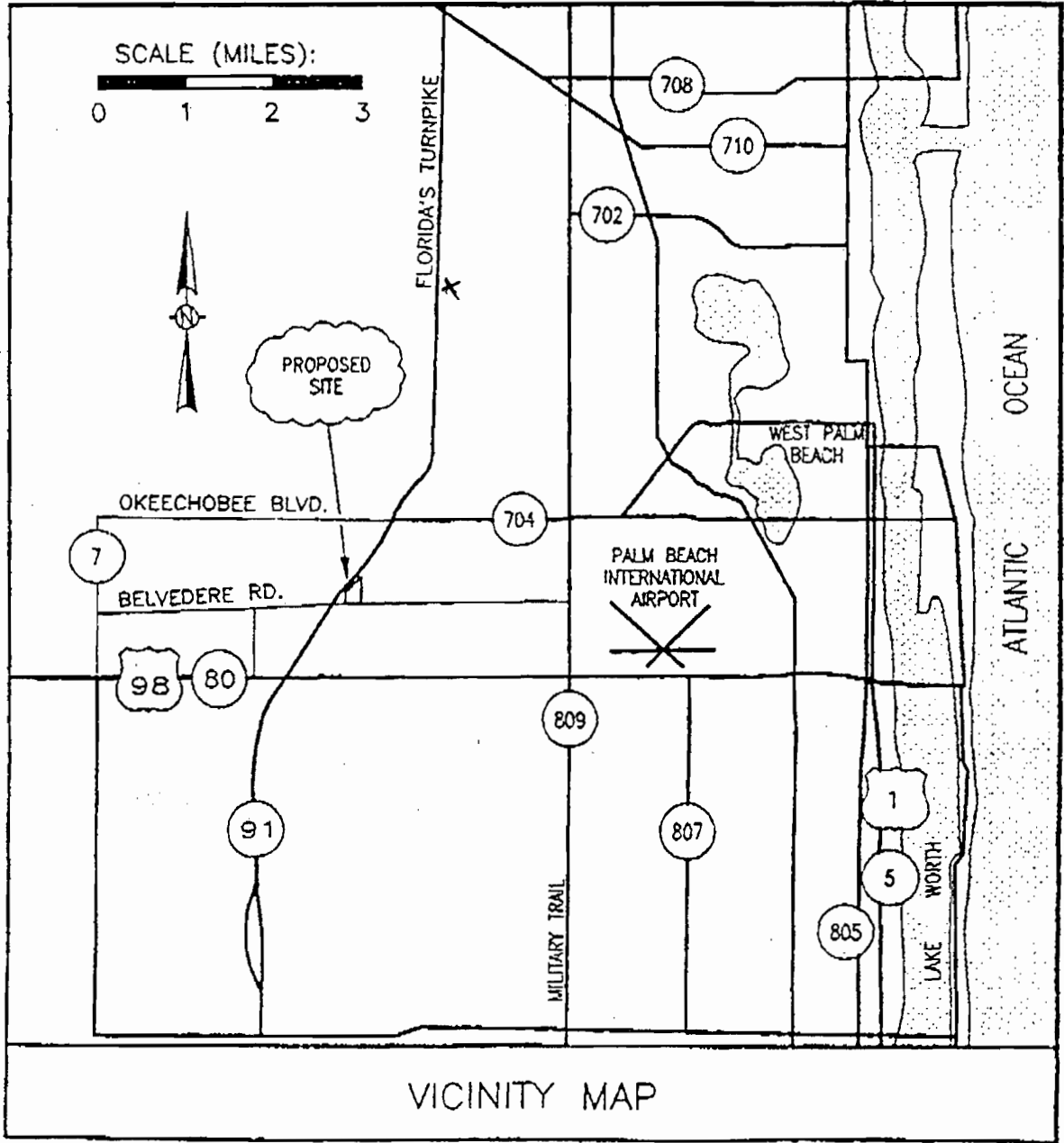
Here is an area map for the new site for Compressor Station No. 21.

A letter will follow in the next two days.

Thanks!

PLEASE CONTACT MARCY BABB AT (713) 853-3295 IF
YOU EXPERIENCE ANY PROBLEMS.

COMPRESSOR STATION NO. 21



11-23
 Teresa -
 Clair says they
 need to re-notice
 it - that's how they
 handled that
 incinerator permit -
 Patthy

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT

In the matter of an
Application for Permit by:

DER File No. AC 50-229440
Palm Beach County


Mr. Carl D. Schulz, Vice President
Florida Gas Transmission Company
P. O. Box 1188
Houston, Texas 77251-1188

Enclosed is Permit Number AC 50-229440 to construct two 6500 bhp natural gas fired turbines at the Florida Gas Transmission Company's facility located along the east side of the Florida Turnpike, north of the Palm Beach County Wastewater Treatment Plant, Palm Beach County, Florida. This permit is issued pursuant to Section(s) 403, Florida Statutes.

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

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



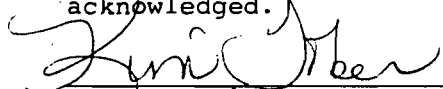
C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 9-24-93 to the listed persons.

Clerk Stamp

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



(Clerk)

9-24-93
(Date)

Copies furnished to:
I. Goldman, SE District
J. Koerner, HRS
B. Andrews, P.E., ENSR

Final Determination

Florida Gas Transmission Company
West Palm Beach County
Florida
Station No. 21

Natural Gas Compressor Engine
Permit No. AC 50-229440

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

September 23, 1993

FINAL DETERMINATION

The Technical Evaluation and Preliminary Determination for the permit to construct two 6500 bhp natural gas fired turbines at the Florida Gas Transmission Company facility located along the east side of the Florida Turnpike, north of the Palm Beach County Wastewater Treatment Plant in Palm Beach County, Florida, was distributed on July 9, 1993. The Notice of Intent was published in the Palm Beach Post on July 17, 1993. Copies of the evaluation were available for inspection at the Department's offices in West Palm Beach and Tallahassee.

Florida Gas Transmission Company (FGTC's) application for a permit to construct two natural gas fired turbines in West Palm Beach, Florida, has been reviewed by the Bureau of Air Regulation in Tallahassee.

Comments regarding the Permit Specific Conditions were submitted by Mr. V. Duane Pierce, Ph.D., Air Quality Supervisor for Florida Gas Transmission Company and Barry Andrews, P.E., representing FGTC as the professional engineer of record. The Bureau has considered Mr. Pierce's and Mr. Andrews' comments and agreed to the changes proposed to the draft specific conditions of the permit since these changes will not affect the air quality analysis considered during the evaluation of this project. The amendments to the Specific Conditions of the permit are as follows:

SPECIFIC CONDITION No. 5:

FROM:

The permitted operating parameters and utilization rates for this natural gas compressor engine shall not exceed the values stated in the application. The parameters include, but are not limited to:

Maximum natural gas consumption shall not exceed 0.057 MMCF/hr.
Maximum heat input shall not exceed 59.60 MMBTU/hr

TO:

The permitted operating parameters and utilization rates for this natural gas compressor engine shall not exceed the values stated in the application. The parameters include, but are not limited to:

Maximum natural gas consumption shall not exceed **0.0684 MMCF/hr**
(based on a fuel heating value of 1040 BTU/CF).
Maximum heat input shall not exceed **71.52 MMBTU/hr**.

SPECIFIC CONDITION No. 1:

FROM:

Emission Limits

1. The maximum allowable emissions from each gas turbine shall not exceed the emission rates as follows:

<u>Pollutant</u>	<u>lbs/hr</u>	<u>tons/yr</u>	<u>Emission Factor</u>
Nitrogen Oxides*	8.92	39.05	0.62 g/bhp-hr
Carbon Monoxide	6.46	28.29	0.45 g/bhp-hr
Volatile Organic Compounds	0.37	1.62	0.026 g/bhp-hr
(non-methane)			
Particulate Matter (TSP)	0.29	1.26	5 lbs/MMscf
Particulate Matter (PM ₁₀)	0.29	1.26	5 lbs/MMscf
Sulfur Dioxide	1.64	7.18	10 gr/100scf

*NOx Emission Standard of 42 ppmvd at 15% O₂ shall not be exceeded

TO:

Emission Limits

1. The maximum allowable emissions* from each gas turbine shall not exceed the emission rates as follows:

<u>Pollutant</u>	<u>lbs/hr</u>	<u>tons/yr</u>	<u>Emission Factor</u>
Nitrogen Oxides**	8.92	39.05	0.62 g/bhp-hr
Carbon Monoxide	6.46	28.29	0.45 g/bhp-hr
Volatile Organic Compounds	0.37	1.62	0.026 g/bhp-hr
(non-methane)			
Particulate Matter (TSP)	0.35	1.51	5 lbs/MMscf
Particulate Matter (PM ₁₀)	0.35	1.51	5 lbs/MMscf
Sulfur Dioxide	1.97	8.62	10 gr S/100scf

**NOx Emission Standard of 42 ppmvd at 15% O₂ shall not be exceeded

*Based on 100% load conditions.

The final action of the Department will be to issue construction permit AC 50-229440 with the changes noted above.



Florida 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 Gas Transmission Company
P.O. Box 1188
Houston, Texas 77251-1188

Permit Number: AC 50-229440
Expiration Date: June 30, 1995
County: Palm Beach
Latitude/Longitude: 26°44'49N
80°08'0"W

Project: Natural Gas Turbine
Engines No. 2101, 2102 and
Supporting Equipment

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-210, 212, 272, 275, 296, and 297; and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the construction of two natural gas fired turbine engines and supporting equipment to be located within the limits of the city of West Palm Beach, adjacent to the Florida Turnpike in Palm Beach County, Florida. The UTM coordinates are Zone 17, 586.031 km East and 2957.102 km North.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. DEP Form 17-1.202(1) Application to Operate/Construct Air Pollution Sources.

PERMITTEE: Florida Gas Transmission Company **Permit Number:** AC 50-229440
Expiration Date: June 30, 1995

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed 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.

PERMITTEE:

Florida Gas Transmission Company

Permit Number: AC 50-229440

Expiration Date: June 30, 1995

GENERAL CONDITIONS:

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 any 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.

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.

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

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

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.

PERMITTEE:

Florida Gas Transmission Company

Permit Number: AC 50-229440

Expiration Date: June 30, 1995

GENERAL CONDITIONS:

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, 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.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards (NSPS)

14. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the dates analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

PERMITTEE: Florida Gas Transmission Company Permit Number: AC 50-229440
Expiration Date: June 30, 1995

GENERAL CONDITIONS:

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.

SPECIFIC CONDITIONS:

Emission Limits

1. The maximum allowable emissions* from each gas turbine shall not exceed the emission rates as follows:

Pollutant	lbs/hr	tons/yr	Emission Factor
Nitrogen Oxides*	8.92	39.05	0.62 g/bhp-hr
Carbon Monoxide	6.46	28.29	0.45 g/bhp-hr
Volatile Organic Compounds (non-methane)	0.37	1.62	0.026 g/bhp-hr
Particulate Matter (TSP)	0.35	1.51	5 lbs/MMscf
Particulate Matter (PM ₁₀)	0.35	1.51	5 lbs/MMscf
Sulfur Dioxide	1.97	8.62	10 gr S/100scf

**NOx Emission Standard of 42 ppmvd at 15% O₂ shall not be exceeded

*Based on 100% load conditions.

2. Visible emissions shall not exceed 10% opacity.

Operating Rates

3. Each source is allowed to operate continuously (8760 hours per year). The emergency electrical generator is allowed to operate not more than 400 hours per year.

4. Each source is allowed to use natural gas only.

5. The permitted operating parameters and utilization rates for each natural gas turbine engine shall not exceed the values stated in the application. The parameters include, but are not limited to:

- Maximum natural gas consumption shall not exceed 0.0684 MMcf/hr (based on a fuel heating value of 1040 BTU/CF).
- Maximum heat input shall not exceed 71.52 MMBtu/hr

6. Any change in the method of operation, equipment or operating hours shall be submitted to the DEP's Bureau of Air Regulation, Southeast District and the Air Pollution Control Section of the Palm Beach County Public Health Unit (PBCPHU) offices.

7. Any other operating parameters established during compliance testing and/or inspection that will ensure the proper operation of this facility shall be included in the operating permit.

SPECIFIC CONDITIONS:

Compliance Determination

8. Compliance with the allowable emission limits shall be determined within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after initial start-up and annually thereafter except as provided in Specific Condition 10, below, by the following reference methods as described in 40 CFR 60, Appendix A (July 1992 version) and adopted by reference in Chapter 17-297, F.A.C.

- Method 1 Sample and Velocity Traverses
- Method 2 Volumetric Flow Rate
- Method 3 or 3A Gas Analysis
- Method 9 Determination of the Opacity of the Emissions from Stationary Sources
- Method 10 Determination of the Carbon Monoxide Emissions from Stationary Sources
- Method 20 Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Gas Turbines
- Method 18 Measurement of Gaseous Organic Compound Emissions by Gas Chromatography
- Method 25A Determination of Total Gaseous Organic Concentrations Using a Flame Ionization Analyzer

9. Other DEP approved methods may be used for compliance testing after prior Department approval. Compliance with the SO₂ emission limit can be determined by calculations based on fuel analysis using ASTM D1072-80, D3031-81, D4084-82, or D3246-81 for sulfur content of gaseous fuels.

10. Initial compliance with the volatile organic compound (VOC) emissions limits will be demonstrated by EPA Method 25A or Method 18. Thereafter, except as provided in Rule 17-297.340(2), compliance with the VOC emission limits will be assumed, provided the CO allowable emission rate is achieved.

11. During performance tests, to determine compliance with the NO_x standard, measured NO_x emissions at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_x \text{ obs}) \left(\frac{P_{ref}}{P_{obs}} \right)^{0.5} e^{19} (H_{obs} - 0.00633) \left(\frac{288^\circ K}{T_{AMB}} \right)^{1.53}$$

where:

NO_x = Emissions of NO_x at 15 percent oxygen and ISO standard ambient conditions.

NO_x obs = Measured NO_x emission at 15 percent oxygen, ppmv.

PERMITTEE:

Florida Gas Transmission Company

Permit Number: AC 50-229440

Expiration Date: June 30, 1995

SPECIFIC CONDITIONS:

P_{ref} = Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.

P_{obs} = Measured combustor inlet absolute pressure at test ambient pressure.

H_{obs} = Specific humidity of ambient air at test.

e = Transcendental constant (2.718).

T_{AMB} = Temperature of ambient air at test.

12. Stack sampling facilities shall be required and shall comply with the requirements of F.A.C. Rule 17-297.345. Test results will be the average of 3 valid runs. The Southeast District and the PBCPHU offices will be notified at least 30 days in writing in advance of the compliance test(s). The source shall operate between 90% and 100% of maximum capacity for the ambient conditions experienced during compliance test(s). Compliance test results shall be submitted to the Southeast District and the PBCPHU offices no later than 45 days after completion.

13. Sulfur and nitrogen content and the lower heating value of the fuel being fired in the combustion turbine shall be determined as specified in 40 CFR 60.334(b). Any request for a future custom monitoring schedule shall be made in writing and directed to the Southeast District and the PBCPHU offices. Any custom schedule approved by DEP pursuant to 40 CFR 60.334(b) will be recognized as enforceable provisions of the permit, provided that the holder of this permit demonstrates that the provisions of the schedule will be adequate to assure continuous compliance.

14. The permittee shall annually perform a visual inspection of the turbine compressor engine, filters, associated piping system for rust spots, cracks, leaks and odors. Also ensure that safety valves and the stack are in proper order and working properly. The permittee shall document the findings and corrective action taken.

15. When the Department, after investigation, has good reason (such as odor complaints, increased visible emissions, excess emissions, etc.), to conclude that any applicable emission standard contained in this permit is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of air pollutant emissions from the facility and to provide a report of said tests to the Department (F.A.C. Rule 17-297.340(2)).

PERMITTEE:

Florida Gas Transmission Company

Permit Number: AC 50-229440**Expiration Date: June 30, 1995****SPECIFIC CONDITIONS:**Rule Requirements

16. This source shall comply with all applicable provisions of Chapter 403, Florida Statutes, Chapters 17-210, 212, 275, 296, 297 and 17-4, Florida Administrative Code and 40 CFR 60 (July, 1992 version).

17. This source shall comply with all requirements of 40 CFR 60, Subpart GG and F.A.C. Rule 17-296.800, (2)(a), Standards of Performance for Stationary Gas Turbines.

18. 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 (F.A.C. Rule 17-210.300(1)).

19. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor pursuant to F.A.C. Rule 17-296.320(2). Objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonable interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance pursuant to F.A.C. Rule 17-296.200(123).

20. This source shall be in compliance with all applicable provisions of F.A.C. Rules 17-210.650: Circumvention; 17-210.700: Excess Emissions; 17-296.800: Standards of Performance for New Stationary Sources (NSPS); Chapter 17-297: Stationary Sources-Emissions Monitoring; Chapter 17-296: Stationary Source-Emission Standards and, 17-4.130: Plant Operation-Problems.

21. Fugitive dust emissions, during the construction period, shall be minimized by covering or watering dust generation areas.

22. Pursuant to F.A.C. Rule 17-210.300(2), Air Operating Permits, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. These reports shall include, but are not limited to the following: sulfur and nitrogen content, lower heating value of the fuel being fired; fuel usage, turbine inlet and outlet temperature, RPM, hours of operation, air emissions limits, etc. Annual reports shall be sent to the Department's Southeast District and the Air Pollution Control Section of the Palm Beach County Public Health Unit (PBCPHU) offices by March 1 of each calendar year.

23. 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 (F.A.C. Rule 17-4.090).

PERMITTEE:

Florida Gas Transmission Company

Permit Number: AC 50-229440

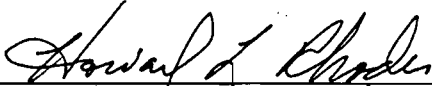
Expiration Date: June 30, 1995

SPECIFIC CONDITIONS:

24. An application for an operation permit must be submitted to the Southeast District and the Air Pollution Control Section of the Palm Beach County Public Health Unit (PBCPHU) offices at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).


Issued this 23 day
of September, 1993

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


Howard L. Rhodes, Director
Division of Air Resources
Management

Memorandum

Florida Department of
Environmental Protection

TO: Howard L. Rhodes
FROM: C. H. Fancy 
DATE: September 17, 1993
SUBJ: Approval of Construction Permit
Florida Gas Transmission Company
Air Permit AC 50-229440
Natural Gas Compressor Station No. 21, Palm Beach County

Attached for your approval and signature is a permit prepared by the Bureau of Air Regulation for the above mentioned company to construct two 6500 bhp natural gas fired turbines.

No adverse comments were received during the public notice period.

I recommend your approval and signature.

CHF/TH/bjb

Attachments

OK
GPL
9/15



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

August 11, 1993

RECEIVED
AUG 12 1993
Division of Air
Resources Management

Mr. Clair Fancy
Chief, Bureau of Air Regulations
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Changes to FGT Phase III Expansion Project Air Permits

Draft Air Permit AC 62-229319 / PSD-FL-202
Natural Gas Compressor Station No. 15, Taylor County

Draft Air Permit AC 05-229322
Natural Gas Compressor Station No. 19, Brevard County

Draft Air Permit AC 56-230129 / PSD-FL-203
Natural Gas Compressor Station No. 20, St. Lucie County

Draft Air Permit AC 50-229440
Natural Gas Compressor Station No. 21, Palm Beach County

Draft Air Permit AC 09-229441
Natural Gas Compressor Station No. 26, Citrus County

Draft Air Permit AC 29-228821
Natural Gas Compressor Station No. 30, Hillsborough County

Dear Mr. Fancy:

We respectfully propose the following changes to each of the above referenced draft permits.

Item A

We propose increasing the maximum heat inputs and maximum natural gas consumption rates for each engine (Specific condition #5). We are proposing this change as a result of test results

Mr. Clair Fancy
FGT Phase III Permits
August 11, 1993
Page 2

on our Phase II engines which indicate higher values than those provided by the engine manufacturers and used in the permits for Phase II engines. The values proposed in our applications for our Phase III engines are also based on values provided by the manufacturers. We believe it is necessary to increase these values for our Phase III engines, in order to prevent potential future compliance problems. We propose to increase these values by 20 %. We believe the new values will be more correct. Since the SO₂ and PM emission rates are based on fuel consumption, we are proposing to increase these also. These changes are provided in the attached table.

Item B

The emission limits in the permits (Specific Condition #1) represent the emission rates at 100% load conditions. We propose adding a statement or footnote to this emission limit table that indicates this.

Item C

On the same emission limit table the Emission Factor for SO₂ is given as "10 gr/100scf." This suggests that the factor is based upon 10 gr of SO₂ when it is actually sulfur. We suggest the following wording be used: "100 gr S/100/scf" to avoid confusion.

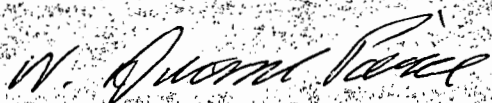
Item D

Specific Condition #12 (#11 for AC 56-230129 / PSD-FL-203 Compressor Station No. 20 and Ac 05-229322 Compressor Station No. 19) requires the source to be tested while operating "between 95% and 100% of maximum capacity." The permits for our Phase II engines require testing between 90% and 100% of maximum capacity. Due to the nature of our operations, it is sometimes difficult to reach even the 90% load on our engines when a test is scheduled. Raising this minimum level to 95% will make this a greater problem. We therefore request that this condition be changed to require testing "between 90% and 100% of maximum capacity" as required by our other permits.

Mr. Clair Fancy
FGT Phase III Permits
August 11, 1993
Page 3

Again FGT appreciates this opportunity to comment on these permit conditions and your consideration of our proposed changes. If you have any questions or need additional information, please do not hesitate to call me at (713) 853-3569.

Sincerely,



V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project
Florida Gas Transmission Company

cc: Carlon Nelson
William Osborne
Allan Weatherford
Barry Andrews - ENSR
Files

FILE: 00FDER01.LTR

J. Deryn
H. Zhang
G. Cole, NE Dist.
D. Zadm, E Dist.
B. Thomas, SW Dist.
J. Goldman, SE Dist.

ORIGINALLY PROPOSED VALUES

STATION	MAXIMUM HEAT INPUT (MMBtu/hr)	MAXIMUM GAS CONSUMPTION (MMscf/hr)	SO ₂ EMISSIONS		PM/PM ₁₀ EMISSIONS	
			lb/hr	T/yr	lb/hr	T/yr
15	109.66	0.1054	3.01	13.19	0.53	2.31
19	38.3	0.0368	0.94	4.12	0.17	0.74
20	27.8	0.0267	0.70	3.33	0.13	0.57
21	59.60	0.057	1.64	7.18	0.29	1.26
26	59.60	0.057	1.64	7.18	0.29	1.26
30	13.13	0.013	0.37	1.62	0.064	0.28

NEW VALUES

STATION	MAXIMUM HEAT INPUT (MMBtu/hr)	MAXIMUM GAS CONSUMPTION (MMscf/hr)	SO ₂ EMISSIONS		PM/PM ₁₀ EMISSIONS	
			lb/hr	T/yr	lb/hr	T/yr
15	131.59	0.1265	3.61	15.83	0.64	2.77
19	45.96	0.0442	1.13	4.94	0.20	0.89
20	33.36	0.0320	0.84	4.00	0.16	0.68
21	71.52	0.0684	1.97	8.62	0.35	1.51
26	71.52	0.0684	1.97	8.62	0.35	1.51
30	15.76	0.0156	0.44	1.94	0.077	0.34



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

RECEIVED

July 30, 1993

AUG 2 1993

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

Dear Mr. Fancy:

Upon reviewing the Technical Evaluations and Preliminary Determinations for the proposed natural gas compressor engines located in Palm Beach County (Station No. 21) and Citrus County (Station No. 26), it was discovered that our draft permits contained the nominal lb/hr emission rates rather than the maximum emission rates which were presented in the Applications to Operate/Construct Air Pollution Sources. Further review indicates that this error also holds true for draft permits which have been received for proposed natural gas compressor engines located in Taylor County (Station No. 20).

Florida Gas Transmission Company (FGTC) requests that the permits be amended to include the maximum lb/hr emission levels for the natural gas compressor engines addressed above as follows:

Station	Pollutant (lb/hr)					
	No _x	CO	VOC	TSP	PM ₁₀	SO ₂
No. 15 - Taylor County (AC 62-229319)	18.66	13.49	0.76	0.53	0.53	3.01
No. 19 - Brevard County (AC 05-229322)	79.38	45.20	16.57	0.19	0.19	1.05
No. 20 - St. Lucie County (AC 56-230129)	52.92	26.46	12.35	0.15	0.15	0.84
No. 21 - Palm Beach County (AC 50-229440)	9.15	6.64	0.38	0.29	0.29	1.64
No. 26 - Citrus County (AC 09-229441)	9.15	6.64	0.38	0.29	0.29	1.64

Mr. Clair Fancy, P.E.
July 30, 1993
Page 2.

These changes do not affect the TPY limits which are based on the nominal lb/hr emission rates. FGTC also discovered that for Station 21, the nominal lb/hr emission rates presented in Table 2-2 of our application were inadvertently transferred to the maximum lb/hr column on page 4A of the Application to Operate/Construct Air Pollution Sources. To resolve this error, FGTC has included a corrected page 4A and has had this transmittal letter signed and sealed by Barry Andrews (ENSR Consulting and Engineering) who is representing FGTC as the professional engineer of record. This procedure is consistent with instructions given by Mr. Preston Lewis of your bureau.

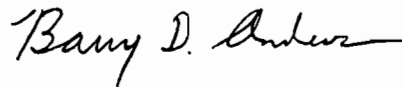
Please note that this letter is not intended to address all of FGTC's comments for Stations 20, 21 and 26. FGTC is presently reviewing the Technical Evaluations and Preliminary Determinations for each of these Stations and will be providing additional comments in the near future.

FGTC appreciates the opportunity to provide the Bureau of Air Regulation with these comments. Should you have any questions, please contact Duane Pierce at (713) 853-3569.

Sincerely,



V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project
Florida Gas Transmission Company



Barry Andrews, P.E.
ENSR Consulting and Engineering

Enclosures

cc: Carlton Nelson EB0463
 William R. Osborne EB0365
 Files

VDP:meb
pierce\corres\073093

SECTION 1.1: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

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

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

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

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Emission Point 2101

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
NO _x	9.15	39.05			9.15	39.05	
CO	6.64	28.29			6.64	28.29	
NMHC	.38	1.62			.38	1.62	
SO ₂	1.64	7.18			1.64	7.18	
PM	.29	1.26			.29	1.26	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

July 29, 1993

RECEIVED

JUL 30 1993

Division of Air
Resources Management

Ms. Teresa Heron
Air Permitting and Standards
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Air Permit Application, AC 50-229440
Natural Gas Compressor Station No. 21, Palm Beach County

Dear Ms. Heron:

As discussed with you on the phone on July 8, our Project Engineering Group has decided that some changes will be necessary from the design submitted in our original application for a new Compressor Station No. 21 to be located in Palm Beach County. There are two modifications.

1. Due to the discovery that the high velocity in the exhaust stacks on the new turbines will create an unacceptable noise level, we must increase the diameter of these stacks from 40" (1.02 m) to 54" (1.37 m). To compensate for the potential increase in air quality impacts due to the decreased velocity, we are also increasing the height of the stacks from 50 feet (15.24 m) to 55 feet (16.76 m). Screening modeling was performed using the U.S. EPA's SCREEN model for a stack with our original parameters and then with these new parameters. Full meteorology was used as well as downwash using the compressor building's dimensions. The maximum concentration resulting from the SCREEN modeling decreased from 23.11 ug/m³ at 92 m with the old stack dimensions to 19.52 ug/m³ at 92 m with the new stack dimensions. This indicates that the proposed changes should result in even lower ambient air quality impacts than the already predicted minimal impacts. The output from these two modeling runs are attached as Attachments A and B.
2. The site originally proposed for this facility will not be available to us; therefore we are moving the facility to a site approximately 1 mile north of the original site. This new site is still along the east side of the Florida Turnpike, but is now just north of the Palm

Florida Gas Transmission Company
Compressor Station No. 21
July 29, 1993
Page 2

Beach County wastewater treatment plant instead of just south of it. Meteorological data for this site is the same as for the original site. The new source coordinates are:

UTM: East 586162 North 2958495
Latitude 26 ° 44 ' 49 " N Longitude 80 ° 8 ' 0 "

This change in location will not alter air quality impacts. A revised plot plan showing the new property line and a revised area map showing the new site location are attached as Attachment C.

In summary, the changes in the compressor engine stack parameters should result in improved air quality impacts compared to what was proposed in our original application. The change in the site location will not alter impacts from those represented in the original application.

Should you have any additional questions concerning these changes or need additional information, please do not hesitate to call me at (713) 853-3569.

Sincerely,



V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project
Florida Gas Transmission Company

cc: Carlon Nelson
William Osborne
File Phase III Air CS 21

FILE: 21FDER01.LTR



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

July 29, 1993

RECEIVED

JUL 30 1993

DIVISION of Air
Resources Management

Ms. Teresa Heron
Air Permitting and Standards
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Draft Air Permit AC 50-229440
Natural Gas Compressor Station No. 21, Palm Beach County

Dear Ms. Heron:

We have reviewed the draft permit provisions for the proposed new turbines at our new Compressor Station No. 21. We respectfully propose the following modification to these specific permit conditions.

SPECIFIC CONDITION:

5. The permitted operating parameters and utilization rates for this natural gas compressor engine shall not exceed the values stated in the application. The parameters include, but are not limited to:

~~Maximum natural gas consumption shall not exceed 0.057 MMCF/hr~~
- Maximum heat input shall not exceed 59.60 MMBtu/hr

OR

- Maximum natural gas consumption shall not exceed 0.1054 MMSCF/hr (based on a fuel heating value of 1040 Btu/SCF)
- Maximum heat input shall not exceed 59.60 MMBtu/hr

Rationale: The maximum natural gas consumption value will vary depending on what is used as the heating value of the natural gas. The maximum natural gas consumption value in MMSCF/hr is calculated from the maximum heat input value in Btu/SCF. The value calculated

Ms. Teresa Heron
Compressor Station No. 15
July 29, 1993
Page 2

for the maximum natural gas consumption is dependent on the number used for the actual heating value of the gas which can vary. In the application a value of 1040 Btu/SCF was used in this calculation; however, at any point in time the actual heating value of the natural gas may differ from 1040 Btu/SCF.

Since the maximum natural gas consumption is dependent on the maximum heat input, it is not necessary to specify the maximum natural gas consumption value in the permit condition. If the maximum natural gas consumption value is specified in the permit condition, then the basis for the value should be stated.

FGT will also comment on the maximum lbs/hr emission rates under Specific Condition #1 in separate correspondence. It should also be noted that the UTM coordinates on page one of the permit should be changed as has been described in separate correspondence also dated 29 July 1993 and relating to proposed changes.

FGT appreciates this opportunity to comment on these permit conditions and your consideration of our proposed changes. If you have any questions or need additional information, please do not hesitate to call me at (713) 853-3569.

Sincerely,



V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion Project
Florida Gas Transmission Company

cc: William Osborne - FGT
Carlton Nelson - FGT
File Phase III Air CS 21

FILE: 21FDER02.LTR



Florida Gas Transmission Company

P. O. Box 945100 Maitland, Florida 32794-5100 (407) 875-5800

RECEIVED

JUL 27 1993

Division of Air
Resources Management

July 23, 1993

Certified Mail

Mr. Clair Fancy, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

**RE: Intent to Issue Permit
Proof of Publication - Air Permit
Florida Gas Transmission Company
Compressor Station 21, West Palm Beach, Florida**

An affidavit is attached as proof of public notice
publication for the above-referenced permit.

Sincerely,

Allan Weatherford, REM
Compliance Environmentalist

bc
aw0719tt
encl

cc: Raymond Young
Don Sterba
Alan France
Duane Pierce
J. Heron
J. Goldman, SE Dist
J. Kalmer, PBC

THE PALM BEACH POST

Published Daily and Sunday
West Palm Beach, Palm Beach County, Florida

PROOF OF PUBLICATION

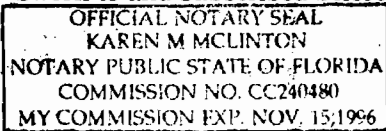
STATE OF FLORIDA
COUNTY OF PALM BEACH

Before the undersigned authority personally appeared Chris Bull
who on oath says that she/he is Class. Sales Mgr. of The Palm Beach Post,
a daily and Sunday newspaper published at West Palm Beach in Palm Beach County,
Florida; that the attached copy of advertising, being a Notice
in the matter of intent to issue permit
in the --- Court, was published in said newspaper in
the issues of July 17, 1993

Affiant further says that the said The Post is a newspaper published at West Palm Beach,
in said Palm Beach County, Florida, and that the said newspaper has heretofore been
continuously published in said Palm Beach County, Florida, daily and Sunday and has been
entered as second class mail matter at the post office in West Palm Beach, in said Palm Beach
County, Florida, for a period of one year next preceding the first publication of the attached
copy of advertisement; and affiant further says that she/he has neither paid nor promised
any person, firm or corporation any discount, rebate, commission or refund for the purpose
of securing this advertisement for publication in the said newspaper.

Chris Bull

Sworn to and subscribed before me this 19 day of July A.D. 19 93



Karen M. McLinton
Karen M. McLinton, Notary Public

Personally known XX or Produced Identification _____
Type of Identification Produced _____

NO. 672714
STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION
NOTICE OF INTENT
TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a permit to Florida Gas Transmission Company, Post Office Box 1188, Houston, Texas 77251-1188, to install two (2) natural gas fired turbines. The Company's facility is located within the limits of the city of West Palm Beach adjacent to the Florida Turnpike in Palm Beach County, Florida. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination. A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative (hearing) under Section 120.57, Florida Statutes. The Petition shall contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing shall be held. Accordingly, 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 decision of the Department with regard to the application have the right to petition to be a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The application 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 Pollution
111 S. Magnolia Park
Courtyard
Tallahassee, FL
Department of
Environmental Protection
Southeast District Office
1900 S. Congress Ave.,
Suite A
West Palm Beach, FL 33406

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.
PUB: The Palm Beach Post
July 17, 1993

P 230 524 370



Receipt for Certified Mail

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

PS Form 3800, June 1991

Sent to <i>Carl Schulz</i>	
Street and No. <i>HA GAS TRANS</i>	
P.O., State and Zip Code <i>HOUSTON, TX</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<i>AL50-229440 7-9-93</i>

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

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

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

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

*Carl D. Schulz, VP
HA Gas Transmission
PO BOX 1188
Houston, TX 77051-1188*

4a. Article Number

P 230 524 370

4b. Service Type

- Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery

JUL 12 1993

5. Signature (Addressee)

6. Signature (Agent)

[Handwritten Signature]

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

PS Form 3811, December 1991

★U.S. GPO: 1992-323-402

DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service



Lawton Chiles
Governor

Florida Department of Environmental Protection

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

Virginia B. Wetherell
Secretary

July 6, 1993

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

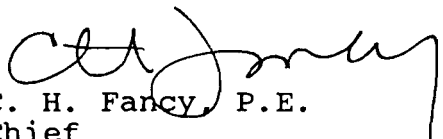
Mr. Carl D. Schulz, Vice President
Project Management Services
Florida Gas Transmission Company
Post Office Box 1188
Houston, Texas 77251-1188

Dear Mr. Schulz:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit to install two (2) natural gas fired turbines in West Palm Beach, Palm Beach County, Florida.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Preston Lewis of the Bureau of Air Regulation.

Sincerely,


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

CHF/TH/kt

Attachments

cc: Isidore Goldman, SE District
Jeffery F. Koerner, HRS
Barry Andrews, P.E., ENSR

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of an
Application for Permit by:

DEP File No. AC 50-229440

Florida Gas Transmission Company
Post Office Box 1188
Houston, Texas 77251-1188

INTENT TO ISSUE

The Department of Environmental Protection gives notice of its intent to issue an air construction permit (copy attached) for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Florida Gas Transmission, applied on April 12, 1993, to the Department of Environmental Regulation for a permit to install two (2) natural gas fired turbines.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes and Florida Administrative Code (F.A.C.) Chapters 17-209 through 17-297. The project is not exempt from permitting procedures. The Department has determined that a construction permit is required for the proposed work.

Pursuant to Section 403.815, Florida Statutes and DEP Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "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. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 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.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

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

The Petition shall contain the following information;


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

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a

waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

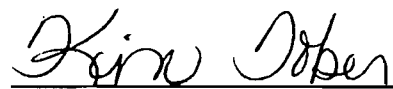

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this INTENT TO ISSUE and all copies were mailed by certified mail before the close of business on 7-9-93 to the listed persons.

Clerk Stamp

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


Kevin Ober 7-9-93
Clerk Date

Copies furnished to:

I. Goldman, SE District
Jeffery F. Koerner, HRS
Barry Andrews, P.E., ENSR

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a permit to Florida Gas Transmission Company, Post Office Box 1188, Houston, Texas 77251-1188, to install two (2) natural gas fired turbines. The Company's facility is located within the limits of the city of West Palm Beach adjacent to the Florida Turnpike in Palm Beach County, Florida. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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

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

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be

filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The application 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 Park Courtyard
Tallahassee, Florida

Department of Environmental Protection
Southeast District Office
1900 S. Congress Avenue, Suite A
West Palm Beach, Florida 32406

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

FLORIDA GAS TRANSMISSION COMPANY

Palm Beach County
West Palm Beach, Florida
Station No. 21

Natural Gas Compressor Engine
Permit No. AC 50-229440

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

July 1, 1993

SYNOPSIS OF APPLICATION

I.1 APPLICANT NAME AND ADDRESS

Florida Gas Transmission Company
P.O. Box 1188
Houston, Texas 77251-1188

I.2 REVIEWING AND PROCESS SCHEDULE

Date of Receipt of Application: April 12, 1993

Application Completeness Date: April 12, 1993

II. FACILITY INFORMATION

II.1 FACILITY LOCATION

Florida Gas Transmission Company's (FGTC) facility is located within the limits of the City of West Palm Beach adjacent to the Florida Turnpike in Palm Beach County, Florida. The UTM coordinates are 586.031 Km E and 2957.02 Km N.

II.2 STANDARD INDUSTRIAL CLASSIFICATION CODE

This facility is classified as follows:

Major Group No.49 - Electric, Gas and Sanitary Services

Group No.492- Gas Production and Distribution

Industry No. 4922- Natural Gas Transmission

II.3 FACILITY CATEGORY

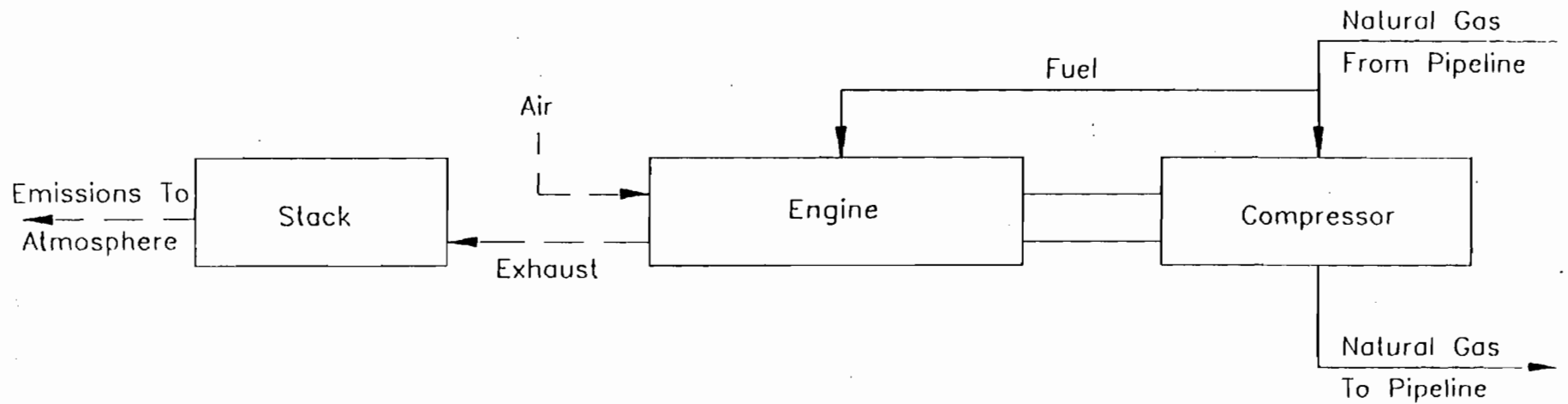
The FGTC new site, in West Palm Beach, will be classified as a minor emitting facility for nitrogen oxides (NOx) and carbon monoxide (CO). The proposed project will emit 78.46 tons per year of NOx emissions and 56.71 tons per year of CO emissions. The total permitted emissions for this facility shall not exceed the above mentioned values.

III. PROJECT DESCRIPTION

The FGTC proposed to install two natural gas fired turbine engines and associated support equipment. The turbine engines will be two (2) Solar Centaur-Taurus T-6502 units ISO rated at 6,500 bhp at 12,700 revolutions per minute. The proposed units will be used to drive a gas compressor that is a part of a new gas transmission line that will transport natural gas from source wells in Texas and Louisiana for delivery throughout Florida. The proposed turbines will incorporate dry, low NOx combustion technology. A flow diagram of a typical compressor unit is presented in Figure 2-1.

BEST AVAILABLE COPY

CE 679259
(DALLAS/HPCL 21)



ENSR[™]
ENSR CONSULTING & ENGINEERING

FIGURE 2-1
PROCESS FLOW DIAGRAM
OF AN
ENGINE-COMPRESSOR UNIT

DRAWN:	DC/SH	DATE:	11-6-92	PROJECT NUMBER:
APP'D:		REVISED:	11-16-92	1700-110

III. 1 Background Information

In general, the FGTC Phase III expansion project will be increasing the natural gas transport capacity of the existing Florida gas pipeline system. The scope of the work for Phase III includes expansions by the addition of state-of-the art compressor engines and turbine engines at four existing compressor stations and the development of two new compressor stations. The proposed turbine engines would be used solely for the purpose of transporting natural gas in the pipeline for distribution in Florida. The main gas pipeline and the approximate locations of the existing and proposed compressor stations along the main pipeline are shown in Figure 1-1.

IV. RULE APPLICABILITY

The proposed project is subject to preconstruction review under applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative (F.A.C.) Chapters 17-209 through 17-297.

This plant is located in an area (Palm Beach County) designated nonattainment for ozone and attainment for all of the other criteria pollutants in accordance with Rule 17-275.410 and 17-275.400, respectively.

The proposed project is exempt from review under F.A.C. Rule 17-212.400 Prevention of Significant Deterioration (PSD) because this new source is considered a minor emitting facility for purpose of PSD regulations (under 250 TPY).

The proposed facility shall comply with applicable provisions of F.A.C. Chapter 17-297, Stationary Sources-Emissions Monitoring; F.A.C. Rule 17-296.310 General Particulate Emission Limiting Standards; F.A.C. Rule 17-296.320, General Pollutant Limiting Standards and F.A.C. Rule 17-296.800(2)(a) New Source Performance Standards for Gas Turbine.

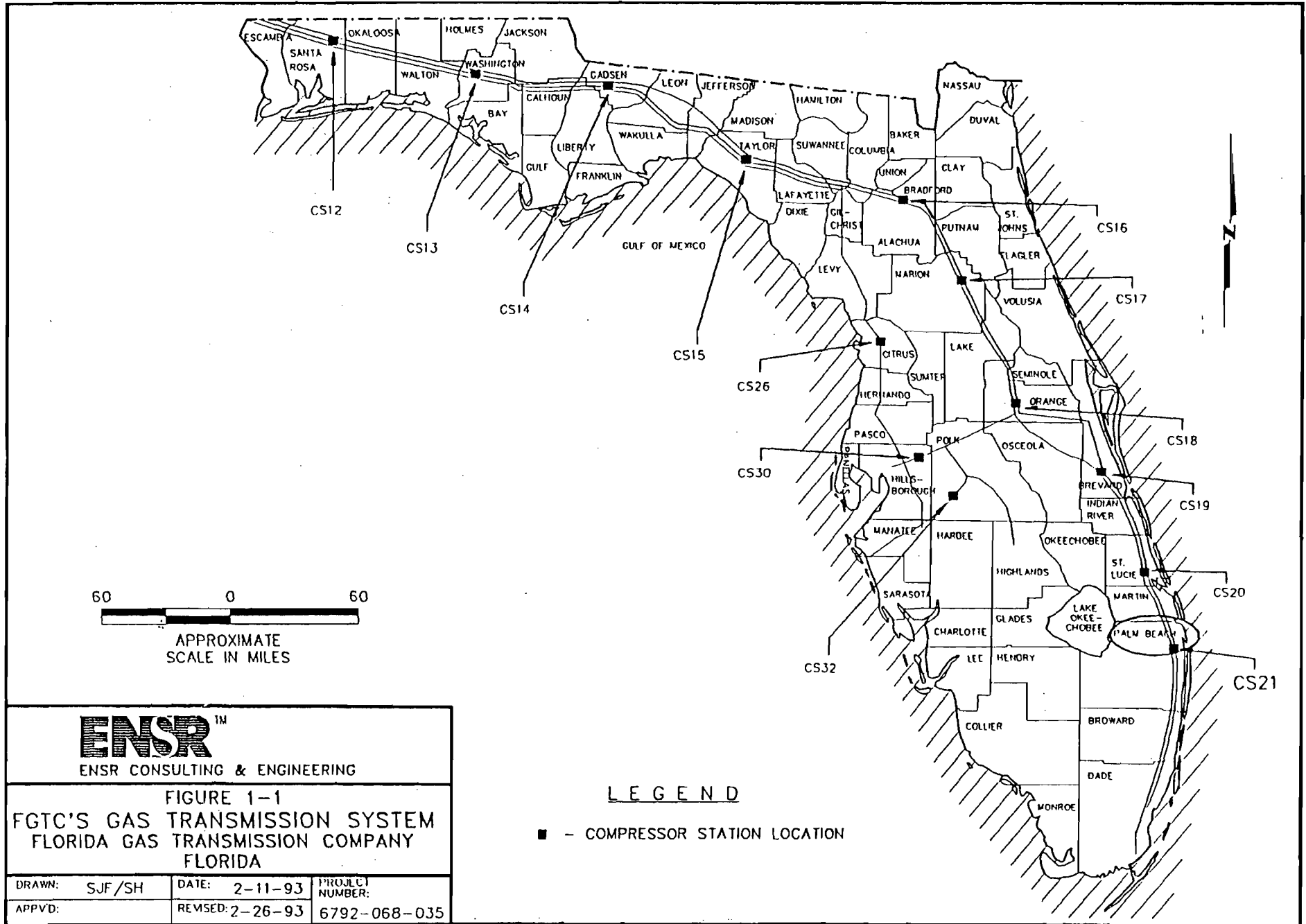
The proposed project will be reviewed in accordance with F.A.C. Rule 17-212.300, Sources not subject to PSD Review or Nonattainment Requirements.

V. SOURCE IMPACT ANALYSIS

V.1. EMISSION LIMITATIONS

The proposed engine will incorporate dry low-NOx combustion technology. Dry combustion techniques are designed to alter the conditions in the combustion chamber to influence the temperature, residence time, and mixing of air and fuel so as to reduce the amount of NOx formed. The state-of-the-art concept in designing a low-NOx turbine involves raising the air-to-fuel ratio in the combustion primary zone and thoroughly premixing primary combustion air and fuel. This reduces NOx formation by lowering the average

CE679266
12-15-92



60 0 60
APPROXIMATE
SCALE IN MILES

LEGEND

■ - COMPRESSOR STATION LOCATION

ENSRTM
ENSR CONSULTING & ENGINEERING

FIGURE 1-1
FGTC'S GAS TRANSMISSION SYSTEM
FLORIDA GAS TRANSMISSION COMPANY
FLORIDA

DRAWN: SJF/SH	DATE: 2-11-93	PROJECT NUMBER:
APPVD:	REVISED: 2-26-93	6792-068-035

flame temperature in the combustor primary zone and avoiding localized hot spots. Dry low-NOx combustion is a technically feasible control method for natural gas pipeline turbines.

The operation of these sources will produce emissions of nitrogen oxide (NOx), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM), and sulfur dioxide (SO2) from the burning of natural gas. Table I summarizes the proposed facility total emissions.

V.2. AIR QUALITY ANALYSIS

From a technical review of the application, the Department has determined that the construction and operation of these sources will not have a detrimental impact on Florida's ambient air quality.

VI. CONCLUSION

Based on the information provided by Florida Gas Transmission Company, the Department has reasonable assurance that the proposed project, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapters 17-209 through 17-297 of the Florida Administrative Code.

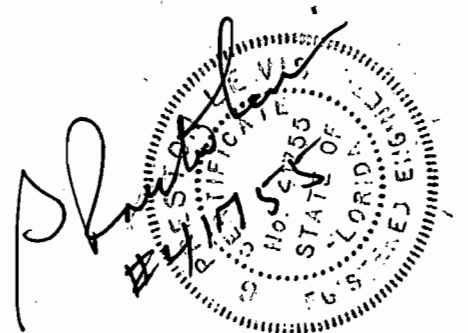


TABLE I

Annual (TPY) Emission Levels
FGTC's Compressor Station No. 21

SOURCE ID	DESCRIPTION	NO _x	CO	VOC (NM/NE, HC)	SO ₂	PM
PROJECT RELATED:						
	COMPRESSOR ENGINES:					
2101	6,500 bhp ISO Turbine Engine	39.05	28.29	1.62	7.18	1.26
2102	6,500 bhp ISO Turbine Engine	39.05	28.29	1.62	7.18	1.26
	EMERGENCY GENERATOR:					
Generator	102 bhp Generator	0.36	0.13	0.005	0.005	0.0009*
	TANKS:					
Tank No. 1	New Lube Oil	—	—	0.00**	—	—
Tank No. 2	Condensate	—	—	0.09	—	—
Tank No. 3	Oily Water	—	—	0.00*	—	—
Tank No. 4	Used Lube Oil	—	—	0.00*	—	—
Tank No. 5	Oily Water Tank	—	—	0.00*	—	—
	FUGITIVE	—	—	0.22	—	—
STATION TOTAL		78.46	56.71	3.56	14.37	2.52
* actual emissions are insignificant at 0.0009 tpy ** actual emissions are insignificant at 0.000003 tpy for Tank No. 1, 0.00013 for Tank No. 3, 0.0003 for Tank No. 4 and 0.0016 for Tank No. 5.						



Lawton Chiles
Governor

Florida Department of Environmental Protection

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

Virginia B. Wetherell
Secretary

PERMITTEE:
Florida Gas Transmission Company
P.O. Box 1188
Houston, Texas 77251-1188

Permit Number: AC 50-229440
Expiration Date: June 30, 1995
County: West Palm Beach
Latitude/Longitude: 26°44'2"N
80°08'36"W

Project: Natural Gas Turbine
Engines No. 2101, 2102 and
Supporting Equipment

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-210, 212, 272, 275, 296, and 297; and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the construction of two natural gas fired turbine engines and supporting equipment to be located within the limits of the city of West Palm Beach, adjacent to the Florida Turnpike in Palm Beach County, Florida. The UTM coordinates are Zone 17, 586.031 km East and 2957.102 km North.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. DEP Form 17-1.202(1) Application to Operate/Construct Air Pollution Sources.

PERMITTEE:
Florida Gas Transmission Company

Permit Number: AC 50-229440
Expiration Date: June 30, 1995

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed 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.

PERMITTEE:
Florida Gas Transmission Company

Permit Number: AC 50-229440
Expiration Date: June 30, 1995

GENERAL CONDITIONS:

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 any 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.

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.

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

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

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.

PERMITTEE:
Florida Gas Transmission Company

Permit Number: AC 50-229440
Expiration Date: June 30, 1995

GENERAL CONDITIONS:

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, 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.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards (NSPS)

14. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the dates analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

PERMITTEE: Florida Gas Transmission Company Permit Number: AC 50-229440
Expiration Date: June 30, 1995

GENERAL CONDITIONS:

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.

SPECIFIC CONDITIONS:

Emission Limits

1. The maximum allowable emissions from each gas turbine shall not exceed the emission rates as follows:

Pollutant	lbs/hr	tons/yr	Emission Factor
Nitrogen Oxides*	8.92	39.05	0.62 g/bhp-hr
Carbon Monoxide	6.46	28.29	0.45 g/bhp-hr
Volatile Organic Compounds (non-methane)	0.37	1.62	0.026 g/bhp-hr
Particulate Matter (TSP)	0.29	1.26	5 lbs/MMscf
Particulate Matter (PM ₁₀)	0.29	1.26	5 lbs/MMscf
Sulfur Dioxide	1.64	7.18	10 gr/100scf

*NOx Emission Standard of 42 ppmvd at 15% O₂ shall not be exceeded

2. Visible emissions shall not exceed 10% opacity.

Operating Rates

3. Each source is allowed to operate continuously (8760 hours per year). The emergency electrical generator is allowed to operate not more than 400 hours per year.

4. Each source is allowed to use natural gas only.

5. The permitted operating parameters and utilization rates for each natural gas turbine engine shall not exceed the values stated in the application. The parameters include, but are not limited to:

- Maximum natural gas consumption shall not exceed 0.057 MMscf/hr
- Maximum heat input shall not exceed 59.60 MMBtu/hr

6. Any change in the method of operation, equipment or operating hours shall be submitted to the DEP's Bureau of Air Regulation, Southeast District and the Air Pollution Control Section of the Palm Beach County Public Health Unit (PBCPHU) offices.

7. Any other operating parameters established during compliance testing and/or inspection that will ensure the proper operation of this facility shall be included in the operating permit.

PERMITTEE:
Florida Gas Transmission Company

Permit Number: AC 50-229440
Expiration Date: June 30, 1995

SPECIFIC CONDITIONS:

Compliance Determination

8. Compliance with the allowable emission limits shall be determined within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after initial start-up and annually thereafter, by the following reference methods as described in 40 CFR 60, Appendix A (July 1992 version) and adopted by reference in Chapter 17-297, F.A.C.

- Method 1 Sample and Velocity Traverses
- Method 2 Volumetric Flow Rate
- Method 3 or 3A Gas Analysis
- Method 9 Determination of the Opacity of the Emissions from Stationary Sources
- Method 10 Determination of the Carbon Monoxide Emissions from Stationary Sources
- Method 20 Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Gas Turbines
- Method 25A Determination of Total Gaseous Organic Concentrations Using a Flame Ionization Analyzer

9. Other DEP approved methods may be used for compliance testing after prior Department approval. Compliance with the SO₂ emission limit can be determined by calculations based on fuel analysis using ASTM D1072-80, D3031-81, D4084-82, or D3246-81 for sulfur content of gaseous fuels.

10. Initial compliance with the volatile organic compound (VOC) emissions limits will be demonstrated by EPA Method 25A or Method 18. Thereafter, except as provided in Rule 17-297.340(2), compliance with the VOC emission limits will be assumed, provided the CO allowable emission rate is achieved.

11. During performance tests, to determine compliance with the NO_x standard, measured NO_x emissions at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_x \text{ obs}) \frac{(P_{\text{ref}})^{0.5}}{P_{\text{obs}}} e^{19} (H_{\text{obs}} - 0.00633) \frac{(288^\circ\text{K})}{T_{\text{AMB}}} 1.53$$

where:

NO_x = Emissions of NO_x at 15 percent oxygen and ISO standard ambient conditions.

NO_x obs = Measured NO_x emission at 15 percent oxygen, ppmv.

PERMITTEE:
Florida Gas Transmission Company

Permit Number: AC 50-229440
Expiration Date: June 30, 1995

SPECIFIC CONDITIONS:

P_{ref} = Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.

P_{obs} = Measured combustor inlet absolute pressure at test ambient pressure.

H_{obs} = Specific humidity of ambient air at test.

e = Transcendental constant (2.718).

T_{AMB} = Temperature of ambient air at test.

12. Stack sampling facilities shall be required and shall comply with the requirements of F.A.C. Rule 17-297.345. Test results will be the average of 3 valid runs. The Southeast District and the PBCPHU offices will be notified at least 30 days in writing in advance of the compliance test(s). The source shall operate between 95% and 100% of maximum capacity for the ambient conditions experienced during compliance test(s). Compliance test results shall be submitted to the Southeast District and the PBCPHU offices no later than 45 days after completion.

13. Sulfur and nitrogen content and lower heating value of the fuel being fired in the combustion turbine shall be determined as specified in 40 CFR 60.334(b). Any request for a future custom monitoring schedule shall be made in writing and directed to the Southeast District and the PBCPHU offices. Any custom schedule approved by DEP pursuant to 40 CFR 60.334(b) will be recognized as enforceable provisions of the permit, provided that the holder of this permit demonstrates that the provisions of the schedule will be adequate to assure continuous compliance.

14. The permittee shall annually perform a visual inspection of the turbine compressor engine, fitters, associated piping system for rust spots, cracks, leaks and odors. Also ensure that safety valves and the stack are in proper order and working properly. The permittee shall document the findings and corrective action taken.

15. When the Department, after investigation, has good reason (such as odor complaints, increased visible emissions, excess emissions, etc.), to conclude that any applicable emission standard contained in this permit is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of air pollutant emissions from the facility and to provide a report of said tests to the Department (F.A.C. Rule 17-297.340(2)).

PERMITTEE:
Florida Gas Transmission Company

Permit Number: AC 50-229440
Expiration Date: June 30, 1995

SPECIFIC CONDITIONS:

Rule Requirements

16. This source shall comply with all applicable provisions of Chapter 403, Florida Statutes, Chapters 17-210, 212, 275, 296, 297 and 17-4, Florida Administrative Code and 40 CFR 60 (July, 1992 version).
17. This source shall comply with all requirements of 40 CFR 60, Subpart GG and F.A.C. Rule 17-296.800,(2)(a), Standards of Performance for Stationary Gas Turbines.
18. 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 (F.A.C. Rule 17-210.300(1)).
19. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor pursuant to F.A.C. Rule 17-296.320(2). Objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonable interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance pursuant to F.A.C. Rule 17-296.200(123).
20. This source shall be in compliance with all applicable provisions of F.A.C. Rules 17-210.650: Circumvention; 17-210.700: Excess Emissions; 17-296.800: Standards of Performance for New Stationary Sources (NSPS); Chapter 17-297: Stationary Sources-Emissions Monitoring; Chapter 17-296: Stationary Source-Emission Standards and, 17-4.130: Plant Operation-Problems.
21. Fugitive dust emissions, during the construction period, shall be minimized by covering or watering dust generation areas.
22. Pursuant to F.A.C. Rule 17-210.300(2), Air Operating Permits, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. These reports shall include, but are not limited to the following: sulfur and nitrogen content, lower heating value of the fuel being fired, fuel usage, turbine inlet and outlet temperature, RPM, hours of operation, air emissions limits, etc. Annual reports shall be sent to the Department's Southeast District and the Air Pollution Control Section of the Palm Beach County Public Health Unit (PBCPHU) offices by March 1 of each calendar year.
23. 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 (F.A.C. Rule 17-4.090).

PERMITTEE:
Florida Gas Transmission Company

Permit Number: AC 50-229440
Expiration Date: June 30, 1995

SPECIFIC CONDITIONS:

24. An application for an operation permit must be submitted to the Southeast District and the Air Pollution Control Section of the Palm Beach County Public Health Unit (PBCPHU) offices at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this _____ day
of _____, 1993

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION**

Howard L. Rhodes, Director
Division of Air Resources
Management



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

RECEIVED

MAY 25 1993

Division of Air
Resources Management

Fells

May 21, 1993

Ms. Teresa Heron
Permitting and Standards Section
Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Phase III Expansion Project
Proposed Natural Gas Compressor Station No. 21

Dear Ms. Heron:

During our telephone conversation yesterday morning you asked me for three things concerning our proposed new Compressor Station No. 21:

- 1) A more detailed description of the location of this compressor station,
- 2) Will the proposed compressor station be located within the city of West Palm Beach, and
- 3) Is 0.3 feet the correct diameter for the proposed emergency generator stack (EPN 2111)?

The information is:

- 1) Compressor Station No. 21 will be a 14.7 acre rectangular site located on the east side of the Florida Turnpike, Route 91, between 1.8 and 2.0 miles north of the intersection of the Florida Turnpike and Route 704. This site is within Section 14, Township 43 South, Range 42 East. Immediately to the north is the West Palm Beach wastewater treatment plant at 4325 N. Haverhill Road.
- 2) The compressor station will be located within the West Palm Beach city limits. This area was recently annexed by West Palm Beach.

Ms. Teresa Heron
May 21, 1993
Page 2

- 3) The diameter of the emergency generator stack (EPN 2111) is 3.3 inches or 0.275 feet.

I trust this information is adequate and meets your needs. Should you have any additional questions concerning any of our applications, please do not hesitate to call me at (713) 853-3569.

Sincerely,



V. Duane Pierce, Ph.D.
Air Quality Supervisor
Phase III Expansion
Florida Gas Transmission Company

cc: William Osborne - FGTC
File Phase III CS 21 Air

FILE: PIERCE/CORRES/21FDER01.LTR



STATE OF FLORIDA
DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES

ESE - WPB

April 30, 1993

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation
Division of Air Resources Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301-8241

RECEIVED

MAY 05 1993

Division of Air
Resources Management

Re: Local Program Comments on Air Permit Application
Florida Gas Transmission Co.

Dear Mr. Fancy:

This office has reviewed the application for the above referenced project and offers the following comments:

1. On page E-22 of the application, the following comment is made in section §17-2.753, Part VIII:

"...Because this facility is not located in one of the counties with approved programs, it is not subject to a local air pollution control program."

Established in 1965, the Air Pollution Control Section of the Palm Beach County Public Health Unit is the FDER-approved local air pollution control program in Palm Beach County. This new facility will be operating in this county as a minor source subject to NSPS. As such, our program will be responsible for routine inspections, compliance determinations, and enforcement actions for this new source.

2. Please include the following specific condition in the permit draft:

"Copies of all reports, tests, notifications or other submittals required by this permit shall be submitted to both the Department of Environmental Regulation, Southeast District Office and the Air Pollution Control Section of the Palm Beach County Public Health Unit."

3. We would like to point out that the proposed location is near a residential neighborhood. In the past, many odor complaints have originated from this area concerning the wastewater treatment plant, also located nearby. Could this compressor station add to these odor complaints?
4. Please send, or have the applicant submit, one full application package to our program for our files.

DISTRICT IX

PALM BEACH COUNTY HEALTH UNIT • P.O. BOX 29 • WEST PALM BEACH, FLORIDA 33402

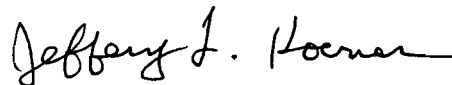
LAWTON CHILES, GOVERNOR

Page 2
Local Program Comments
Florida Gas Transmission Co.

As always, thank you for the opportunity to comment on this application.

Sincerely,

For the Division Director,
Environmental Science and Engineering



Jeffery F. Koerner, Engineer IV
Air Pollution Control Section

FJG/JFK/jfk

cc: J. Keron

FGTC.CMT



Florida Gas Transmission Company

PHASE III EXPANSION PROJECT

Compressor Station No. 21
Palm Beach County, Florida

150-229-440

Received April 12

Permit to Construct Application

New Station

(2) Natural gas fired turbine engine
Centaur-Taurus T6502
Heat input 9,169 BTU/bhp-hr
Speed 12,700 rpm
NOx (manufacturer) 0.622 ppm/bhp-hr
Fuel consumption 0.057 MMscf/hr
non PSD

March 1993



Florida Gas Transmission Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

April 2, 1993

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

RECEIVED
DER - MAIL ROOM
1993 APR 12 AM 10:29

Dear Mr. Fancy:

Florida Gas Transmission Company, an ENRON/SONAT affiliate, is proposing to expand its existing pipeline system and has filed an application with the Federal Energy Regulatory Commission for a certificate of public convenience and necessity. This expansion will require the installation of three new compressor stations and the addition of new engines at eight existing stations. As discussed in a meeting on December 18, 1992, with you, Mr. Preston Lewis, and other members of your staff, two of the new stations and four of the existing stations requiring new engines are located in Florida. One of the new compressor stations will be Compressor Station No. 21, to be located in Palm Beach County, near West Palm Beach, Florida.

Attached for your consideration is one original and four copies of an application for a State air permit for the construction of a new compressor station with two new 6,500 bhp Solar turbines. A check for the permit fee in the amount of \$4,500 is also attached.

Should you have any questions concerning this application, please call Dr. V. Duane Pierce at (713) 853-3569.

Sincerely,

CP

C. D. Schulz
Vice President, Project Management Services
Florida Gas Transmission Company

CDS:DP
pierce\corres\acovf119.ltr

cc:
Teresa Heron
Cleve Holladay
Isidore Goldman, SEW } 4-12-93 RSM

An **ENRON/SONAT** Affiliate

CHECK NO.
0622084161

FLORIDA GAS TRANSMISSION COMPANY
P.O. BOX 1188
HOUSTON, TEXAS

DATE OF CHECK
03-31-93



This check is VOID unless printed on BLUE background


EXACTLY \$*****4,500 DOLLARS 00 CENTS

AMOUNT OF CHECK

\$*****4,500.00

PAY
TO THE
ORDER
OF

STATE OF FLORIDA DEPT OF
ENVIRONMENTAL REGULATION
TWIN TOWERS OFFICE BUILDING
TALLAHASSEE, FL
32399-2400

BY 
"AUTHORIZED REPRESENTATIVE"

NORWEST BANK GRAND JUNCTION



CHECK NO. 0622084161

REMITTANCE STATEMENT
FLORIDA GAS TRANSMISSION COMPANY

PAGE 001 OF 001

VOUCHER NO.	INVOICE DATE	INVOICE NUMBER	PURCHASE ORDER	AMOUNT		
				GROSS	DISCOUNT	NET
9303003767	033193	CKR033193		4,500.00	0.00	4,500.00
					TOTAL	4,500.00
AIR PERMIT APPLICATION FEE FOR COMPRESSOR STATION NUMBER 21 - WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA						

Special Instructions
CALL MARCY BABB ON X3295

Best Available Copy

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

DISTRICT ROUTING SLIP

TO: Isidore Goldman

DATE: 4-12-93

CC
TO

	PENSACOLA	Northwest District	
	PANAMA CITY	Northwest District Branch Office	
	TALLAHASSEE	Northwest District Branch Office	
	TAMPA	Southwest District	
	ORLANDO	Central Florida District	
	MELBOURNE	Central Florida District Branch Office	
	JACKSONVILLE	Northeast District	
	GAINESVILLE	Northeast District Branch Office	
	FORT MYERS	South Florida District	
	PUNTA GORDA	South Florida District Branch Office	
	MARATHON	South Florida District Branch Office	
X	WEST PALM BEACH	Southeast Florida District	
	PORT ST. LUCIE	Southeast Florida District Branch Office	
Reply Optional <input type="checkbox"/>		Reply Required <input type="checkbox"/>	Info Only <input type="checkbox"/>
Date Due: _____		Date Due: _____	

COMMENTS: AC 50-229440 - Station #21
AC 50-229441 - Station #26

Please provide comments by 5/10/93
to Teresa Heron.

Harbo,

FROM:

C. H. Fancy

TEL:

50/278-1344

March 1993

CONTENTS

1.0 INTRODUCTION 1-1

2.0 PROJECT DESCRIPTION 2-1

 2.1 Proposed Compressor Station 2-1

 2.1.1 Compressor Engines 2-1

 2.1.2 Support Equipment Additions 2-5

 2.1.3 Fugitive Emissions 2-7

 2.1.4 Emissions summary 2-7

3.0 REGULATORY ANALYSIS 3-1

 3.1 Federal Regulatory Review 3-1

 3.1.1 Classification of Ambient Air Quality 3-1

 3.1.2 PSD Applicability 3-3

 3.1.3 Good Engineering Practice (GEP) Stack Height Analysis 3-6

 3.1.4 Non-attainment New Source Review (NSR) Applicability 3-7

 3.1.5 Applicability of New Source Performance Standards (NSPS) 3-7

 3.1.6 Applicability of National Emission Standards for Hazardous Air
 Pollutants (NESHAP) 3-10

 3.2 Florida State Air Quality Regulations 3-10

4.0 AIR QUALITY IMPACT ANALYSIS 4-1

 4.1 Modeling Methodology and Assumption 4-1

 4.1.1 General Modeling Methodology 4-1

 4.1.2 Model Selection 4-2

 4.1.3 Modeling Options 4-2

 4.1.4 Selection of Dispersion Coefficients 4-4

 4.1.5 Meteorological Data 4-4

 4.1.6 Source Data 4-5

 4.1.7 Receptor Grid Modeled 4-5

 4.1.8 Building Wake Effects and GEP Considerations 4-5

 4.2 Model Results 4-8

5.0 REFERENCES 5-1

CONTENTS
(Cont'd)

APPENDICES

- A FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION PERMIT APPLICATION FORMS
- B PLOT PLAN
- C SITE SUMMARY TABLE AND VENDOR DATA
- D SUPPORTING CALCULATIONS
- E FDER REGULATORY REQUIREMENTS SUMMARY
- F AREA CONCENTRATION MAPS FROM ISC MODELING
ISC MODEL OUTPUT
GEP STRUCTURE DOWNWASH OUTPUT TABLE
FLOPPY DISK WITH MODELING AND GEP INPUT FILES

LIST OF TABLES

2-1	Engine Specifications and Stack Parameters for the Proposed Project	2-3
2-2	Emissions from FGTC's Proposed Compressor Engine	2-4
2-3	Emissions from FGTC's Proposed Emergency Electrical Generator	2-6
2-4	FGTC's Compressor Station No. 21, Fugitive VOC Emission Calculation and Summary	2-8
2-5	Annual (TPY) Emission Levels, FGTC Compressor Station No. 21	2-9
3-1	National and State Ambient Air Quality Standards	3-2
3-2	Classification of Palm Beach County for Each Criteria Pollutant	3-4
3-3	Major Stationary Sources	3-5
3-4	Applicability of New Source Performance Standards	3-9
4-1	Major Features of the ISC Model	4-3
4-2	FGTC Phase III, Station No. 21 Summary of Source Parameters Used in the Modeling Analysis	4-6
4-3	FGTC Phase III Expansion, Compressor Station No. 21 Modeled Emission Rates	4-7
4-4	FGTC Phase III, Station No. 21 Building Dimensions	4-9
4-5	FGTC Phase III, Station 21 Modeling Results, Maximum Predicted Average Concentration of Modeled Pollutants and Comparison to Significant Impact Levels	4-10
4-6	FGTC Phase III Project, Compressor Station No. 21 Maximum Predicted Impact by Year	4-11

LIST OF FIGURES

1-1	FGTC's Gas Transmission System	1-2
1-2	Site Location of Florida Gas Transmission Line Compressor Station No. 21, Palm Beach County, Florida	1-3
2-1	Process Flow Diagram of an Engine-Compressor Unit	2-2

1.0 INTRODUCTION

Florida Gas Transmission Company (FGTC), a Delaware Corporation an ENRON/SONAT affiliate of Houston, Texas, is proposing to construct a new natural gas pipeline compressor station in Palm Beach County, Florida. The proposed facility (Compressor Station No. 21) is part of FGTC's overall Phase III expansion project, aimed at increasing the supply capacity of FGTC's network servicing domestic, commercial, and industrial customers in Florida. The scope of work for the Phase III project includes expansion, through the addition of state-of-the-art compressor engines, at eight existing compressor stations and the development of three new compressor stations. The new pipeline will follow much of the right-of-way of the existing system.

The basic project components include:

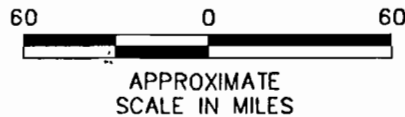
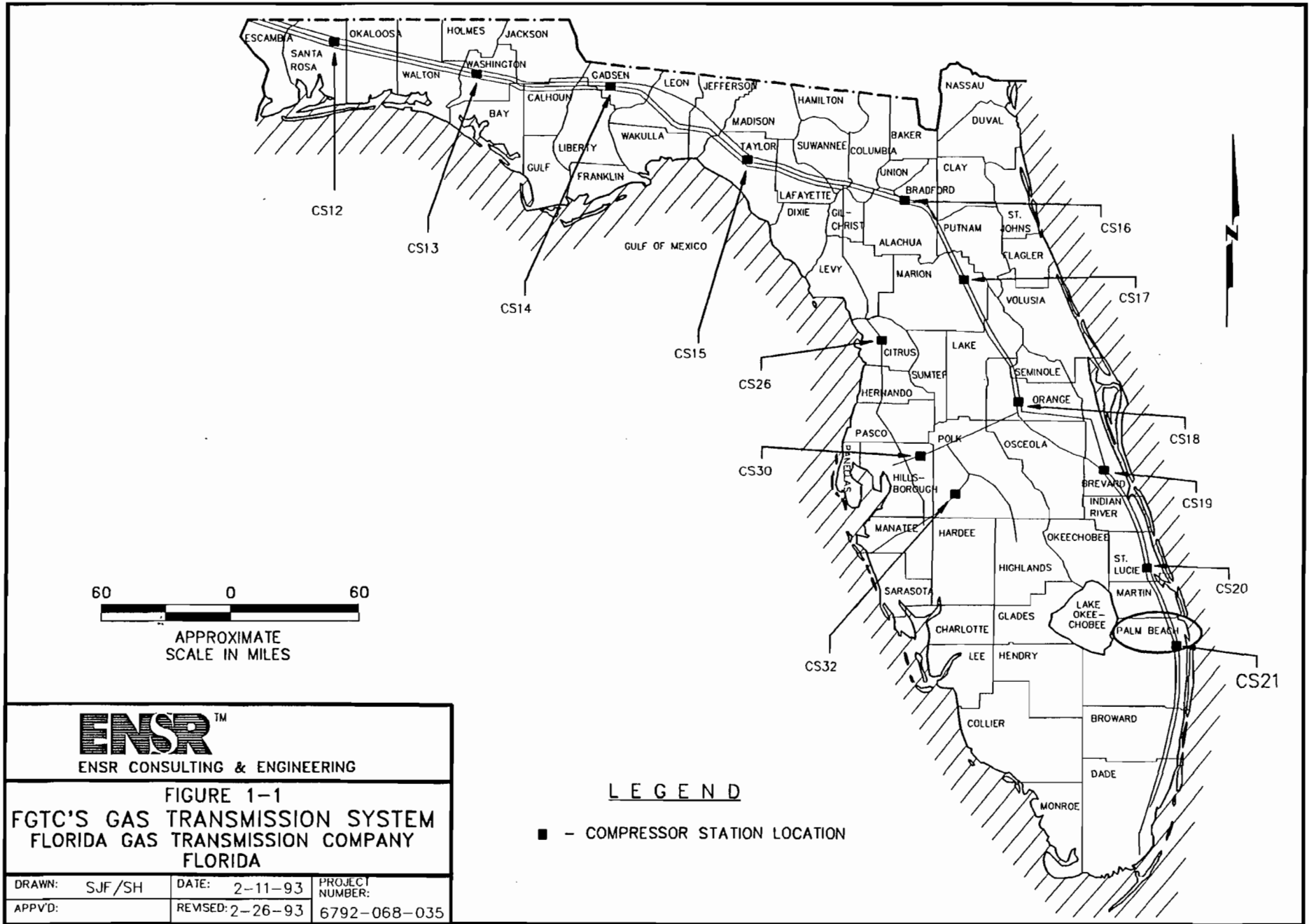
- mainline loops, additions, and replacements;
- lateral loops and additions;
- meter station additions, modifications, and expansions;
- regulator additions, modifications, and expansions; and
- compressor station additions and modifications.

The route of the main gas pipeline, and the approximate location of proposed Compressor Station No. 21 along the main pipeline are shown in Figure 1-1.

Compressor Station No. 21 is located within the limits of the city of West Palm Beach adjacent to the Florida Turnpike in Palm Beach County, Florida. Figure 1-2 shows the site location of the proposed compressor station.

The proposed station will consist of two (2) 6,500 (ISO) brake horsepower (bhp), natural-gas-fired, turbine engines. The proposed engines will be used solely for the purpose of transporting natural gas by pipeline for distribution to markets in Florida. The proposed engines are Solar Centaur-Taurus T-6502 engines. The project site is located in a moderate non-attainment area. Based on manufacturer data, total facility emissions for NO_x and VOC will be less than the 100 TPY major new source threshold. Therefore, under current federal and state air quality regulations, the proposed engines will constitute a minor stationary source.

This report addresses the permitting requirements of the Florida Department of Environmental Regulation (FDER). Based on the level of increased emissions associated with the proposed 6,500 (ISO) bhp engines, this project will require the issuance of a Permit to Construct.



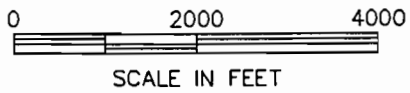
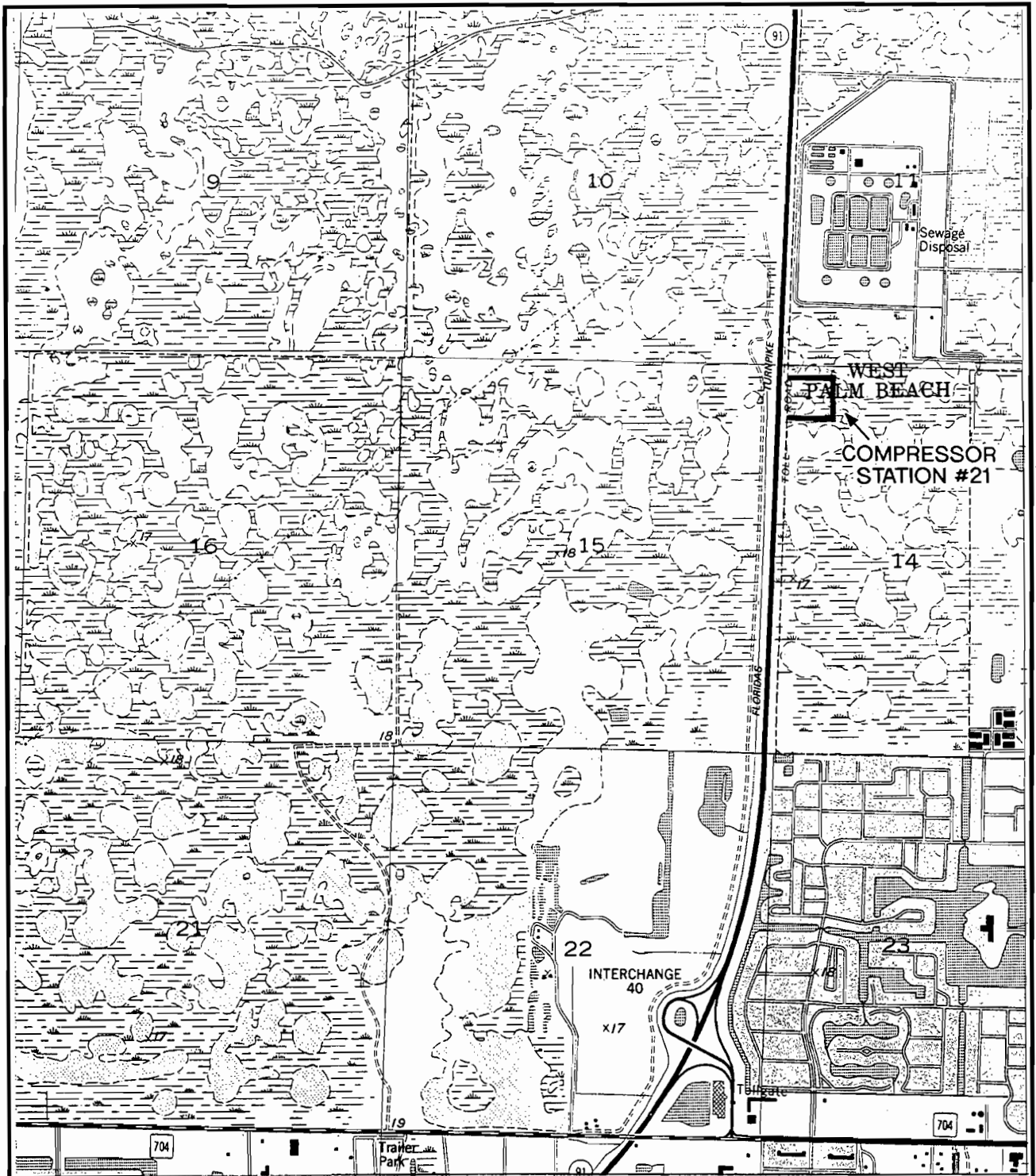
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FIGURE 1-1
FGTC'S GAS TRANSMISSION SYSTEM
FLORIDA GAS TRANSMISSION COMPANY
FLORIDA

LEGEND

■ - COMPRESSOR STATION LOCATION

DRAWN: SJF/SH	DATE: 2-11-93	PROJECT NUMBER:
APPVD:	REVISED: 2-26-93	6792-068-035



REFERENCE: U.S.G.S. Quadrangle Map for
Palm Beach Farms,
Florida, 1983.

TOPO

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FIGURE 1-2
SITE LOCATION MAP
COMPRESSOR STATION #21
FLORIDA GAS TRANSMISSION COMPANY
WEST PALM BEACH, FLORIDA

DRAWN BY: SJF/SH

DATE: 2-17-83

PROJECT
NUMBER:

CHK'D BY:

REVISED:

6792-068-035

Engineering designs for the new station include selection of an engine incorporating dry low NO_x combustion technology. The dry low NO_x combustion technology for emission control represents best available control technology (BACT) for the proposed turbine engines.

This application contains four additional sections. Descriptions of the new FGTC's Compressor Station No. 21 and the proposed two (2) 6,500 (ISO) bhp engines are presented in Section 2.0. The air quality review requirements and applicability of state and federal regulations to the proposed project are discussed in Section 3.0. The methodology and results of the air dispersion modeling and air quality impact analysis are presented in Section 4.0. References cited in this document are listed in Section 5.0.

FDER permit application forms are presented in Appendix A. Additional appendices contain information which support the representations made in this application.

2.0 PROJECT DESCRIPTION

A plot plan of FGTC's Compressor Station No. 21, showing the location of the plant boundaries, and the proposed location of emission sources is presented in Appendix B. The following sections provide a description of the operation proposed for this site.

2.1 Proposed Compressor Station

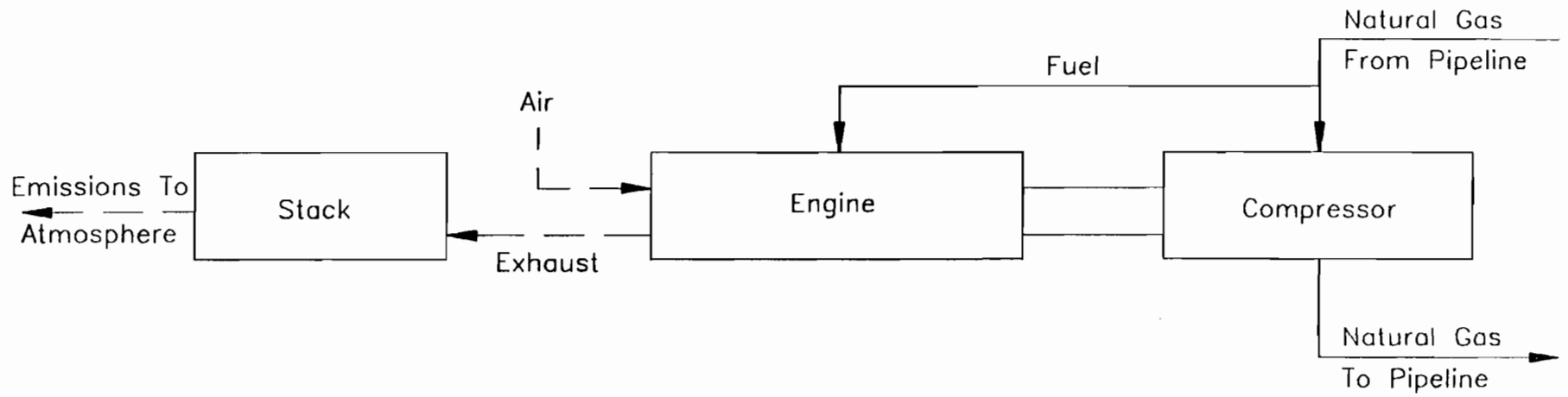
As part of the Phase III project, three (3) new compressor stations will be constructed. Compressor Station No. 21 is one of these new facilities. The proposed new turbine engines will be used to drive gas compressors that are a part of a new gas transmission line that will transport natural gas from source wells in Texas and Louisiana for delivery in Florida. Without development of this new compressor station, it would not be possible to increase the volumetric delivery capacity necessary to meet both short- and long-term demands for natural gas in Florida.

2.1.1 Compressor Engines

FGTC proposes to install two (2) natural-gas-fired turbine engines (2101 and 2102) and associated support equipment, at the Compressor Station No. 21. The turbine engines will be two (2) Solar Centaur-Taurus T-6502 units ISO rated at 6,500 bhp at 12,700 revolutions per minute (rpm). A flow diagram of a typical compressor unit is presented in Figure 2-1. Fuel will be exclusively natural gas, from FGTC's gas pipeline. Engine specifications and stack parameters for the proposed engines are presented in Table 2-1. The proposed engines will incorporate dry, low NO_x combustion technology.

Hourly and annual emissions of regulated pollutants from the proposed engine under normal operating conditions, are presented in Table 2-2. The table also includes the maximum hourly emission rates which can be expected from this class of engine. These maximum values represent the highest emission rates a unit could produce under any operating condition. It should be noted that these highest emission rates would only occur for short periods under extreme load and/or weather conditions, which are unlikely to be encountered at the compressor station. The maximum emission rates have been included in this application to ensure the facility is properly permitted. Emissions of oxides of nitrogen (NO_x), carbon monoxide (CO), and non-methane hydrocarbons (NMHC) are based on the engine manufacturer's supplied data (See Appendix C).

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(DALLAS/HPCL21)



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FIGURE 2-1
PROCESS FLOW DIAGRAM
OF AN
ENGINE-COMPRESSOR UNIT

DRAWN:	DC/SH	DATE:	11-6-92	PROJECT NUMBER:
APPV'D:		REVISED:	3-16-93	6792-068

TABLE 2-1

**Engine Specifications and Stack Parameters for
the Proposed Project**

Parameter	Design Specification
<u>Compressor Engine</u> Type Manufacturer Model Unit Size Specific Heat Input Maximum Fuel Consumption ^a Speed	<u>2101-2102</u> Gas Turbine Solar Centaur - Taurus T-6502 6,500 bhp ISO rated 9,169 Btu/bhp-hr 0.057 MMscf/hr 12,700 rpm
<u>Stack Parameters</u> Stack Height Stack Diameter Exhaust Gas Flow Exhaust Temperature Exhaust Gas Velocity	50 ft. 3 ft. 4 in. 95,039 acfm 915°F 181.87 ft/sec
<p>NOTE:</p> <p>acfm = actual cubic feet per minute. bhp = brake horsepower. Btu/bhp-hr = British thermal units per brake horsepower per hour. °F = degrees fahrenheit. ft = feet. ft/sec = feet per second. lb/hr = pounds per hour. MMscf/hr = Million standard cubic feet per hour. rpm = revolutions per minute.</p> <p>^a Based on heating value for natural gas of 1,040 British thermal units per standard cubic foot (Btu/scf).</p>	

TABLE 2-2

**Emissions from FGTC's
Proposed Compressor Engine**

Pollutant	Emission Factor	Reference	Emissions (One Engine)		
			Maximum lb/hr	Nominal lb/hr	TPY
Nitrogen Oxides	0.622 grams/bhp-hr	Manufacturer Data	9.15	8.92	39.05
Carbon Monoxide	0.451 grams/bhp-hr	Manufacturer Data	6.64	6.46	28.29
Volatile Organic Compounds (non-methane)	0.026 grams/bhp-hr	Manufacturer Data	0.38	0.37	1.62
Particulate Matter	0.020 grams/bhp-hr	AP-42 (factor of 5 lb/MMscf)	0.29	0.29	1.26
Sulfur Dioxide	0.114 grams/bhp-hr	10 grains/ 100 scf	1.64	1.64	7.18

NOTE:

Maximum natural gas consumption is 57,000 standard cubic feet per hour (scf/hr).

- grams/bhp-hr = grams per brake horsepower per hour.
- grains/100 scf = grains per one hundred standard cubic feet
- lb/hr = pounds per hour.
- lb/MMscf = pounds per million standard cubic feet.
- scf = standard cubic feet.
- TPY = tons per year.

Typically, turbine vendors do not provide information on particulate or SO₂ emissions. Therefore, particulate matter (PM) emissions are based upon USEPA publication AP-42 (USEPA, 1988) emission factors for natural gas combustion in boilers, and emissions of sulfur dioxide (SO₂) are based on FGTC's natural gas contract limit of 10 grains sulfur per 100 cubic feet of gas.

2.1.2 Support Equipment Additions

In addition to the compressor engines, some support equipment will be installed at the site and will include:

- A compressor building
- An auxiliary building
- A 102-bhp emergency stand-by electrical generator
- One 2,000-gallon new lube oil storage tank
- One 4,200-gallon condensate storage tank.
- One 4,200-gallon oily water tank
- One 600-gallon used lube oil tank
- One 300-gallon oily water tank

The locations of new on-site structures are shown on the facility plot plan contained in Appendix B. The compressor building, housing the T-6502 turbines, will have approximate dimensions of 40 feet wide by 120 feet long by 30 feet high. The new auxiliary building will be located west of the new compressor building. The approximate dimensions of the auxiliary building will be 20 feet wide by 55 feet long by 18 feet 8 inches high.

The control and operation of a compressor station requires a steady electrical power supply. As there is a potential for local utility service to be disrupted, FGTC must maintain a backup system. To meet this need at Compressor Station 21, a 102-bhp natural gas fired emergency stand-by generator will be installed at the site. The hourly and annual emissions from this unit are presented in Table 2-3. Hourly emissions were calculated from manufacturer data in a manner similar to the main compressor engines. Annual emissions reflect a 400-hour-per-year operational restriction. Detailed emission calculations are presented in Appendix D.

Proper lubrication is essential for optimal performance of compressor engines, which must be capable of 24-hour operation for extended periods. For this reason lube oil will be stored on-site. New lube oil required by the turbine will be stored in a 2,000-gallon above ground tank. This will be a pressurized (15 psia) horizontal tank, five feet in diameter and 13 feet 8 inches long.

TABLE 2-3

**Emissions from FGTC's
Proposed Emergency Electrical Generator**

Pollutant	Emission Factor	Reference	Maximum Emissions	
			lb/hr	TPY
Nitrogen Oxides	8.10 grams/bhp-hr	Manufacturer Data	1.82	0.36
Carbon Monoxide	2.80 grams/bhp-hr	Manufacturer Data	0.63	0.13
Volatile Organic Compounds (non-methane)	0.11 grams/bhp-hr	Manufacturer Data	0.025	0.005
Particulate Matter	0.020 grams/bhp-hr	AP-42 (factor of 5 lb/MMscf)	0.0045	0.0009
Sulfur Dioxide	0.11 grams/bhp-hr	10 grains/100 scf	0.025	0.005

NOTE:

Emission calculations based on unit operating a maximum of 400 hours per year.
Maximum natural gas consumption is 890 standard cubic feet per hour (scf/hr).

grams/bhp-hr = grams per brake horsepower per hour.
grains/100scf = grains per one hundred standard cubic feet.
lb/hr = pounds per hour.
lb/MMscf = pounds per million standard cubic feet.
scf = standard cubic feet
TPY = tons per year

Periodically engine lube oil must be replaced. Used lube oil, drained from the turbines will be temporarily stored on site in a 600-gallon above ground tank. The used lube oil tank will be a rectangular design having dimensions of 2.5 feet high x 4.0 feet wide x 8 feet long. The tank will be located in the main compressor building and be vented to the atmosphere.

The natural gas transported through the station contains minor amounts of moisture and natural gas liquids. This material will be filtered from the natural gas passing through the station and stored on site in a 4,200-gallon condensate tank. This tank will be 9.5 feet in diameter and 8 feet tall. The tank will be equipped with an atmospheric vent.

Two additional tanks will be constructed as part of the project. Both tanks are involved with facility housekeeping, storing oily water generated during washdown of the compressor building. One tank will be located in the compressor building and serve as a short-term holding tank during cleaning operations. This tank will have approximate dimensions of 2.5 feet high by 4 feet wide by 4 feet long.

After cleaning is completed, oily water will be transferred to a 4,200-gallon aboveground storage tank located outside the compressor building. This tank will have the same dimensions as the condensate storage tank. Both oily water tanks will be vented to the atmosphere.

Annual emissions from the five tanks have been calculated using USEPA's AP-42 procedures and are not expected to exceed a total of 0.09 TPY. Emissions from the individual tanks are listed on the Annual Emission Levels Summary Table (Page 2-9).

2.1.3 Fugitive Emissions

Potential emissions from Compressor Station No. 21 include fugitive emissions from the new valves and flanges that will be in gas service. These fugitive emissions have been estimated using USEPA factors for components in gas service. Table 2-4 lists the quantities of components to be installed as part of the Phase III project and an estimate of the fugitive emissions from these sources.

2.1.4 Emissions summary

The total emissions resulting from the project are listed in Table 2-5. The calculations used to estimate these emissions are presented in Appendix D.

TABLE 2-4
 FGTC's Compressor Station No. 21
 Fugitive VOC Emission Calculation
 and Summary

*Original.
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 from final
 slug*

COMPONENT TYPE	SERVICE	COMPONENT COUNT	EMISSION FACTORS	NM/NE * FRACTION	EMISSIONS		
					LBS/HR	LBS/DAY	TONS/YR
CURRENT:							
Valve	Gas	0	1.06 Lbs/Day (a)	0.005	0.000	0.00	0.00
Flange	Gas	0	0.57 Lbs/Day (a)	0.005	0.000	0.00	0.00
Compressor Seal	Gas	0	39.7 Lbs/Day (a)	0.005	0.000	0.00	0.00
				Total	0.000	0.00	0.00
PROJECT ADDED							
Valve	Gas	78	1.06 Lbs/Day (a)	0.005	0.017	0.41	0.08
Flange	Gas	141	0.57 Lbs/Day (a)	0.005	0.017	0.40	0.07
Compressor Seal	Gas	2	39.7 Lbs/Day (a)	0.005	0.017	0.40	0.07
				Total	0.051	1.21	0.22
FUTURE: (b)							
Valve	Gas	78			0.017	0.41	0.08
Flange	Gas	141			0.017	0.40	0.07
Compressor Seal	Gas	2			0.017	0.40	0.07
				Total:	0.051	1.21	0.22

Notes: (a) - EPA-450/3-83-007, page 3-9
 (b) - Future = current + project added
 * - NM/NE = non-methane / non-ethane

TABLE 2-5

Annual (TPY) Emission Levels
FGTC's Compressor Station No. 21

2111

SOURCE ID	DESCRIPTION	NO _x	CO	VOC (NM/NE, HC)	SO ₂	PM
PROJECT RELATED:						
	COMPRESSOR ENGINES:					
2101	6,500 bhp ISO Turbine Engine	39.05	28.29	1.62	7.18	1.26
2102	6,500 bhp ISO Turbine Engine	39.05	28.29	1.62	7.18	1.26
	EMERGENCY GENERATOR:					
Generator	102 bhp Generator	0.36	0.13	0.005	0.005	0.0009*
	TANKS:					
Tank No. 1	New Lube Oil	--	--	0.00**	--	--
Tank No. 2	Condensate	--	--	0.09	--	--
Tank No. 3	Oily Water	--	--	0.00*	--	--
Tank No. 4	Used Lube Oil	--	--	0.00*	--	--
Tank No. 5	Oily Water Tank	--	--	0.00*	--	--
	FUGITIVE	--	--	0.22	--	--
STATION TOTAL		78.46	56.71	3.56	14.37	2.52
* actual emissions are insignificant at 0.0009 tpy						
** actual emissions are insignificant at 0.000003 tpy for Tank No. 1, 0.00013 for Tank No. 3, 0.0003 for Tank No. 4 and 0.0016 for Tank No. 5.						

New Station

3.0 REGULATORY ANALYSIS

This section presents a review of the federal and Florida state air quality regulations which govern the operations to be conducted at Compressor Station No. 21.

3.1 Federal Regulatory Review

The federal regulatory programs administered by the USEPA have been developed under the authority of the Clean Air Act. The following subsections review the key elements of the federal regulatory program and the impact they have on operations at Compressor Station No. 21. Special attention will be placed on National Ambient Air Quality Standards (AAQS) (40 CFR 50), New Source Performance Standards (NSPS) (40 CFR 60), National Emission Standards for Hazardous Air Pollutants (NESHAPS) (40 CFR 61), and Prevention of Significant Deterioration (PSD) (40 CFR 52.21).

3.1.1 Classification of Ambient Air Quality

The 1970 Amendments to the CAA gave the USEPA specific authority to establish the minimum level of air quality which all states would be required to achieve. These minimum values or standards were developed to protect the public health (primary) and welfare (secondary). The federally promulgated standards and additional state standards are presented in Table 3-1:

Areas of the country which have air quality equal to or better than these standards (i.e., ambient concentrations less than a standard) are designated as "Attainment Areas", while those where monitoring indicates air quality is worse than the standards are known as "Non-attainment Areas." The designation of an area has particular importance for a proposed project as it determines the type of permit review to which the application will be subject.

Major new sources or major modifications to existing major sources located in attainment areas are required to obtain a PSD permit prior to initiation of construction. Similar sources located in areas designated as Non-attainment, or that adversely impact such areas, will undergo more stringent New Source Review (NSR). In either case it is necessary, as a first step, to determine the air quality classification of a project site.

The 1990 CAA Amendments called for a review of the ambient air quality of all regions of the United States. States were required to file with the USEPA by March 15, 1991, designations of all areas as either attainment, non-attainment or unclassifiable.

TABLE 3-1

**NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS
($\mu\text{g}/\text{m}^3$)**

	AVERAGING PERIOD	EPA STANDARDS		FLORIDA STANDARDS
		PRIMARY	SECONDARY	
PM ₁₀	24-hour ⁽¹⁾	150	150	150 ⁽¹⁾
	annual ⁽²⁾	50	50	50
SO ₂	3-hour ⁽¹⁾	---	1,300	1,300
	24-hour ⁽¹⁾	365	---	260
	annual ⁽²⁾	80	---	60
CO	1-hour ⁽¹⁾	---	40,000	40,000
	8-hour ⁽¹⁾	10,000	---	10,000
NO ₂	annual ⁽²⁾	100	100	100
O ₃	1-hour ⁽³⁾	235	235	235

(1) Not to be exceeded more than once per year.
 (2) Never to be exceeded.
 (3) Not to be exceeded on more than 3 days over 3 years.
 SOURCES: 40 CFR 50.36 FR22384; Chapter 17-2.300, F.A.C..

The current classification of Palm Beach County is listed below on Table 3-2, for each criteria pollutant. These designations were obtained from 40 CFR 81, as updated in the November 6, 1991, Federal Register (56FR-56694). Palm Beach County is designated as attainment for all criteria pollutants except ozone. Palm Beach County is designated a moderate ozone non-attainment area.

The designation of Unclassifiable/Attainment indicates that there is insufficient monitoring data to prove that the area has attained the federal standards; however, the limited data available indicate that the standard has been achieved. Areas with this classification are treated as attainment areas for permitting purposes.

3.1.2 PSD Applicability

The 1977 CAA Amendments added Part C - Prevention of Significant Deterioration to the Act. This part requires new major stationary sources or existing sources planning major modification in an area that has attained the National AAQS, to conduct a preconstruction review that includes a detailed analysis of the source's emissions, available emission control technology, and project related impacts.

Federal air quality permitting regulations for attainment areas are codified in the Code of Federal Regulations (CFR), Title 40 - Protection of the Environment, Part 52.21 - Prevention of Significant Deterioration (PSD) (40 CFR 52.21). While the portion of the Florida State Implementation Plan (SIP) related to PSD regulations has been approved by the USEPA, and authority for the PSD program has been transferred to the state, the applicability of the program to Compressor Station No. 21 will be reviewed in this section, as it remains primarily a federal program.

For the PSD regulations to apply to a given project, the proposed location must be in a PSD area, i.e., an area that has been classified as attainment or unclassifiable for a particular pollutant. A project's potential to emit is thus reviewed to determine whether it constitutes a major new stationary source or major modification of an existing major stationary source.

A major stationary source is defined as either one of the 28 sources identified in 40 CFR 52.21 (see Table 3-3) and that has a potential to emit 100 tons or more per year of any regulated pollutant, or any other stationary source that has the potential to emit 250 tons or more per year of a regulated pollutant. "Potential to emit" has a special meaning here as it is determined on an annual basis after the application of air pollution control equipment, or any other federally enforceable restriction.

TABLE 3-2**Classification of Palm Beach County
For Each Criteria Pollutant**

Carbon Monoxide	Unclassifiable/Attainment
Oxides of Nitrogen	Cannot be Classified or Better than National Standards
Sulfur Dioxide	Better than Standards
Particulate Matter (PM ₁₀)	Not Designated
Total Suspended Particulate	Better than Standards
Ozone	Non-attainment, Moderate
Source: 40 CFR 81.300, 1991 56FR56694	

TABLE 3-3

Major Stationary Sources

Fossil Fuel-Fired Steam Electric Plants of More Than 250,000,000 British Thermal Units Per Hour Heat Input
Coal Cleaning Plants (with thermal dryers)
Kraft Pulp Mills
Portland Cement Plants
Primary Zinc Smelters
Iron and Steel Mill Plants
Primary Aluminum Ore Reduction Plants
Primary Copper Smelters
Municipal Incinerators Capable of Charging More Than 250 Tons of Refuse Per Day
Hydrofluoric, Sulfuric or Nitric Acid Plants
Petroleum Refineries
Lime Plants
Phosphate Rock Processing Plants
Coke Oven Batteries
Sulfur Recovery Plants
Carbon Black Plants
Primary Lead Smelters
Fuel Conversion Plants
Sintering Plants
Secondary Metal Production Plants
Chemical Processing Plants
Fossil-Fuel Boilers (or combination thereof) Totaling of More Than 250,000,000 British Thermal Units Per Hour Heat Input
Petroleum Storage and Transfer Units With a Total Storage Capacity Exceeding 300,000 Barrels
Taconite Ore Processing Plants
Glass Fiber Processing Plants
Charcoal Production Plants
SOURCES: 40CFR51.165(a)(iv)(2)(C); Chap. 17-2.500, F.A.C.

By this definition, and based on the emissions presented in Section 2.0, Compressor Station No. 21 will be a minor stationary source. It is not one of the 28 named source categories and it will not have the potential to emit ≥ 250 TPY of any criteria pollutant. Therefore, the compressor station is not subject to PSD preconstruction permitting review.

3.1.3 Good Engineering Practice (GEP) Stack Height Analysis

The 1977 CAA Amendments require that the degree of emission limitation required for control of any pollutant not be affected by a stack which exceeds GEP height. Further, no dispersion credit is given during air quality modeling for stacks which exceed GEP. GEP stack height is defined as the highest of:

- 65 meters; or
- a height established by applying the formula

$$H_{\text{GEP}} = H + 1.5 L$$

Where; H_{GEP} = GEP Stack Height,

H = Height of the structure or nearby structure, and

L = Lesser dimension (height or projected width) of the nearby structure; or

- a height demonstrated by fluid modeling or field study.

A structure or terrain feature is considered nearby if a stack is within a distance of five times the structure's height or maximum projected width. Only the smaller value of the height or projected width is used and the distance to the structure cannot be greater than 0.8 kilometers. Although GEP stack height regulations require that the stack height used in modeling for determining compliance with National AAQS and PSD increments not exceed GEP stack height, the actual stack height may be greater.

The stack height regulations also increase GEP stack height beyond that resulting from the formula in cases where plume impaction occurs. Plume impaction is defined as concentrations measured or modeled to occur when the plume interacts with elevated terrain. Elevated terrain is defined as terrain which exceeds the height calculated by the GEP stack height formula. Because terrain in the vicinity of the project site is generally flat, plume impaction is not considered in determining the GEP stack height.

The proposed stacks at Compressor Station No. 21 will be 50 feet (15.24 meters) tall. Based on the proposed building dimensions, the calculated GEP stack height is less than 65 meters; therefore, GEP stack height is 65 meters. Since the stacks are less than GEP, they comply with the regulatory requirement.

3.1.4 Non-attainment New Source Review (NSR) Applicability

Based on the current non-attainment provisions, all new major stationary sources, or modifications to such sources, located in a non-attainment area must undergo non-attainment New Source Review, if they have the potential to emit above an NSR significant threshold. For major new sources or major modifications in an attainment or unclassifiable area, the non-attainment provisions apply if the source or modification is located within the area of influence of a non-attainment area. The area of influence is defined as an area which is outside the boundary of a non-attainment area but within the locus of all points that are 50 kilometers outside the non-attainment area. Based on Chapter 17-2.510(2)(a)2.a, Florida Administrative Code (F.A.C.), all volatile organic compound sources which are located within an area of influence are exempt from the provisions of new source review for non-attainment areas.

Compressor Station No. 21 is located in an area classified as moderate non-attainment for ozone. As a new source, Compressor Station No. 21 would be subject to non-attainment area preconstruction review requirements if the potential to emit VOC (and NO_x if NO_x is determined by the Agency to contribute significantly to ozone formation) exceeds the major source threshold of 100 TPY. Because the turbine to be installed at Compressor Station No. 21 does not have the potential to emit ≥ 100 TPY of VOCs or NO_x, the station is not subject to non-attainment NSR preconstruction requirements.

3.1.5 Applicability of New Source Performance Standards (NSPS)

The regulation of new sources through the development of standards applicable to a specific category of sources was a significant step taken by the 1970 CAA Amendments. The Administrator was directed to prepare and publish a list of stationary source categories which, in the Administrator's judgement, cause or contribute significantly to air pollution and which may reasonably be anticipated to endanger public health. Further, the Administrator was to publish a proposed regulation establishing a Standard of Performance for any new source which fell into that category. The significant feature of the Section was that it would apply to all sources within a given category, regardless of its geographic location or the ambient air quality at that location. The standards, in essence, defined emission limitations that would be applicable to a particular source group.

A portion of Section 111 of the Act requires states to develop their own set of performance standards. State standards apply to existing sources and only to those pollutants for which air quality criteria had not been developed or were not covered by either Section 108 or 112 of the Act. Additionally, states could regulate any source whether covered by a federally designated source category or not. It is clear that Congress wanted to give the states specific authority to regulate existing sources which would otherwise be subject only to the provisions of Section 111 if they were new. New source performance standards promulgated by the state of Florida are discussed in Section 3.2 and Appendix E.

Currently, there are 66 separate performance standards published in 40 CFR 60. The new turbines to be installed at Compressor Station No. 21 are subject to Subpart GG because they will have a maximum heat input at peak load of > 10.7 gigajoules/hour (10 MMBtu/hr) based on the lower heating value of the natural gas fuel. The NO_x emission limit for Subpart GG is calculated as follows:

$$STD = 0.0150 \frac{14.4}{Y} + F$$

STD = Allowable NO_x emissions

Y = Heat rate at peak load not to exceed 14.4 Kj/watt-hour

F = NO_x emission allowance

The fuel bound nitrogen in natural gas is less than 0.015% by weight. Therefore, the value of F as defined in 40 CFR 60.332(3) is equal to zero.

$$\begin{aligned} Y &= \text{Btu/bhp-hr} \times 1.055 \text{ Kj/Btu} \times \text{hp-hr/745.7 watt-hour} \\ &= 9,169 \text{ Btu/bhp-hr} \times 1.055 \text{ Kj/Btu} \times \text{hp-hr/745.7 watt-hour} \\ &= 12.97 \end{aligned}$$

$$\begin{aligned} STD &= 0.0150 \frac{14.4}{12.97} + F \\ &= 0.0167 \\ &= 167 \text{ ppm}_v \end{aligned}$$

Table 3-4 summarizes the NSPS applicability for the proposed gas engines.

TABLE 3-4

**Applicability of New Source
Performance Standards**

Equipment	Fuel	Pollutant	NSPS Subpart	Heat Input Applicability	Equipment Design Maximum*	NSPS Regulations	NSPS Emission Limits	Equipment Emissions
2101 & 2102	Gas	NO ₂	GG	> 10 MMBtu/hr	59.6 MMBtu/hr	60.332(a)(2)	167 ppm _v	42 ppm _v
2101 & 2101	Gas	SO ₂	GG	> 10 MMBtu/hr	59.6 MMBtu/hr	60.333(a)	150 ppm _v	4.5 ppm _v
* Design maximum based on vendor data.								

The turbine at this facility will meet the NSPS for NO_x of 167 ppm_v (i.e., manufacturer's guarantee of 42 ppm_v), and for SO₂ of 150 ppm_v (estimated for this turbine to be 4.5 ppm_v).

3.1.6 Applicability of National Emission Standards for Hazardous Air Pollutants (NESHAP)

Realizing that there were numerous pollutants that did not meet the specific criteria for development of a National AAQS, Congress included Section 112 in the 1970 amendments which specifically addressed this problem. Section 112 provides the USEPA with a vehicle for developing standards for potentially hazardous pollutants.

During the development of the 1970 CAA Amendments, the Senate prepared a report identifying many such compounds which were to be considered for regulation under the new section. The 1990 CAA Amendments significantly expanded the number of compounds to be regulated under Section 112. Under the current provisions of the Act, 189 compounds or classes of compounds are to be regulated under Section 112 by November 15, 2000.

The regulations which were developed to implement Section 112 are presented in 40 CFR, Part 61 and Chapter 17-2.670, F.A.C. This part contains a listing of those pollutants that have been designated as being hazardous (Part 61.01) as defined in Section 112, and standards applicable to specific industries. Unlike the New Source Performance Standards, this Section is applicable to both new and existing sources that emit pollutants regulated by this Section. None of the promulgated standards currently apply to Compressor Station No. 21.

3.2 Florida State Air Quality Regulations

Title 17, F.A.C., contains the environmental rules and regulations for the State of Florida. The primary federal regulations which affect Compressor Station No. 21 have been incorporated, for the most part in whole, into the Florida state regulations. Specific air quality regulations of the state of Florida are contained in Chapter 17-2, F.A.C. and are too numerous to discuss in detail in this section. However, an applicability review was performed during the preparation of this document. The results of this review are presented in Appendix E. Compressor Station No. 21 will operate in compliance with all applicable Florida state air quality regulations as documented in Appendix E.

4.0 AIR QUALITY IMPACT ANALYSIS

The FDER, Air Quality Division, requires an ambient air quality impact analysis be performed on a proposed project's emissions. For State Authority to Construct permits, this involves comparison of the proposed projects' impact to the State and National AAQS, discussed in Section 3.0 of this report. This section outlines the general approach used for this analysis. This approach was developed in consultation with the FDER and conforms with the recommendations presented in the Guideline on Air Quality Models (USEPA, 1987).

4.1 Modeling Methodology and Assumption

This section outlines the approach used in the air dispersion analysis. Model selection, meteorological data used, structure downwash considerations and model results from Compressor Station No. 21, Palm Beach County, Florida are discussed.

4.1.1 General Modeling Methodology

The air dispersion modeling approach follows USEPA and FDER guidelines for determining compliance with State and National AAQS. Air dispersion modeling was used to establish compliance with federal and/or state AAQS.

The procedure listed below was followed:

- Model predictions for annual and short-term average concentrations, based on the net emission increases from the project, were obtained using the Industrial Source Complex long-term (ISCLT2) and short-term (ISCST2) model (version 92062). A brief description of the Industrial Source Complex (ISC) model is given in Section 4.1.2.
- For comparison to annual National AAQS for NO_x, the ISCLT2 was run using five years of meteorological data from FDER (1982 - 1986) processed into the Stability Array (STAR) format. The maximum off-site NO_x impact from all 5 years was then compared to the PSD/AAQS significance level for NO_x. All off-site NO_x impacts were less than 1 μg/m³. Therefore, no additional modeling was required for NO_x.
- For comparison to short-term AAQS for CO, the ISCST2 was run with five years (1982-1986) of meteorological data obtained from the FDER. The maximum predicted off-site concentration was compared to the significance level for CO for both 1-hour and 8-hour

Reduce the H.I
to be consistent
with

averaging period. Since all off-site receptors showed concentrations less than the significance levels for CO for the 1- and 8-hour averaging periods, no additional modeling analysis was conducted for CO.

4.1.2 Model Selection

The ISC dispersion model was used to evaluate emissions from the proposed facility. The ISC model was selected primarily for the following reasons:

- USEPA and FDER have approved the general use of the model for air quality dispersion analysis because the model assumptions and methods are consistent with those in the Guideline on Air Quality Models (USEPA, 1987);
- The ISC model is capable of predicting the impacts from stack, area, and volume sources that are spatially distributed over large areas and located in flat or gently rolling terrain; and
- The results from the ISC model are appropriate for addressing compliance with AAQS and PSD increments.

Major features of the ISC model are presented in Table 4-1. Concentrations due to point, area and volume sources are calculated by the model using the steady-state Gaussian plume equation for a continuous source.

4.1.3 Modeling Options

For modeling analyses that will undergo regulatory review, the following model options are recommended in the USEPA Guideline on Air Quality Models (USEPA, 1987), and are referred to, in the ISC model, as the Regulatory Default Options:

- Final plume rise at all receptor locations,
- Stack-tip downwash,
- Buoyancy-induced dispersion,
- Default wind speed profile coefficients for rural or urban option,
- Default vertical potential temperature gradients, and
- Reducing calculated SO₂ concentrations in urban areas by using a decay half-life of 4 hours (i.e., reduce the SO₂ concentration by 50 percent for every 4 hours of plume travel time).

TABLE 4-1
Major Features of the ISC Model

ISC Model Features
<ul style="list-style-type: none"> • Polar or Cartesian coordinate systems for receptor locations • Rural or urban option that affect windspeed profile exponent, dispersion rates, and mixing height calculations • Plume rise as a result of momentum and buoyancy as a function of downwind distance for stack emissions (Briggs) • Procedures suggested by Huber and Snyder (1976), Huber (1977), Schulman and Hanna (1986), and Schulman and Scire (1980) for evaluating building downwash and wake effects • Procedures suggested by Briggs for evaluating stack-tip downwash • Separation of multiple point sources • Consideration of the effects of gravitational settling and dry deposition on ambient particulate concentrations • Capability of simulating point, line, volume, and area sources • Capability to calculate dry deposition • Variation of windspeed with height (windspeed-profile exponent law) • Concentration estimates for annual average • Terrain-adjustment procedures for elevated terrain including a terrain truncation algorithm • Receptors located above local terrain (i.e., "flagpole" receptors) • Consideration of time-dependent exponential decay of pollutants • The method of Pasquill (1976) to account for buoyancy-induced dispersion • A regulatory default option to set various model options and parameters to EPA recommended values (see text for regulatory options used)
<p>SOURCE: User's Guide for the Industrial Source Complex (ISC2) Dispersion Model Vol. 1 Draft. EPA-450/4-92-20.</p>

In this analysis, the USEPA regulatory default options were used to address maximum impacts.

4.1.4 Selection of Dispersion Coefficients

The ISC model has rural and urban options which affect the wind speed profile, dispersion rates, and mixing-height formulations used in calculating ground level concentrations. The criteria used to determine when the rural or urban mode is appropriate are based on land use near the proposed facility's surroundings (Auer, 1978). If the land use is classified as heavy industrial, light-moderate industrial, commercial, or compact residential for more than 50 percent of the area within a 3 kilometers radius of the proposed source, the urban option is selected. Otherwise, the rural option is used. Based on a review of the USGS topographical map of the land within a 3 kilometer radius around the site, the rural mode was selected.

4.1.5 Meteorological Data

The USEPA Guideline on Air Quality Models (USEPA, 1987) recommends the use of 5 years of representative meteorological data in air quality modeling. The most recent, readily available 5-year period is preferred. The meteorological data may be collected either on-site or at the nearest National Weather Service (NWS) station.

The NWS station in West Palm Beach, Florida, located approximately 10 miles east of the proposed site, is the most representative weather station that routinely records the hourly surface data required by the air dispersion models. Due to the proximity of this NWS station to the site, the West Palm Beach meteorological data were considered representative of weather conditions occurring at the proposed West Palm Beach compressor station.

Meteorological data used in the analysis were obtained from FDER. The data consist of a 5-year record of surface and upper air weather observations (1982-1986). Surface and upper air data were collected by the NWS at West Palm Beach Airport. The data base consists of hourly surface data (i.e., windspeed, wind direction), and twice daily mixing heights. These data were preprocessed by the FDER, using the USEPA program RAMMET, which combines the surface and upper data into a single file, which can then be input directly into the ISCST2 model. The five years of surface data were then processed using the USEPA STAR program, to generate the data required by ISCLT2 model.

4.1.6 Source Data

The source parameters used to model the proposed Compressor Station No. 21 are presented in Table 4-2. The locations of the proposed stacks within the site are presented on the facility plot plan (see Appendix B). The emission points listed as sources 2101 and 2102 (ISC Model Source Nos. 1 and 2 on Table 4-2) correspond to the new turbines. ISC source 11 corresponds to the new emergency stand-by generator. Table 4-3 lists the emission rates modeled for NO_x and CO. The maximum pounds per hour (lb/hr) emission rates were used as input to the ISCST2 model to determine concentrations for short-term averaging periods. Vendor guaranteed emission rates, in grams/bhp-hr, converted to a tons per year values were used to determine annual average concentrations.

4.1.7 Receptor Grid Modeled

For both ISCST2 and ISCLT2, the following receptor grids were used to establish off-site concentration:

- A 100 meter spacing, 25 x 25 receptor array, centered on the facility, and extending out 1.2 kilometers in all directions.
- A 500 meter spacing, 25 x 25 receptor array, centered on the facility, and extending out 6 kilometers in all directions.

These were used, per guidance from FDER and the Guideline on Air Quality Models (USEPA, 1987).

4.1.8 Building Wake Effects and GEP Considerations

Based on the dimensions of the structures located at the compressor station, all stacks will be less than maximum allowable GEP height. Due to the location of emission points in relation to buildings and other solid structures, the stack emissions may be affected by building wakes from some of the structures. Therefore, the potential for building downwash must be considered in the modeling analysis.

The procedure used for addressing the effects of building downwash are those recommended in the User's Guide for the Industrial Source Complex (ISC2) Dispersion Model (USEPA, 1992). In the ISC model, the building heights and widths are input to the model for each direction. If the Huber-Snyder building downwash routine is used, the model picks the worst case dimension

TABLE 4-2

**FGTC Phase III
Station No. 21
Summary of Source Parameters Used in the
Modeling Analysis**

Source Number	Stack Location*		Stack Dimensions		Operating Parameters	
	E (m)	N (m)	Height (m)	Diameter (m)	Temperature (K)	Velocity (m/s)
2101	0	0	15.24	1.01	763.72	55.43
2102	0	-17	15.24	1.01	763.72	55.43
2111	-20	5	6.10	0.09	894.27	44.10

*Station Coordinates

TABLE 4-3

**FGTC Phase III Expansion
Station No. 21
Modeled Emission Rates**

SOURCE NO.	NO_x (TONS/YR)	CO (MAX LB/HR)
2101	39.05	6.64
2102	39.05	6.64
2111	0.36	0.63
SOURCE NO.	NO_x (GM/SEC)	CO (MAX GM/SEC)
2101	1.12	0.84
2102	1.12	0.84
2111	0.01	0.08

from all values. The effective width used by the program is the diameter of a circle with an area equal to the square of the width input to the model.

If a specific width is to be modeled, then the value input to the model must be calculated according to the following formula:

$$M_w = \sqrt{\pi \times \left(\frac{H_w}{2}\right)^2}$$

$$= 0.886H_w$$

where: M_w = building width input to the model to produce a building width of H_w used in the dispersion calculation.

H_w = the actual building width for dispersion calculations.

If the Schulman-Scire wake effects method is used, the user inputs the building height and projected width associated with each wind sector. The actual inputs to the ISC model were generated using the Bowman Environmental Engineering Automated Downwash Program. Plant coordinates of all building corners, tier corners, and emission points are input into the Downwash Program. The Program provides direction-specific building dimensions for either the ISC long- or short-term model, which are then directly input into the ISC source file. The Program was run using a rectangular building wake area and a wind direction angle increment of 1 degree. A summary of actual building dimensions for structures considered is presented in Table 4-4.

4.2 Model Results

Modeling was performed for emissions of the following pollutants from the proposed Compressor Station No. 21:

- NO_x, and
- CO.

The maximum predicted off-site concentrations for each modeled pollutant, averaging period, and National AAQS, and AAQS significance levels are shown in Table 4-5. Table 4-6 provides

TABLE 4-4**FGTC Phase III
Station No. 21
Building Dimensions**

Building	Actual Building Dimensions		
	Height (ft)	Length (ft)	Width (ft)
Auxiliary Building	18.67	55	20
Compressor Building	30	120	40

TABLE 4-5
FGTC PHASE III
STATION NO. 21
MODELING RESULTS
MAXIMUM PREDICTED AVERAGE CONCENTRATION OF MODELED
POLLUTANTS AND COMPARISON TO SIGNIFICANT IMPACT LEVEL

POLLUTANT	AVG TIME	MAX OFF-SITE ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)	SIGNIFICANT IMPACT ($\mu\text{g}/\text{m}^3$)
NO _x				
SOURCE 2101, 2102 & 2111	ANNUAL	0.25	100	1
CO				
SOURCE 2101, 2102 & 2111	1-HR	115	40,000	2,000
	8-HR	34	10,000	500

TABLE 4-6

**FGTC PHASE III Project
Station No. 21
Maximum Predicted Impact by Year**

Pollutant	Averaging Period	Averaging Period	Year of Meteorological Data				
			1982	1983	1984	1985	1986
NO _x	NO _x	Annual	0.21	0.25	0.22	0.24	0.24
CO	CO	1-hour	113	106	113	115	114
		8-hour	29	29	34	31	28

NOTE: All values are in $\mu\text{g}/\text{m}^3$ unless otherwise indicated.

the maximum off-site concentration for each meteorological data year (1982-1986) modeled for CO and NO_x. The maximum predicted off-site impact from each pollutant was generally just southwest of the compressor station property boundary.

Area concentration maps showing the facility boundary and maximum impacts at each modeled receptor, are included for the worst case year in Appendix F.

As shown, all predicted off-site concentrations were lower than the applicable AAQS and significance levels were not exceeded for either NO_x, or CO. The results of this air dispersion modeling indicated that the proposed West Palm Beach compressor station should have no adverse effect on the surrounding area.

A floppy disk, containing all model input and output files, and structure downwash program input and output is included in Appendix F. Hard copy printouts of all model output files are also included.

5.0 REFERENCES

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U.S. Environmental Protection Agency (USEPA). (Amended 1992). USEPA Regulations on National Emission Standards for Hazardous Air Pollutants. 40 CFR 61; 38FR8820. Research Triangle Park, NC.

APPENDIX A

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
AIR DIVISION
PERMIT APPLICATION FORMS

Incubation

AC 50-229440
Rec'd 4-12-93
Reg # 0180847
\$4500.00



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Natural Gas Compressor Engine [X] New [] Existing¹

APPLICATION TYPE: [] Construction [] Operation [] Modification

COMPANY NAME: Florida Gas Transmission Company COUNTY: Palm Beach

Identify the specific emission point source(s) addressed in this application (i.e. Lime Station 21, Unit No. Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) 2101 and 2102

SOURCE LOCATION: Street _____ City West Palm Beach

UTM: East 586031 North 2957102

Latitude 26° 44' 2" N Longitude 80° 8' 6" W

APPLICANT NAME AND TITLE: Carl D. Schulz, Vice President, Project Management Services
Florida Gas Transmission Company (713) 853-3893

APPLICANT ADDRESS: P.O. Box 1188, Houston, TX 77251-1188

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Gas Transmission Co.

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

*Attach letter of authorization

Signed: *Carl D. Schulz*
Carl D. Schulz, Vice President, Project Management Services
Name and Title (Please Type)

Date: 4-2-93 Telephone No. _____

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

This is to certify that the engineering features of this pollution control project have been ~~inspected~~/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed Barry D. Andrews

Name (Please Type)

Company Name (Please Type)

Mailing Address (Please Type)

Florida Registration No. 36024 Date: 3/24/93 Telephone No. (205) 740-8240

SECTION II: GENERAL PROJECT INFORMATION

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

See Application Report, Section 1.0 - Facility Description

Section 2.0 - Project Description

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

Start of Construction February 1994 Completion of Construction 12/1/94

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

Not Applicable

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

Not Applicable

E. Requested permitted equipment operating time: hrs/day 24; days/wk 7; wks/yr 52;
if power plant, hrs/yr _____; if seasonal, describe: Not Applicable

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

1. Is this source in a non-attainment area for a particular pollutant? Yes
 - a. If yes, has "offset" been applied? _____
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. ozone
 2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. Yes
 3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. No
 4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? Yes
 5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? No
- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? No
- a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

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

SECTION 111: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

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

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

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

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Emission Point 2101

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
NO _x	8.92	39.05			8.92	39.05	
CO	6.46	28.29			6.46	28.29	
NMHC	.37	1.62			.37	1.62	
SO ₂	1.64	7.18			1.64	7.18	
PM	.29	1.26			.29	1.26	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

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

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

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

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Emission Point 2102

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
NO _x	8.92	39.05			8.92	39.05	
CO	6.46	28.29			6.46	28.29	
NMHC	.37	1.62			.37	1.62	
SO ₂	1.64	7.18			1.64	7.18	
PM	.29	1.26			.29	1.26	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

SECTION 11: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

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

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

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

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Emission Point 2111

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
NO _x	1.82	.36			1.82	.36	
CO	.63	.13			.63	.13	
NMHC	.025	.005			.025	.005	
SO ₂	.025	.005			.025	.005	
PM	.0045	.0009			.0045	.0009	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

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

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

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

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Emission Point T-1

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
VOC	0.02	0.00	N/A	N/A	0.02	0.00	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

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

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

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

1. Total Process Input Rate (lbs/hr): _____
2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Emission Point T-2

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
VOC	0.00	0.09	N/A	N/A	0.00	0.09	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

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

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

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

- Total Process Input Rate (lbs/hr): _____
- Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Emission Point T-3

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
VOC	0.01	0.00	N/A	N/A	0.01	0.00	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

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

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

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

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Emission Point T-4

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
VOC	0.05	0.00	N/A	N/A	0.05	0.00	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

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

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

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

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Emission Point T-5

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
VOC	0.01	0.00	N/A	N/A	0.01	0.00	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

Emission Point 2101
 Stack Height: 50 ft. Stack Diameter: 3.33 ft.
 Gas Flow Rate: 95,039 ACFM 35,942 DSCFM Gas Exit Temperature: 915 °F.
 Water Vapor Content: 8 % Velocity: 181.87 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____
 Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____
 Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____
 Manufacturer _____
 Date Constructed _____ Model No. _____

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

Stack Height: _____ ft. Stack Diameter: _____ ft. Stack Temp. _____ °F
 Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

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

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

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

Emission Point 2102
 Stack Height: 50 ft. Stack Diameter: 3.33 ft.
 Gas Flow Rate: 95,039 ACFM 35,942 DSCFM Gas Exit Temperature: 915 °F.
 Water Vapor Content: 8 % Velocity: 181.87 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

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

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

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

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

Emission
Paint

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

Emission Point 2111
 Stack Height: 20 ft. Stack Diameter: .3 ft.
 Gas Flow Rate: 580 ACFM DSCFM Gas Exit Temperature: 1150 °F.
 Water Vapor Content: 8 % Velocity: 144.68 FPS

SECTION IV: INCINERATOR INFORMATION

Type of waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

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

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

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

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

Brief description of operating characteristics of control devices: _____

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

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made. See Application Report, Section 2.0, Appendix C,D.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). See Application Report, Appendix C,D.
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
Not Applicable.
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
Not Applicable.
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
See Application Report, Figure 2-1.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
See Application Report, Figure 1-1, Figure 2-1.
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
See Application Report, Appendix B.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

Submitted separately.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

Not Applicable

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Not Applicable

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration
NO _x	42 ppmv
SO ₂	4.5 ppmv

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

Yes No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
Not Applicable	

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

Not Applicable

1. Control Device/System:

2. Operating Principles:

3. Efficiency:*

4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

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

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

1.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels: Not Applicable

2.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3. Not Applicable

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4. Not Applicable

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected: Not Applicable

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:

9. Other locations where employed on similar processes:

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

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹ Not Applicable

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data Not Applicable

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

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

2. Instrumentation, Field and Laboratory

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

B. Meteorological Data Used for Air Quality Modeling

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

C. Computer Models Used

1. _____ Modified? If yes, attach description.
2. _____ Modified? If yes, attach description.
3. _____ Modified? If yes, attach description.
4. _____ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
ISP	_____ grams/sec
SO ²	_____ grams/sec

E. Emission Data Used in Modeling

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

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

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

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

APPENDIX B

PLOT PLAN

APPENDIX C
SITE SUMMARY TABLE AND VENDOR DATA

Phase III Station Characteristics

22-Mar-93
CS21.WK1

Compressor Station: Number 21
 Name: West Palm Beach
 County: Palm Beach
 Nearest City: West Palm Beach
 Compressor Supervisor: _____
 Mailing Address: _____
 Telephone: _____
 Latitude: 26 44' 03"
 Longitude: 80 08' 06"
 UTM Zone: 17
 UTM Easting: 586.031 km
 UTM Northing: 2957.10 km
 Elevation (ft): 17 feet

ENGINE IDENTIFICATION 2101 2102

Phase III Engine Characteristics

Operating Time (hr/yr)	8,760	8,760
Hours/Day	24	24
Days/Week	7	7
Weeks/Year	52	52
Engine Type	Gas Turbine	Gas Turbine
Manufacturer	Solar	Solar
Model	Centaur-Taurus T-6502	Centaur-Taurus T-6502
Horsepower Rating (hp) ISO	6,500	6,500
Exhaust Temperature (F)	915	915
Mass Flow Rate (lbs/hr) (a)	164,167	164,167
Volumetric Flow Rate (acfm)	95,039	95,039
Volumetric Flow Rate (dscfm)	35,942	35,942
Ave. Fuel Consumption (MMCF/Hr) (b)	0.057	0.057
Max. Fuel Consumption (MMCF/Hr) (b)	0.057	0.057
Specific Fuel Consump. (BTU/bhp-hr)	9,169	9,169
Maximum Heat Input (MMBTU/Hr)	59.60	59.60

Phase III Stack Parameters

Stack Height (ft)	50	50
Stack Dimension (Diameter) (ft)	3.33	3.33
Stack to Building Offset (ft)	19	19
Building Height (ft) (c)	30	30
Building Length (ft) (c)	120	120
Building Width (ft) (c)	40	40

Phase III Fuel Characteristics

Fuel Type	N.G.	N.G.
Heating Value (BTU/CF)	1040	1040
Heat Capacity (BTU/lb)	22857	22857
Density (lb/cubic ft)	0.0455	0.0455
Percent Sulfur (%) (d)	0.031	0.031
Percent Ash (%)	N/A	N/A

ENGINE IDENTIFICATION		2101	2102
Phase III Emissions Rates by Engine for Station 21			
Grams/BHP-Hour			
	NOX	0.622	0.622
	CO	0.451	0.451
	NMHC	0.026	0.026
	SO2 (e)	0.114	0.114
	PM (f)	0.020	0.020
Pounds/Hour			
	NOX	8.92	8.92
	CO	6.46	6.46
	NMHC	0.37	0.37
	SO2	1.64	1.64
	PM	0.29	0.29
Tons/Year			
	NOX	39.05	39.05
	CO	28.29	28.29
	NMHC	1.62	1.62
	SO2	7.18	7.18
	PM	1.26	1.26

Phase III Total Emissions Rates for Engines 1 and 2

Grams/BHP-Hour			
	NOX	1.24	
	CO	0.90	
	NMHC	0.052	
	SO2 (e)	0.23	
	PM (f)	0.040	
Pounds/Hour			
	NOX	17.84	
	CO	12.92	
	NMHC	0.74	
	SO2	3.28	
	PM	0.58	
Tons/Year			
	NOX	78.10	
	CO	56.58	
	NMHC	3.24	
	SO2	14.36	
	PM	2.52	

Notes:

- (a) Wet mass flow (@ 60 F, 14.7 psi).
- (b) Based on heating value of fuel gas.
- (c) Engines 1 and 2 are enclosed in one building.
- (d) Percent by weight.
- (e) Based on 10 grains S/100 SCF n.g. (assume full conversion).
- (f) Based AP-42 factor of 5 lbs/MMSCF.

Phase III Station Characteristics

22-Mar-93
CS21EG.WK1

Compressor Station: Number 21
Name: West Palm Beach
County: Palm Beach
Nearest City: West Palm Beach
Compressor Supervisor: _____
Mailing Address: _____
Telephone: _____
Latitude: 26 44' 03"
Longitude: 80 08' 06"
UTM Zone: 17
UTM Easting: 586031
UTM Northing: 2957102
Elevation (ft): 17 feet

ENGINE IDENTIFICATION 2111

Phase III Emergency Generator Characteristics

Operating Time (hr/yr)	400
Engine Type	Recip.
Manufacturer	Unknown
Model	Unknown
Horsepower Rating (hp)	102
Kilowatt Rating (kva)	75
Exhaust Temperature (F)	1150
Exhaust Flow (acfm)	580
Nominal Fuel Consumption (MMCF/Hr) (b)	0.00089
Max. Fuel Consumption (MMCF/Hr) (b)	0.00089
Brake Specific Fuel Consump. (Btu/bhp-hr)	9,075
Maximum Heat Input (MMBtu/Hr)	0.93

Phase III Stack Parameters

Stack Height (ft)	20
Stack Diameter (in)	3.50
Stack to Building Offset (ft)	6
Building Height (ft) (c)	18.67
Building Length (ft) (c)	55
Building Width (ft) (c)	40

Phase III Fuel Characteristics

Fuel Type	N.G.
Heating Value (BTU/CF)	1040
Heat Capacity (BTU/lb)	22,857
Density (lb/cubic ft)	0.0455
Percent Sulfur (%) (d)	0.031
Percent Ash (%)	N/A

ENGINE IDENTIFICATION

2111

Phase III Emissions Rates for Emergency Generator at Station 21

Grams/BHP-Hour

NOX	8.10
CO	2.80
HC	1.10
NMHC	0.11
SO2 (e)	0.11
PM (f)	0.020

Pounds/Hour

Maximum

NOX	1.82
CO	0.63
HC	0.25
NMHC	0.025
SO2	0.025
PM	0.0045

Tons/Year

Restricted (400 hr/yr)

NOX	0.36
CO	0.13
HC	0.05
NMHC	0.0050
SO2	0.0050
PM	0.00090

Notes:

- (a) Wet mass flow (@ 60 F, 14.7 psi).
- (b) Based on heating value of fuel gas.
- (c) Engine enclosed in auxiliary building.
- (d) Percent by weight.
- (e) Based on 10 grains S/100 SCF n.g. (assume full conversion).
- (f) Based AP-42 factor of 5 lbs/MMSCF.

CATERPILLAR

Solar Turbines Incorporated

13105 Northwest Freeway
Suite 960
Houston, TX 77040
(713) 895-2370
Fax: (713) 939-1042

January 8, 1993

Enron Corporation
P. O. Box 1188
Houston, Texas 77251-1188

Attention: Mr. C.K. Johansen

Subject: Enron / FGT
Phase III Expansion
HO-1-059

Enron Corporation
January 8, 1993
Page Two

A.2. The guaranteed emissions levels for all SoLoNOx engines is 42 ppmv NOx and 50 ppmv CO at 15% O₂ at a load range of 50 to 100% and a temperature range of 0°F to 100°F.

For permitting purposes, maximum emission rates should be based on full load exhaust gas flow at the lowest expected site ambient temperature. Maximum annual emissions should be based on the site average annual temperature. Please contact Solar for assistance with permitting issues.

A.3. The emission table for standard engines at full load is attached.

A.4. Please refer to commercial section of proposal for pricing of SoLoNOx option
(T-12000 \$480,000; T-6502 \$290,000).

T-4500 \$260,000

Amal 1st Qtr '93

NEW EQUIPMENT PREDICTED EMISSION PERFORMANCE
DATA FOR POINT NUMBER 1

Fuel: GAS Customer: ENRON/FLORIDA GAS TRANSMISSION
Water Injection: NO Inquiry Number: HO1-059
Number of Engines Tested: 4
Model: CENTAUR TAURUS T-6500 CS/MD 59 F MATCH

CRITICAL WARNINGS IN USE OF DATA FOR PERMITTING

1. It is recommended that permit values be based on full load gas turbine and ISO standard test conditions. ISO standard test condition should be referenced on the permit so that when site testing is performed, the necessary corrections can be made.
2. Nominal values are based on actual test results. The maximum expected values are obtained by applying the tolerance to the nominal values. Solar suggests using maximum expected values for permitting (for example, +200% multiply value submitted by 3 to use for permit value).
3. Upon written request, Solar will provide a single point guarantee for specific conditions submitted.

The following predicted emissions performance is based on the following specific single point: HP = 6500., %Full Load = 100.0, ALT = 0.0', %RH = 60.0, TEMP = 59.0 F

NOx (+)	CO (+)	UHC (+)	
81.73 20%	5.62 200%	2.72 400%	PPMvd at 15% O2
75.98 20%	3.18 200%	0.88 400%	TON/YR
0.33 20%	0.01 200%	0.00378 400%	LBm/MMBTU -(FUEL LHV)

OTHER IMPORTANT NOTES

1. If SoLoNOx is to be retrofitted in the future, use no less than 50 ppmV CO for permitting.
2. Ambient and load correction information will be submitted by Solar for CO prior to actual field test. NOx correction for ambient conditions will be based on US 40 CFR 60 subpart GG. Permit conditions should allow correction for load and ambient temperature.
3. Solar does not provide maximum values for water-to-fuel ratio, SOX, particulates, or conditions outside those above without separate written approval.
4. Solar can optionally provide factory testing in San Diego to ensure the actual unit(s) meet the above values within the tolerances quoted. Pricing and schedule impact will be provided upon request.
5. Fuel must meet Solar standard fuel specification ES 9-98. Predicted emissions are based on the attached fuel composition, or, San Diego natural gas or equivalent.
6. If the above information is being used regarding existing equipment, it should be verified by actual site testing.

CATERPILLAR

Telecopier Cover Letter

Solar Turbines

PO Box 85378
San Diego, CA 92186-8378

9280 Sky Park Court
San Diego, CA 92123

NUMBER OF PAGES INCLUDING THIS COVER PAGE: 4

DATE: January 12, 1993

TO: Ron Wood - ENRON

FAX: 713 646-2752
TEL: 713 853-4764

COPY: Louis Dooley - SOLAR HOUSTON

FAX: 713 939-1230

John Goss - SOLAR HOUSTON

FAX: 713 939-1230

Jerry Napierala - SOLAR SD

FAX: 619 694-6267

FROM: Mat Castañeda - SP3

TEL: 619 694-6109
FAX: 619 694-6267


SUBJ: Gas Turbine Horsepower at 100% Speed

Ron,

Attached please find the performance information you requested at full load, ISO conditions.

Please call me if I can be of further assistance.

Regards,



Mat Castañeda
Sr. Project Applications Engineer

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE DATA REV. 1.5
EXHAUST GAS AND EMISSION DATA REV. 1.2
TEXT CHANGES REV. 1.1
JOB ID : ENRON

DATE RUN: 12-JAN-93

CENTAUR
TAURUS T-6500
CS/ND
59 F MATCH
GAS FUEL

PREDICTED NOMINAL PERFORMANCE

FUEL TYPE	SD NATURAL GAS
ELEVATION, FEET	0.
INLET LOSS, IN. H2O	0.0
EXHAUST LOSS, IN. H2O	0.0
AMB TEMP, DEG. F	59.0
REL HUMI, PCT	60.0
INLET LOSS HP	0.
EXHAUST LOSS HP	0.
COMP OR PUMP RPM	12727.
OPTIMUM RPM	12727.
NET OUTPUT POWER (HP)	6500.
FUEL FLOW, MMBTU/HR	53.30
HEAT RATE, BTU/HP-HR	8200.
INLET AIR FLOW, LB/HR	162000.
ENGINE EXH FLOW, LB/HR	164167.
PCD P.S.I.G.	146.8
P.T. INLET TEMP. DEG. F	1312.
COMPENSATED PTIT DEG. F	1400.
ENGINE EXH TEMP, DEG. F	915.

CATERPILLAR

Solar Turbines

Solar Turbines Incorporated
P.O. Box 85376
San Diego, CA 92186-5376

This Transmission from:
9280 Skypark Court
San Diego, CA 92123 U.S.A.

Project Applications Engineering Dept.
FAX Number (619) 694-6267

- TELECOPIER COVER LETTER -

TO: Tom Gardiner DATE: February 19, 1993

COMPANY/CITY: Enron/ENSR 713-520-8802

COPIES TO: L.Dooley M.Castenada

W.Leland

REFERENCE: Florida Gas

FROM: Jerry Napierala

If you do not receive all pages, please call (619) 694-6512.

Attached are the maximum levels in lb/hr for the Mars T-12000 and the Centaur T-6500. The values are nominal so the margins listed have to be added. The margins are high primarily because we have very little data at cold ambients.

Please call if you have any questions.

Regards,

SOLAR TURBINES INCORPORATED

DATE RUN: 19-FEB-93

ENGINE PERFORMANCE DATA

REV. 1.6

EXHAUST GAS AND EMISSION DATA

REV. 1.4

TEXT CHANGES

REV. 1.1

JOB ID : 0

NEW EQUIPMENT PREDICTED EMISSION PERFORMANCE
DATA FOR POINT NUMBER 1

Fuel: GAS

Customer: Enron

Water Injection: NO

Inquiry Number:

Number of Engines Tested: 4

Model: CENTAUR TAURUS T-6500 CS/MD

59 F MATCH

CRITICAL WARNINGS IN USE OF DATA FOR PERMITTING

1. It is recommended that permit values be based on full load gas turbine and ISO standard test conditions. ISO standard test condition should be referenced on the permit so that when site testing is performed, the necessary corrections can be made.
2. Nominal values are based on actual test results. The maximum expected values are obtained by applying the tolerance to the nominal values. Solar suggests using maximum expected values for permitting (for example, +200% multiply value submitted by 3 to use for permit value).
3. Upon written request, Solar will provide a single point guarantee for specific conditions submitted.

The following predicted emissions performance is based on the following specific single point: (see attached)

HP= 6714., %Full Load=100.0, ALTITUDE= 0.0 FEET, %RH= 60.0, TEMP= 40.0 F

NOX (+)	CO (+)	UHC (+)	
81.51 25%	9.64 250%	2.76 450%	PPMvd at 15% O2
17.75 25%	1.28 250%	0.21 450%	LBm/Hr
1.20 25%	0.09 250%	0.01 450%	g/(HP-Hr) (GAS TURBINE SHAFT POWER)

OTHER IMPORTANT NOTES

1. If SoLoNOx is to be retrofitted in the future, use no less than 50 ppmV CO for permitting.
2. Ambient and load correction information will be submitted by Solar for CO prior to actual field test. NOx correction for ambient conditions will be based on US 40 CFR 60 subpart GG. Permit conditions should allow correction for load and ambient temperature.
3. Solar does not provide maximum values for water-to-fuel ratio, SOX, particulates, or conditions outside those above without separate written approval.
4. Solar can optionally provide factory testing in San Diego to ensure the actual unit(s) meet the above values within the tolerances quoted. Pricing and schedule impact will be provided upon request.
5. Fuel must meet Solar standard fuel specification ES 9-98. Predicted emissions are based on the attached fuel composition, or, San Diego natural gas or equivalent.

6. If the above information is being used regarding existing equipment, it should be verified by actual site testing

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE DATA REV. 1.6
EXHAUST GAS AND EMISSION DATA REV. 1.4
TEXT CHANGES REV. 1.1
JOB ID : 0

DATE RUN: 19-FEB-93

CENTAUR
TAURUS T-6500
CS/MD
59 F MATCH
GAS FUEL

DATA FOR NOMINAL PERFORMANCE
*** PRELIMINARY ***

FUEL TYPE	SD NATURAL GAS
ELEVATION, FEET	0.
INLET LOSS, IN. H2O	0.0
EXHAUST LOSS, IN. H2O	0.0
AMB TEMP, DEG. F	40.0
REL HUMI, PCT	60.0
INLET LOSS HP	0.
EXHAUST LOSS HP	0.
COMP OR PUMP RPM	12754.
OPTIMUM RPM	12754.
NET OUTPUT POWER (HP)	6714.
FUEL FLOW, MMBTU/HR	54.51
HEAT RATE, BTU/HP-HR	8119.
INLET AIR FLOW, LB/HR	166533.
ENGINE EXH FLOW, LB/HR	168746.
PCD P.S.I.G.	150.4
P.T. INLET TEMP. DEG. F	1290.
COMPENSATED PTIT DEG. F	1378.
ENGINE EXH TEMP, DEG. F	894.

APPENDIX D
SUPPORTING CALCULATIONS

CALCULATION OF NORMAL POLLUTANT EMISSION FACTORS FOR SOLONOX TURBINE:

COMPRESSOR ENGINE (WITHOUT SOLONOX):

Engine No. 2101 - 2102:

Engine Rating (ISO) = 6,500 bhp
 Brake Specific Fuel Consumption = 9,169 Btu/bhp-hr
 Maximum Fuel Consumption = 0.057 MMscf/hr

NORMAL OPERATION:

	PPM	TPY	
NO _x :	81.73	75.98	Manufacturer's Data
CO:	5.62	3.18	Manufacturer's Data
UHC:	2.72	0.88	Manufacturer's Data

COMPRESSOR ENGINE WITH SOLONOX:

Engine No. 2101 - 2102:

CALCULATION OF NORMAL OPERATION EMISSIONS IN TONS/YR WITH SOLONOX

$$\text{tons/yr} = \text{tons/yr (w/o SOLONOX)} * (\text{PPM (with SOLONOX)} / \text{PPM (without SOLONOX)})$$

	PPM	TPY	
NO _x :	42.0	39.05	Manufacturer's Data
CO:	50.0	28.29	Manufacturer's Data
UHC:	50.0	16.18	Manufacturer's Data

CALCULATION OF NORMAL OPERATION GRAMS/BHP-HR

$$\text{lbs/hr} = (\text{tons/yr}) * (2000 \text{ lbs/ton}) * (1 \text{ yr} / 8760 \text{ hrs})$$

$$\text{grams/bhp-hr} = (\text{lbs/hr} * (453.6 \text{ grams/1 lb})) / \text{bhp}$$

NO_x: 0.622 grams/bhp-hr Manufacturer's Data

CO: 0.451 grams/bhp-hr Manufacturer's Data
 UHC: 0.26 grams/bhp-hr Manufacturer's Data
 NMHC: 0.026 grams/bhp-hr (10% of UHC)
 SO₂: 10 grains/100 CF Contract Limit on Sulfur Content
 0.114 grams/bhp-hr

lb SO₂/hr = 10 grains/100 CF * 1 lb/7,000 grains * Btu/bhp-hr
 * bhp * 1 CF/1,040 Btu * 64 lb SO₂/32 lb S
 = 10 grains/100 CF * 1 lb/7,000 grains * 9,169 Btu/bhp-hr
 * 6,500 bhp * 1 CF/1,040 Btu * 64 lb SO₂/32 lb S
 = 1.64 lb SO₂/hr
 grams/bhp-hr = lb SO₂/hr * 453.6 g/lb * 1/bhp
 = 1.64 lb SO₂/hr * 453.6 g * 1/6,500 bhp
 = 0.114 grams/bhp-hr

PM: 5 lbs/10⁶ CF Table 1.4-1, AP-42
 0.020 grams/bhp-hr

lb PM/hr = 5 lb PM/10⁶ CF * CF/hr
 = 5 lb PM/10⁶ CF * 0.057 MMCF/hr
 = 0.29 lb PM/hr
 grams/bhp-hr = lb PM/hr * 453.6 g/lb * 1/bhp
 = 0.29 lb PM/hr * 453.6 g/lb * 1/6,500 bhp
 = 0.020 grams/bhp-hr

CALCULATION OF WORST CASE POLLUTANT EMISSION FACTORS FOR SOLONOX TURBINE:

COMPRESSOR ENGINE (WITHOUT SOLONOX):

Engine No. 2101 - 2102:

Engine Rating (ISO) = 6,500 bhp

WORST CASE:

	PPM	lb/hr	
NO _x :	81.51	17.75	Manufacturer's Data
CO:	9.64	1.28	Manufacturer's Data
UHC:	2.76	0.21	Manufacturer's Data

COMPRESSOR ENGINE WITH SOLONOX:

Engine No. 2101 - 2102:

CALCULATION OF WORST CASE EMISSIONS IN LB/HR WITH SOLONOX

$$\text{lb/hr} = \text{lb/hr (w/o SOLONOX)} * (\text{PPM (with SOLONOX)} / \text{PPM (without SOLONOX)})$$

	PPM	lb/hr	
NO _x :	42.0	9.15	Manufacturer's Data
CO:	50.0	6.64	Manufacturer's Data
UHC:	50.0	3.80	Manufacturer's Data

CALCULATION OF GRAMS/BHP-HR

$$\text{grams/bhp-hr} = (\text{lbs/hr} * (453.6 \text{ grams/1 lb})) / \text{bhp}$$

NO _x :	0.639 grams/bhp-hr	Manufacturer's Data
CO:	0.463 grams/bhp-hr	Manufacturer's Data
UHC:	0.27 grams/bhp-hr	Manufacturer's Data
NMHC:	0.027 grams/bhp-hr	(10% of UHC)

SO ₂ :	10 grains/100 CF 0.114 grams/bhp-hr	Contract Limit on Sulfur Content
PM:	5 lbs/10 ⁶ CF 0.020 grams/bhp-hr	Table 1.4-1, AP-42

**CRITERIA POLLUTANT
EMISSION CALCULATIONS**

MAXIMUM HEAT INPUT:

COMPRESSOR ENGINE:

Engine No. 2101 - 2102:

Fuel Heating Value	= 1,040 Btu/scf
Engine Rating	= 6,500 bhp
Brake Specific Fuel Consumption	= 9,169 Btu/bhp-hr
Maximum Heat Input = MMBtu/Hr	= (Btu/bhp-hr * hp)/10 ⁶ = (9,169 * 6,500)/10 ⁶ = 59.60 MMBtu/hr
Gas Consumption = MMscf/hr	= (59.60 MMBtu/hr/1040 Btu/CF) = 0.057 MMscfh

POLLUTANT EMISSION FACTORS FOR SOLONOX TURBINE:

COMPRESSOR ENGINES:

Engine No. 2101 - 2102:

NORMAL OPERATION:

NO _x :	0.622 grams/bhp-hr	Manufacturer's Data
CO:	0.451 grams/bhp-hr	Manufacturer's Data
UHC:	0.26 grams/bhp-hr	Manufacturer's Data
NMHC:	0.026 grams/bhp-hr	(10% of UHC)
SO ₂ :	10 grains/100 CF	Contract Limit on Sulfur Content
	0.114 grams/bhp-hr	
PM:	5 lbs/10 ⁶ CF	Table 1.4-1, AP-42
	0.020 grams/bhp-hr	

WORST CASE:

NO _x :	0.639 grams/bhp-hr	Manufacturer's Data
CO:	0.463 grams/bhp-hr	Manufacturer's Data
UHC:	0.27 grams/bhp-hr	Manufacturer's Data
NMHC:	0.027 grams/bhp-hr	(10% of UHC)
SO ₂ :	10 grains/100 CF	Contract Limit on Sulfur Content
	0.114 grams/bhp-hr	
PM:	5 lbs/10 ⁶ CF	Table 1.4-1, AP-42
	0.020 grams/bhp-hr	

HOURS OF OPERATION:

The compressor engine is analyzed as if it has a potential to operate 8,760 hours per year.

NO_x EMISSIONS

COMPRESSOR ENGINES

Engine No. 2101 - 2102:

NORMAL OPERATION:

$$\begin{aligned} \text{lb NO}_x/\text{hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.622 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (6,500 \text{ bhp}) \\ &= 8.92 \text{ lb/hour} \end{aligned}$$

$$\begin{aligned} \text{tons NO}_x/\text{yr} &= (\text{lb NO}_x/\text{hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (8.92 \text{ lb/hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 39.05 \text{ tons/year} \end{aligned}$$

WORST CASE:

$$\begin{aligned} \text{lb NO}_x/\text{hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.639 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (6,500 \text{ bhp}) \\ &= 9.15 \text{ lb/hour} \end{aligned}$$

Emissions Summary:

NORMAL OPERATION:

$$\begin{aligned} \text{lb NO}_x/\text{hr} &= (2 * 8.92) \\ &= 17.84 \text{ lb NO}_x/\text{hr} \end{aligned}$$

$$\begin{aligned} \text{tons NO}_x/\text{yr} &= (2 * 39.05) \\ &= 78.10 \text{ TPY NO}_x \end{aligned}$$

WORST CASE:

$$\begin{aligned} \text{lb NO}_x/\text{hr} &= (2 * 9.15) \\ &= 18.30 \text{ lb NO}_x/\text{hr} \end{aligned}$$

CO EMISSIONS

COMPRESSOR ENGINES

Engine No. 2101 - 2102:

NORMAL OPERATION:

$$\begin{aligned} \text{lb CO/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.451 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (6,500 \text{ bhp}) \\ &= 6.46 \text{ lb/hour} \end{aligned}$$

$$\begin{aligned} \text{tons CO/yr} &= (\text{lb CO/hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (6.46 \text{ lb/hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 28.29 \text{ tons/year} \end{aligned}$$

WORST CASE:

$$\begin{aligned} \text{lb CO/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.463 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (6,500 \text{ bhp}) \\ &= 6.64 \text{ lb/hour} \end{aligned}$$

Emissions Summary:

NORMAL OPERATION:

$$\begin{aligned} \text{lb CO/hr} &= (2 * 6.46) \\ &= 12.92 \text{ lb CO/hr} \end{aligned}$$

$$\begin{aligned} \text{tons CO/yr} &= (2 * 28.29) \\ &= 56.58 \text{ TPY CO} \end{aligned}$$

$$\begin{aligned} \text{lb CO/hr} &= (2 * 6.64) \\ &= 13.28 \text{ lb CO/hr} \end{aligned}$$

NMHC EMISSIONS

COMPRESSOR ENGINES

Engine No. 2101 - 2102

NORMAL OPERATION:

$$\begin{aligned}
 \text{lb NMHC/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\
 &= (0.026 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (6,500 \text{ bhp}) \\
 &= 0.37 \text{ lb/hour}
 \end{aligned}$$

$$\begin{aligned}
 \text{tons NMHC/yr} &= (\text{lb NMHC/hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
 &= (0.37 \text{ lb/hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
 &= 1.62 \text{ tons/year}
 \end{aligned}$$

WORST CASE:

$$\begin{aligned}
 \text{lb NMHC/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\
 &= (0.027 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (6,500 \text{ bhp}) \\
 &= 0.38 \text{ lb/hour}
 \end{aligned}$$

Emissions Summary:

NORMAL OPERATION:

$$\begin{aligned} \text{lb NMHC/hr} &= (2 * 0.37) \\ &= 0.74 \text{ lb NMHC/hr} \end{aligned}$$

$$\begin{aligned} \text{tons NMHC/yr} &= (2 * 1.62) \\ &= 3.24 \text{ TPY NMHC} \end{aligned}$$

WORST CASE:

$$\begin{aligned} \text{lb NMHC/hr} &= (2 * 0.38) \\ &= 0.76 \text{ lb NMHC/hr} \end{aligned}$$

SO₂ EMISSIONS

COMPRESSOR ENGINES

Engine No. 2101 - 2102:

NORMAL OPERATION = WORST CASE

$$\begin{aligned} \text{lb SO}_2/\text{hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.114 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (6,500 \text{ bhp}) \\ &= 1.64 \text{ lb/hour} \end{aligned}$$

$$\begin{aligned} \text{tons SO}_2/\text{yr} &= (\text{lb SO}_2/\text{hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (1.64 \text{ lb/hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 7.18 \text{ tons/year} \end{aligned}$$

Emissions Summary:

$$\begin{aligned} \text{lb SO}_2/\text{hr} &= (2 * 1.64) \\ &= 3.28 \text{ lb SO}_2/\text{hr} \end{aligned}$$

$$\begin{aligned} \text{tons SO}_2/\text{yr} &= (2 * 7.18) \\ &= 14.36 \text{ TPY SO}_2 \end{aligned}$$

PM EMISSIONS

COMPRESSOR ENGINES

Engine No. 2101 - 2102:

NORMAL OPERATION = WORST CASE

$$\begin{aligned} \text{lb PM/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.020 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (6,500 \text{ bhp}) \\ &= 0.29 \text{ lb/hour} \end{aligned}$$

$$\begin{aligned} \text{tons PM/yr} &= (\text{lb PM/hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (0.29 \text{ lb/hr}) * (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 1.26 \text{ tons/year} \end{aligned}$$

Emissions Summary:

$$\begin{aligned} \text{lb PM/hr} &= (2 * 0.29) \\ &= 0.58 \text{ lb PM/hr} \end{aligned}$$

$$\begin{aligned} \text{tons PM/yr} &= (2 * 1.26) \\ &= 2.52 \text{ TPY PM} \end{aligned}$$

**CRITERIA POLLUTANT
EMISSION CALCULATIONS**

MAXIMUM HEAT INPUT:

EMERGENCY ELECTRICAL GENERATOR:

Generator No. 1:

Engine Rating	= 102 bhp
Brake Specific Fuel Consumption	= 9,075 Btu/bhp-hr
Maximum Heat Input = MMBtu/Hr	= (Btu/bhp-hr * hp)/10 ⁶
	= (9,075 * 102)/10 ⁶
	= 0.93 MMBtu/hr
	= 890 CF/hr

POLLUTANT EMISSION FACTORS:

EMERGENCY ELECTRICAL GENERATOR:

Generator No. 1:

NO _x :	8.10 grams/bhp-hr	Manufacturer's Data
CO:	2.80 grams/bhp-hr	Manufacturer's Data
HC:	1.10 grams/bhp-hr	Manufacturer's Data
NMHC:	0.11 grams/bhp-hr	(10% of HC)
SO ₂ :	10 grains/100 CF	Contract Limit on Sulfur Content
	0.11 grams/bhp-hr	
PM:	5 lb/10 ⁶ CF	Table 1.4-1, AP-42
	0.020 grams/bhp-hr	

HOURS OF OPERATION:

The generator will operate no more than 400 hours per year.

NO_x EMISSIONS

EMERGENCY ELECTRICAL GENERATOR

Generator No. 1:

$$\begin{aligned} \text{lb NO}_x/\text{hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (8.10 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\ &= 1.82 \text{ lb/hour} \end{aligned}$$

$$\begin{aligned} \text{tons NO}_x/\text{yr} &= (\text{lb NO}_x/\text{hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (1.82 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 0.36 \text{ tons/year} \end{aligned}$$

Emissions Summary:

$$\begin{aligned} \text{lb NO}_x/\text{hr} &= 1.82 \text{ lb NO}_x/\text{hr} \\ \text{tons NO}_x/\text{yr} &= 0.36 \text{ TPY NO}_x \end{aligned}$$

CO EMISSIONS

EMERGENCY ELECTRICAL GENERATOR

Generator No. 1:

$$\begin{aligned} \text{lb CO/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (2.80 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\ &= 0.63 \text{ lb/hour} \end{aligned}$$

$$\begin{aligned} \text{tons CO/yr} &= (\text{lb CO/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (0.63 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 0.13 \text{ tons/year} \end{aligned}$$

Emissions Summary:

$$\text{lb CO/hr} = 0.63 \text{ lb CO/hr}$$

$$\text{tons CO/yr} = 0.13 \text{ TPY CO}$$

NMHC EMISSIONS

EMERGENCY ELECTRICAL GENERATOR

Generator No. 1:

$$\begin{aligned} \text{lb NMHC/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.11 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\ &= 0.025 \text{ lb/hour} \end{aligned}$$

$$\begin{aligned} \text{tons NMHC/yr} &= (\text{lb NMHC/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (0.025 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 0.005 \text{ tons/year} \end{aligned}$$

Emissions Summary:

$$\text{lb NMHC/hr} = 0.025 \text{ lb NMHC/hr}$$

$$\text{tons NMHC/yr} = 0.005 \text{ TPY NMHC}$$

SO₂ EMISSIONS

EMERGENCY ELECTRICAL GENERATOR

Generator No. 1:

$$\begin{aligned} \text{lb SO}_2/\text{hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.11 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\ &= 0.025 \text{ lb/hour} \end{aligned}$$

$$\begin{aligned} \text{tons SO}_2/\text{yr} &= (\text{lb SO}_2/\text{hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (0.025 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 0.005 \text{ tons/year} \end{aligned}$$

Emissions Summary:

$$\begin{aligned} \text{lb SO}_2/\text{hr} &= 0.025 \text{ lb SO}_2/\text{hr} \\ \text{tons SO}_2/\text{yr} &= 0.005 \text{ TPY SO}_2 \end{aligned}$$

PM EMISSIONS

EMERGENCY ELECTRICAL GENERATOR

Generator No. 1:

$$\begin{aligned} \text{lb PM/hr} &= (\text{grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (\text{bhp}) \\ &= (0.020 \text{ grams/bhp-hr}) * (0.002205 \text{ lb/gram}) * (102 \text{ bhp}) \\ &= 0.0045 \text{ lb/hour} \end{aligned}$$

$$\begin{aligned} \text{tons PM/yr} &= (\text{lb PM/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= (0.0045 \text{ lb/hr}) * (400 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= 0.0009 \text{ tons/year} \end{aligned}$$

Emissions Summary:

$$\text{lb PM/hr} = 0.0045 \text{ lb PM/hr}$$

$$\text{tons PM/yr} = 0.0009 \text{ TPY PM}$$

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References
	Tank Identification	C.S. 21 - Tank 1 (pressurized = 15 psig)		
	Contents	New Lube Oil		
Mv	Vapor Molecular Weight	(lb/lb mol)	190	(See AP-42, Table 4.3-2)
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure	(psia)		
	@ Max Temp		0.0019	(See Note)
	@ Avg Temp		0.0019	
Wt	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	13.7	
D	Tank Diameter	(feet)	5	
V	Tank Volume	(gallons)	2,000	
	Tank Throughput	(gal/yr)	600	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	2,000	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	6.85	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.25	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	0.30	(Annual throughput/V)
Kn	Turnover Factor		1	(See AP-42, Fig. 4.3-7)

Equations:

Lb	Breathing Loss	(lb/yr)	$0.0226 * Mv * (P / (14.7 - P))^{0.68} * D^{1.73} * H^{0.51} * T^{0.5} * Fp * C * Kc$
Lw	Working Loss	(lb/yr)	$2.4 * 10^{-5} * Mv * P * V * N * Kn * Kc$
	Annual Loss	(tons/yr)	$(Lb + Lw) / 2000$
	Max. Short-term Loss	(lb/hr)	$(Lw, lb/yr * FRm) / (N * V)$ (TACB, 1992)

		@Max Temp	@Avg Temp
Breathing Loss (Lb)	(lb/yr)	0.00 (as tank is pressurized)	0.00 (as tank is pressurized)
Working Loss (Lw)	(lb/yr)	0.01	0.01
Max. Short-term Loss	(lb/hr)	0.02	0.02
Annual Loss	(tons/year)	0.00	0.00

Note: Vendor information indicates a vapor pressure of <0.1 mm Hg.

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References
	Tank Identification	C.S. 21 - Tank 2		
	Contents	Condensate		
Mv	Vapor Molecular Weight	(lb/lb mol)	53	ENRON
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure @ Max Temp	(psia)	2.8000	ENRON
	@ Avg Temp		2.8000	
Wl	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	8	
D	Tank Diameter	(feet)	9.5	
V	Tank Volume	(gallons)	4,200	
	Tank Throughput	(gal/yr)	1,156,620	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	132	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	4	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.5	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	275.40	(Annual throughput/V)
Kn	Turnover Factor		0.27	(See AP-42, Fig. 4.3-7)
Equations:				
Lb	Breathing Loss	(lb/yr)	$0.0226 * Mv * (P / (14.7 - P))^{0.68} * D^{1.73} * H^{0.51} * T^{0.5} * Fp * C * Kc$	
Lw	Working Loss	(lb/yr)	$2.4 * 10^{-5} * Mv * P * V * N * Kn * Kc$	
	Annual Loss	(tons/yr)	$(Lb + Lw) / 2000$	
	Max. Short-term Loss	(lb/hr)	$(Lw, lb/yr * FRm) / (N * V)$ (TACB, 1992)	

			@ Max Temp	@ Avg Temp
	Breathing Loss (Lb)	(lb/yr)	143.15	143.15
	Working Loss (Lw)	(lb/yr)	34.96	34.96
	Max. Short-term Loss	(lb/hr)	0.00	0.00
	Annual Loss	(tons/year)	0.09	0.09

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References
	Tank Identification	C.S. 21 - Tank 3		
	Contents	Oily Water Tank		
Mv	Vapor Molecular Weight	(lb/lb mol)	190	(See AP-42, Table 4.3-2)
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure	(psia)		
	@ Max Temp		0.0019	(See Note)
	@ Avg Temp		0.0019	
Wl	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	2.5	
D	Tank Diameter	(feet)	4.5	
V	Tank Volume	(gallons)	300	
	Tank Throughput	(gal/yr)	3,600	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	600	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	2	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.16	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	12.0	(Annual throughput/V)
Kn	Turnover Factor		1	(See AP-42, Fig. 4.3-7)

Equations:

Lb	Breathing Loss	(lb/yr)	$0.0226 \cdot Mv \cdot (P / (14.7 - P))^{0.68} \cdot D^{1.73} \cdot H^{0.51} \cdot T^{0.5} \cdot Fp \cdot C \cdot Kc$
Lw	Working Loss	(lb/yr)	$2.4 \cdot 10^{-5} \cdot Mv \cdot P \cdot V \cdot N \cdot Kn \cdot Kc$
	Annual Loss	(tons/yr)	$(Lb + Lw) / 2000$
	Max. Short-term Loss	(lb/hr)	$(Lw, \text{lb/yr} \cdot FRm) / (N \cdot V)$ (TACB, 1992)

		@Max Temp	@Avg Temp
Breathing Loss (Lb)	(lb/yr)	0.19	0.19
Working Loss (Lw)	(lb/yr)	0.06	0.06
Max. Short-term Loss	(lb/hr)	0.01	0.01
Annual Loss	(tons/year)	0.00	0.00

Note: Vendor information indicates a vapor pressure of <0.1 mm Hg.

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References
	Tank Identification	C. S. 21 - Tank 4		
	Contents	Used Lube Oil		
Mv	Vapor Molecular Weight	(lb/lb mol)	190	(See AP-42, Table 4.3-2)
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure	(psia)		
	@ Max Temp		0.0019	(See Note)
	@ Avg Temp		0.0019	
Wl	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	2.5	
D	Tank Diameter	(feet)	6.4	
V	Tank Volume	(gallons)	600	
	Tank Throughput	(gal/yr)	600	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	1,800	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	4	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.16	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	1.00	(Annual throughput/V)
Kn	Turnover Factor		1	(See AP-42, Fig. 4.3-7)
Equations:				
Lb	Breathing Loss	(lb/yr)	$0.0226 * Mv * (P / (14.7 - P)) ^ 0.68 * D ^ 1.73 * H ^ 0.51 * T ^ 0.5 * Fp * C * Kc$	
Lw	Working Loss	(lb/yr)	$2.4 * 10 ^ -5 * Mv * P * V * N * Kn * Kc$	
	Annual Loss	(tons/yr)	$(Lb + Lw) / 2000$	
	Max. Short-term Loss	(lb/hr)	$(Lw, lb/yr * FRm) / (N * V)$ (TACB, 1992)	
			@ Max Temp	@ Avg Temp
	Breathing Loss (Lb)	(lb/yr)	0.50	0.50
	Working Loss (Lw)	(lb/yr)	0.02	0.02
	Max. Short-term Loss	(lb/hr)	0.05	0.05
	Annual Loss	(tons/year)	0.00	0.00

Note: Vendor information indicates a vapor pressure of <0.1 mm Hg.

FIXED ROOF TANK CALCULATIONS
AP-42 - Fourth Edition - 1990

Symbol	Description	Units	Value	References
	Tank Identification	C.S. 21 - Tank 5		
	Contents	Oily Water Tank		
Mv	Vapor Molecular Weight	(lb/lb mol)	190	(See AP-42, Table 4.3-2)
	Liquid Temp.	degrees F		
	Max		90.2	
	Avg		74.5	
	Constants for Calc of True Vapor Press			
	A			(See EPA, 1990)
	B			(See EPA, 1990)
	C			(See EPA, 1990)
P	True Vapor Pressure	(psia)		
	@ Max Temp		0.0019	(See Note)
	@ Avg Temp		0.0019	
Wl	Density	(lb/gal)		(See EPA, 1990)
	Tank Height	(feet)	8	
D	Tank Diameter	(feet)	9.5	
V	Tank Volume	(gallons)	4,200	
	Tank Throughput	(gal/yr)	3,600	
Kc	Product Factor		1	
FRm	Maximum Fill Rate	(gal/hr)	1,800	
Pa	Avg. Atm. Pressure	(psia)	14.7	
T	Avg. Diurnal Delta T	degrees F	21	
H	Avg. Vapor Space Ht.	(feet)	4	(1/2 Tank Hgt. if Unknown)
Fp	Paint Factor		1.4	(See AP-42, Table 4.3-1)
C	Adj. for Small Tanks		0.5	(See AP-42, Fig. 4.3-4)
N	Turnovers	#/yr	0.85	(Annual throughput/V)
Kn	Turnover Factor		1	(See AP-42, Fig. 4.3-7)

Equations:

Lb	Breathing Loss	(lb/yr)	$0.0226 \cdot Mv \cdot (P / (14.7 - P)) \cdot 0.68 \cdot D \cdot 1.73 \cdot H \cdot 0.51 \cdot T \cdot 0.5 \cdot Fp \cdot C \cdot Kc$	
Lw	Working Loss	(lb/yr)	$2.4 \cdot 10^{-5} \cdot Mv \cdot P \cdot V \cdot N \cdot Kn \cdot Kc$	
	Annual Loss	(tons/yr)	$(Lb + Lw) / 2000$	
	Max. Short-term Loss	(lb/hr)	$(Lw, lb/yr \cdot FRm) / (N \cdot V)$ (TACB, 1992)	

			@Max Temp	@Avg Temp
Breathing Loss (Lb)	(lb/yr)		3.11	3.11
Working Loss (Lw)	(lb/yr)		0.01	0.01
Max. Short-term Loss	(lb/hr)		0.01	0.01
Annual Loss	(tons/year)		0.00	0.00

Note: Vendor information indicates a vapor pressure of <0.1 mm Hg.

APPENDIX E
FDER REGULATORY REQUIREMENTS SUMMARY

**AIR QUALITY
REGULATORY REQUIREMENTS CHECKLIST
FLORIDA**

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
Title 17		Rules and Regulations of the State of Florida	Heading. No specific regulatory requirements.
• Chapter 17-2		Air Pollution	Heading. No specific regulatory requirements.
• Part I		Definitions	Heading. No specific regulatory requirements.
\$17-2.100	Yes	Definitions	This subsection defines the terms used in Chapter 17-2. No specific regulatory requirements.
• Part II		General Provisions	Heading. No specific regulatory requirements.
\$17-2.200	Yes	Statement of Intent	Chapter 17-2 is promulgated to eliminate, prevent, and control air pollution, except from outdoor burning and outdoor heating devices which are regulated under Chapter 17-5. It also furthers the Department of Environmental Regulation's (DER's) Prevention of Significant Deterioration (PSD) policy, and establishes ambient air quality standards and emission standards. No specific regulatory requirements.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-2.210	Yes	Permits Required	Unless exempt, all sources at the compressor station which emit or can reasonably be expected to emit any air pollutant are required to be permitted prior to construction, modification, or initial or continued operation. FGTC must file a construction permit for new sources or those desiring to undergo modification. The permit term will be for a time period sufficient to allow determination of compliance. An operation permit is required of the source after the construction permit expires. The permit specifies the manner, nature, volume and frequency of emissions permitted, applicable limiting standards (if any), proper operation and maintenance of pollution control equipment, and a term of 5 years. Requirements for sources which have shut down and desire to reactivate are specified. Exemptions to Chapter 17-2 are listed including emergency electrical generators operating ≤ 400 hrs/yr.
§17-2.215	No	Emission Estimates	Standards for making emissions estimates for all regulatory purposes including permitting and reporting purposes are established. Since standards have only been established for solid sulfur storage and handling facilities, this section is not applicable to the compressor station.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-2.220	Yes	Public Notice and Comment	Public notice must be provided by FGTC for construction (including modifications) permit applications. There are additional public notice requirements for sources subject to New Source Review (NSR), i.e., sources located in non-attainment areas, or Prevention of Significant Deterioration (PSD), i.e., sources located in attainment areas. FGTC is required to publish the public notice after it has been prepared by DER. Procedures and specifications for public notice are detailed.
§17-2.240	Yes	Circumvention	Circumvention of pollution control devices and use of improperly operating devices is prohibited. No specific regulatory requirements.
§17-2.250	Yes	Excess Emissions	Excess emissions resulting from startup, shutdown, or malfunction are allowed for ≤ 2 hours in any 24-hour period provided best operational practices to minimize emissions are used and the activity did not result from poor maintenance or operations. Fossil fuel steam generators are presented as a special case. DER must be notified by FGTC of upset emissions followed by a written report on the malfunction(s), if requested.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-2.260	Yes	Air Quality Models	FGTC's estimates of concentrations of ambient air pollutants are to be based on applicable air quality models, data bases, and other DER approved requirements specified in USEPA's " <u>Guidelines On Air Quality Models</u> " (1978). Alternative models may be allowed following public comment and as justified in USEPA's "Workbook for Comparison of Air Quality Models" (1978).
§17-2.270	Yes	Stack Height Policy	For the purpose of estimating ambient air concentrations through modeling, FGTC must use Good Engineering Practice (GEP). A required emission limitation shall not be affected by stack heights which exceed GEP or by other specified dispersion techniques. Actual stack heights are not restricted. GEP specifications and details regarding dispersion techniques are presented. The turbine to be installed at this station complies with GEP.
§17-2.280	Yes	Severability	If any part of this rule is invalidated, all other parts remain valid. No specific regulatory requirements.
§17-2.290	Yes	Effective Date	The effective date of this rule is 11/1/81. No specific regulatory requirements.
• Part III		Ambient Air Quality	Heading. No specific regulatory requirements.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-2.300	Yes	Ambient Air Quality Standards	Standards are established to protect human health and welfare. Violations of ambient air quality standards (AAQS) are not allowed by any source.. Standards are established for SO ₂ (maximum 3-hour concentration not to be exceeded more than once per year = 1,500 µg/m ³ ; 24-hour standard not to be exceeded more than once per year = 260 µg/m ³); for PM ₁₀ (24-hour average concentration not to be exceeded more than once per year = 150 µg/m ³); for CO (maximum 1-hour concentration not to be exceeded more than once per year = 40 µg/m ³); for O ₃ (daily maximum 1-hour concentration not to be exceeded an average of more than one day per year = 100 µg/m ³); for NO ₂ (annual arithmetic mean = 100 µg/m ³); and for lead (maximum quarterly arithmetic mean = 1.5 µg/m ³). Specific instructions for determining O ₃ exceedances and compliance are presented. FGTC is required to maintain AAQS.
§17-2.310	No	Maximum Allowable Increases (Prevention of Significant Deterioration Increments	At each point within the baseline area, any increase in pollutant concentration by the compressor station over the baseline concentration shall be limited to the amounts specified in this section. Specifications regarding averaging periods and allowable increases are presented on a pollutant-by-pollutant basis for each area designation (i.e., Class I or II). One exceedance per year above the maximum allowable increase is permitted during one averaging period in the year. The

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
			turbine to be installed at this station is not a major stationary source or a listed source for any criteria pollutant. Therefore, it is not subject to PSD NSR preconstruction requirements. Because the turbine will be located in an ozone non-attainment area, it is not subject to PSD for this pollutant.
\$17-2.320	Yes	Air Pollution Episodes	Air Pollution Episodes are defined and classified. DER is authorized to declare and terminate episodes and define affected areas. Preplanned abatement strategies prepared by FGTC may be requested by DER. Plan contents are established. Procedures for enforcing non-compliance are presented.
\$17-2.330	Yes	Air Alert	Alert level criteria are defined. Actions required of specific sources upon declaration of an alert are given. FGTC is prohibited from any form of open burning.
\$17-2.340	Yes	Air Warning	Warning level criteria are defined. Actions required of specific sources upon declaration of a warning are given. FGTC is prohibited from any form of open burning and unnecessary space heating and cooling.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-2.350	Yes	Air Emergency	Emergency level criteria are defined. Actions required of specific sources upon declaration of an emergency are given. FGTC is prohibited from any form of open burning, any construction other than in case of an emergency, and unnecessary lighting, heating, or cooling in unoccupied structures. FGTC is required to take any action that will result in the maximum production of air pollutants from the compressor station.
• Part IV		Area Designation and Attainment Dates	Heading. No specific regulatory requirements.
§17-2.400	Yes	Procedures for Designation and Redesignation of Areas	All areas of the state are to be designated as non-attainment, attainment, or unclassifiable with respect to each pollutant for which an AAQS has been established. Area determinations determine emission limiting standards, new and modified source review requirements, and other air pollution control measures. All areas not designated as non-attainment are PSD areas which require establishment of a baseline date. PSD areas are further classified as Class I, II, or III areas for which maximum allowable increases in SO ₂ and TSP shall apply after the baseline date. FGTC must comply with these maximum allowable increases. Air Quality Maintenance Areas are former non-attainment areas which have been redesignated to attainment or unclassifiable. These areas remain subject to the emission limiting standards and permit limitations

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
			imposed upon them as non-attainment areas. Procedures for redesignation of Class I, II, and III areas and PSD areas are established.
§17-2.410	Yes	Designation of Areas Not Meeting Ambient Air Quality Standards (Non-attainment Areas)	Ozone, TSP, and SO ₂ non-attainment areas within the state are designated. NO _x or PM ₁₀ non-attainment areas have been designated. The turbine will be located in an ozone moderate non-attainment area. Because the turbines will emit < 100 TPY of VOCs (surrogate for ozone), they are not a major source and are therefore not subject to non-attainment NSR.
§17-2.420	Yes	Designation of Areas Meeting Ambient Air Quality Standards (Attainment Areas)	All areas not designated as non-attainment or unclassifiable are designated as attainment areas. This compressor station is located in an attainment area for SO ₂ and PM, and unclassifiable for all other criteria pollutants other than ozone for which the area is non-attainment. No specific regulatory requirements.
§17-2.430	Yes	Designation of Areas Which Cannot Be Classified Attainment or Non-attainment	Unclassifiable areas in the State are designated. These are all areas not designated as attainment or non-attainment. This compressor station is located in an area unclassifiable for NO _x and CO. No specific regulatory requirements.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-2.440	Yes	Designation of Class I, Class II, and Class III Areas	Class I areas are specifically designated. All other areas are designated as Class II areas. No Class III areas are designated. No specific regulatory requirements.
§17-2.450	Yes	Designation of Prevention of Significant Deterioration (PSD) Areas	All of the state is a PSD area for TSP. All of the state, except for designated non-attainment areas, is a PSD area for SO ₂ . The major source baseline date for these pollutants is 1/6/75; minor source baseline date is 12/27/77; and trigger date is 8/7/77. All of the state is a PSD area for NO ₂ with a major source baseline date of 2/28/88; minor source baseline date of 3/28/88; and trigger date of 2/28/88. No specific regulatory requirements.
§17-2.460	Yes	Designation of Air Quality Maintenance Areas	Air Quality Maintenance Areas within the State are designated. Non-attainment areas which will automatically become air quality maintenance areas upon redesignation by USEPA as attainment are listed. No specific regulatory requirements.
• Part IV		New and Modified Source Review Requirements	Heading. No specific regulatory requirements
§17-2.500	No	Prevention of Significant Deterioration	This rule applies to construction of new sources or modification of existing sources in attainment areas. Twenty-eight categories of major facilities (Table 500-1) subject to this section are established. The turbine at this station is not one of those listed sources. Specific

Rules and Regulations

Applicability

Name

Comments

§17-2.510

Yes

New Source Review
for Non-attainment
Areas

construction and operation permit requirements are presented. Violations of AAQS are not allowed, nor are emissions increases above baseline concentrations which have been summed with the lesser of the allowable increases or AAQS. The criteria for determining whether or not the compressor station is subject to NSR are presented. Fugitive emissions cannot be used to subject a facility to NSR, and NSR does not apply to sources located in non-attainment areas. Source exemptions to New Source Review (NSR) are presented. Applicability of NSR to new or modified major and minor sources is established. Because the turbine at this station is not one of the 28 listed sources and because it will emit <250 TPY of any one criteria pollutant for which the area is designated as attainment, it is not subject to a PSD NSR. Because the turbine will be located in an ozone non-attainment area, it is not subject to PSD NSR for this pollutant. This rule became effective 11/1/81.

This compressor station is located in an ozone non-attainment area. However, because the new turbines will emit <100 TPY of VOCs, they are not a major non-attainment source. Consequently, non-attainment NSR is not required.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-2.520	Yes	Sources Not Subject to Prevention of Significant Deterioration or Non-attainment Requirements	This rule applies to sources not subject to NSR but not exempt from general permitting requirements. This compressor station is not subject to the PSD requirements presented in §17-2.500. Therefore, this section applies to the compressor station.
§17-2.530	No	Source Reclassification	A source whose operating permit has been revoked is deemed permanently shut down. A source whose permit has lapsed is deemed permanently shut down unless DER is notified within 20 days of the date of lapse and that the source intends to continue operation. The source must meet the additional requirements specified in this rule. This rule does not apply since the permit for this facility has never been revoked or has never lapsed.
§17-2.540	No	Source Specific New Source Review Requirements	This rule applies only to sulfur storage and handling facilities.
• Part VI		Emission Limiting and Performance Standards	Heading. No specific regulatory requirement.
§17-2.600	No	Specific Source Emission Limiting Standards	Emission limiting standards for specified sources are presented. This compressor station is not one of the specified sources.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-2.610	Yes	General Particulate Emission Limiting Standard	This rule establishes a PM standard for sources not subject to any other PM or opacity standard. The compressor station is subject to this standard since it is not subject to any other PM limiting standard. A process rate standard and a 20% opacity standard is established. The rule mandates that reasonable practices be taken to prevent unconfined PM emissions.
§17-2.620	Yes	General Pollutant Emission Limiting Standard	Vapor emission control is required for storing, pumping handling, processing, loading, unloading, or using in any process or installation VOCs or organic solvents. FGTC's compressor station must not emit objectionable odors.
§17-2.630	No	Best Available Control Technology (BACT)	Since BACT applies only to sources subject to PSD, and this turbine is not a PSD source, this section does not apply.
§17-2.640	No	Lowest Achievable Emission Rate (LAER)	LAER is required for construction in non-attainment areas or areas of influence on non-attainment areas. Because this compressor station will emit < 100 TPY VOC, it is not subject to non-attainment NSR and is therefore not subject to LAER.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
\$17-2.650	No	Reasonably Available Control Technology (RACT)	RACT for VOC control is established for sources in non-attainment areas and air quality maintenance areas, and for PM in air quality maintenance areas and areas of influence on them. Because this compressor station is not subject to non-attainment NSR, it is not subject to RACT.
\$17-2.660	Yes	Standards of Performance for New Stationary Sources	Heading. No specific regulatory requirements.
• Subpart D	No	Standards of Performance for Fossil-Fuel Fired Steam Generators for which Construction is Commenced After August 17, 1991	This facility is not a fossil-fuel fired steam generator.
• Subpart Da	No	Standards for Performance for Electric Utility Steam Generating Units for which Construction is Commenced September 18, 1978	This facility is not an electric utility steam generating unit.
• Subpart Db	No	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	This facility is not a steam generating unit.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Subpart E	No	Standards of Performance for Incinerators	This facility is not an incinerator.
• Subpart F	No	Standards of Performance for Portland Cement Plants	This facility is not a Portland Cement Plant.
• Subpart G	No	Standards of Performance for Nitric Acid Plants	This facility is not a nitric acid plant.
• Subpart H	No	Standards of Performance for Sulfuric Acid Plants	This facility is not a sulfuric acid plant.
• Subpart I	No	Standards of Performance for Asphalt Concrete Plants	This facility is not a hot mix asphalt facility.
• Subpart J	No	Standards of Performance for Petroleum Refineries	This facility is not a petroleum refinery.
• Subpart K	No	Standards of Performance for Storage Vessels for Petroleum Liquids Constructed after June 11, 1973, and Prior to May 19, 1978	The storage vessels at this facility do not meet the minimum criteria specified (storage capacity \geq 40,000 gallons).
• Subpart Ka	No	Standards of Performance for Storage Vessels for Petroleum Liquids Constructed after May 18, 1978.	The storage vessels at this facility do not meet the minimum criteria specified (storage capacity \geq 40,000 gallons).

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Subpart Kb	No	Standards of Performance for Storage Vessels for Petroleum Liquids Constructed after July 28, 1978.	The storage vessels at this facility do not meet the minimum criteria specified (storage capacity $\geq 40 \text{ m}^3$).
• Subpart L	No	Standards of Performance for Secondary Lead Smelters	This facility is not a lead smelter.
• Subpart M	No	Standards of Performance for Secondary Brass and Bronze Ingot Production Plants	This facility does not produce brass or bronze.
• Subpart N	No	Standards of Performance for Iron and Steel Plants	This facility is not an iron or steel plant.
• Subpart Na	No	Standards of Performance for Basic Oxygen Process Steel-making Facilities for which Construction is Commenced after January 20, 1983	This facility is not a steelmaking facility.
• Subpart O	No	Standards of Performance for Sewage Treatment Plants	This facility is not a sewage treatment plant.
• Subpart P	No	Standards of Performance for Primary Copper Smelters	This facility is not a copper smelter.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Subpart Q	No	Standards of Performance for Primary Zinc Smelters	This facility is not a zinc smelter.
• Subpart R	No	Standards of Performance for Primary Lead Smelters	This facility is not a lead smelter.
• Subpart S	No	Standards of Performance for Primary Aluminum Reduction Plants	This facility is not an aluminum reduction plant.
• Subpart T	No	Standards of Performance for Phosphate Fertilizer Industry (P.F.I.)s: Wet Process Phosphoric Acid Plants	This facility is not part of the phosphate fertilizer industry.
• Subpart U	No	Standards of Performance for P.F.I.s: Superphosphoric Acid Plants	This facility is not part of the phosphate fertilizer industry.
• Subpart V	No	Standards of Performance for P.F.I.s: Diammonium Phosphate Plants	This facility is not part of the phosphate fertilizer industry.
• Subpart W	No	Standards of Performance for P.F.I.s: Triple Superphosphate Plants	This facility is not part of the phosphate fertilizer industry.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Subpart X	No	Standards of Performance for P.F.I.s: Granular Triple Superphosphate Storage Facilities	This facility is not part of the phosphate fertilizer industry.
• Subpart Y	No	Standards of Performance for Coal Preparation Plants	This facility is not a coal preparation plant.
• Subpart Z	No	Standards of Performance for Ferroalloy Production Facilities	This facility is not a ferroalloy production facility.
• Subpart AA	No	Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed after October 21, 1974, and on or before August 17, 1983	This facility is not a steel plant.
• Subpart AAa	No	Standards of Performance for Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed after August 7, 1983	This facility is not a furnace.
• Subpart BB	No	Standards of Performance for Kraft Pulp Mills	This facility is not a Kraft pulp mill.
• Subpart CC	No	Standards of Performance for Glass Manufacturing Plants	This facility is not a glass manufacturing plant.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Subpart DD	No	Standards of Performance for Grain Elevators	This facility is not a grain elevator.
• Subpart EE	No	Standards of Performance for Surface Coating: Metal Furniture	This facility is not involved in surface coating operations.
• Subpart GG	Yes	Standards of Performance for Stationary Gas Turbines	The turbines at this station at peak load will have a maximum heat input of >10.7 gigajoules/hr (10 MMBtu/hr) based on the lower heating value of the natural gas fuel fired. Therefore, the turbine is subject to this subpart.
• Subpart HH	No	Standards of Performance for Lime Manufacturing Plants	This facility is not a lime manufacturing plant.
• Subpart KK	No	Standards of Performance for Lead-Acid Battery Manufacture Plants	This facility is not a lead-acid battery manufacturing plant.
• Subpart LL	No	Standards of Performance for Metallic-Mineral Processing Plants	This facility is not a metallic-mineral processing plant.
• Subpart MM	No	Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations	This facility is not a surface coating facility.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Subpart NN	No	Standards of Performance for Phosphate Rock Plants	This facility is not a phosphate rock plant.
• Subpart PP	No	Standards of Performance for Ammonium Sulfate Manufacturing	This facility is not involved in the manufacture of ammonium sulfate.
• Subpart QQ	No	Standards of Performance for Graphic Arts Industry: Publication Rotogravure Printing	This facility is not part of the graphic arts industry.
• Subpart RR	No	Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations	This facility is not involved in coating operations.
• Subpart SS	No	Standards of Performance for Industrial Surface Coating: Large Appliances	This facility is not involved in coating operations.
• Subpart TT	No	Standards of Performance for Metal Coil Surface Coating	This facility is not involved in coating operations.
• Subpart UU	No	Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture	This facility is not involved in asphalt processing or asphalt roofing manufacture.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Subpart VV	No	Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry	This facility is not a SOCOMI facility.
• Subpart WW	No	Standards of Performance for the Beverage Can Surface Coating Industry	This facility is not involved in coating operations.
• Subpart XX	No	Standards of Performance for Bulk Gasoline Terminals	This facility is not a bulk gasoline terminal.
• Subpart BBB	No	Standards of Performance for the Rubber Tire Manufacturing Industry	This facility is not involved in the manufacture of rubber tires.
• Subpart FFF	No	Standards of Performance for Flexible Vinyl and Urethane Coating and Printing	This facility is not involved in coating or printing.
• Subpart GGG	No	Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries	This facility is not a petroleum refinery.
• Subpart HHH	No	Standards of Performance for Synthetic Fiber Production Facilities	This facility is not a synthetic fiber production facility.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Subpart JJJ	No	Standards of Performance for Petroleum Dry Cleaners	This facility is not a petroleum dry cleaner.
• Subpart KKK	No	Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants	This facility is not a natural gas processing plant.
• Subpart LLL	No	Standards of Performance for Onshore Natural Gas Processing: SO ₂ Emissions	This facility is not a natural gas processing plant.
• Subpart OOO	No	Standards of Performance for Nonmetallic Mineral Processing Plants	This facility is not a nonmetallic mineral processing plant.
• Subpart PPP	No	Standards of Performance for Wool Fiberglass Insulation Manufacturing Plants	This facility is not a wool fiberglass manufacturing plant.
• Subpart QQQ	No	Standards of Performance for Petroleum Wastewater Systems	This facility is not a petroleum refinery.
• Subpart SSS	No	Standards of Performance for Magnetic Tape Manufacturing Industry	This facility is not involved in the manufacture of magnetic tape.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Subpart TTT	No	Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	This facility is not a surface coating facility.
• Part VIII	No	Source Sampling and Monitoring	Heading. No specific regulatory requirements.
§17-2.700	Yes	Stationary Point Source Emissions Test Procedures	The methods and procedures which FGTC must use to perform compliance test on stack emission are presented.
§17-2.710	No	Continuous Monitoring Requirements	These requirements apply only to certain specified sources. This facility is not one of those specified.
§17-2.753	No	DER Ambient Test Methods	These requirements apply only to certain specified sources. This facility is not one of those specified.
• Part VIII	No	Local Air Pollution Control Programs	This part establishes local air pollution control programs in specified counties. Because this facility is not located in one of the counties with approved programs, it is not subject to a local air pollution control program.
• Part IX	No	Compliance Schedules	This part applies only to certain specified sources. This facility is not one of the sources specified.
• Chapter 17-4		Permits	Heading. No specific regulatory requirements.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-4.001	No	Scope of Part I	This section establishes that procedures for obtaining an FDER permit will be presented in Part I. No specific regulatory requirements.
§17-4.020	Yes	Definitions	Definitions of terms used in Part I to which FGTC is subject are presented.
§17-4.021	No	Transferability of Definitions	Terms defined in other Chapters retain their meaning here, unless otherwise defined. No specific regulatory requirements.
§17-4.022	No	Determination of the Landward Extent of Surface Waters of the State	Transferred to §17-3.022. No specific regulatory requirements.
§17-4.030	Yes	General Prohibition	All FGTC stationary sources must have a valid permit unless exempted, and must be constructed, maintained, and operated consistent with the terms of the permit.
§17-4.040	Yes	Exemptions	DER may exempt structural changes which will not change quality, nature, or quantity of emissions or will not cause pollution. DER may exempt sources which do not contribute significantly to pollution problems within the state. FGTC may request an exemption for sources which meet the previously stated conditions.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-4.050	Yes	Procedure to Obtain Permit: Application	FGTC is to complete an application in quadruplicate on DER forms. The application must be certified by a Florida Registered Professional Engineer and must be accompanied by the appropriate processing fee. FGTC must submit a certification of construction and permit fee upon completion of construction in order to be granted an operation permit.
§17-4.055	Yes	Permit Processing	This section establishes the schedule which DER must follow in processing the permit application. DER may request additional information from FGTC. FGTC may request a hearing if it believes that the requested information is not legally authorized.
§17-4.060	Yes	Consultation	FGTC or their representatives are encouraged to consult with DER prior to submitting the permit application. No specific regulatory requirements.
§17-4.070	Yes	Standards for Issuing or Denying Permits; Issuance; Denial	The construction permit will be issued "for a period of time as necessary." The operation permit will have a 5 year term. FGTC's compliance history will be considered in issuing/denying the application. DER will stipulate permit conditions. No specific regulatory requirements.
§17-4.080	Yes	Modification of Permit Conditions	DER may, after issuing the permit, modify or establish new permit conditions. FGTC may request a permit modification permit extension.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
§17-4.090	Yes	Renewals	FGTC must apply for a permit renewal prior to 60 days before the expiration of the permit.
§17-4.100	Yes	Suspension and Revocation	FGTC's permit may be suspended or revoked for actions specified within the section.
§17-4.110	Yes	Financial Responsibility	DER may request FGTC to submit proof of financial responsibility, and may require a bond to guarantee compliance.
§17-4.120	Yes	Transfer of Permits	FGTC must submit an "Application for Transfer of Permit" within 30 days of selling/legally transferring a permitted facility.
§17-4.140	No	Reports	Repealed. No specific regulatory requirements.
§17-4.150	Yes	Review	After having received notice of a proposed or final DER action, FGTC waives its right to an administrative hearing if FGTC fails to respond to the notice with 14 days of receipt.
§17-4.160	Yes	Permit Conditions	FGTC is required to properly operate and maintain the facility in order to maintain compliance. DER may access FGTC's records, inspect the facility, and collect samples. All FGTC data may be used in enforcement proceedings. FGTC must keep a copy of the permit at the facility. All monitoring information, reports, and data used to complete applications must be retained at the

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
			site or other location specified in the permit for 3 years. FGTC is required to keep specific information regarding monitoring data.
• Part II	No	Specific Permits: Requirements	Heading. No specific regulatory requirements.
§17-4.200	No	Scope of Part II	This section establishes that additional requirements for certain permits are established in the following sections. No specific regulatory requirements.
§17-4.210	Yes	Construction Permits	FGTC is required to apply on DER forms for a permit to construct.
§17-4.220	Yes	Operation Permit for New Sources	FGTC is required to submit the appropriate fee and certification that construction was completed.
§17-4.230	No	Operation Permits for Pollution Sources	Repealed. No specific regulation requirements.
• Part III	No	Procedures for General Permits	This facility does not meet the requirements for being issued a general permit.
• Chapter 17-256	No	Open Burning and Frost Protection Fires	This facility will not be engaged in open burning or use of frost protection fires.

<u>Rules and Regulations</u>	<u>Applicability</u>	<u>Name</u>	<u>Comments</u>
• Chapter 17-8	Yes	Ad Valorem Tax Assessment Rules	A tax assessor may require FGTC to submit a detailed list of pollution control devices at the facility, and their cost and function, for the purpose of assessing ad valorem taxes.
• Chapter 17-242	No	Mobile Source - Motor Vehicle Emission Standards and Test Procedures	This facility is not involved with compliance and testing of mobile sources/motor vehicles.
• Chapter 17-243	No	Tampering With Motor Vehicle Air Pollution Control Equipment	This facility is not involved with checking motor vehicle pollution control devices for tampering.

APPENDIX F

**AREA CONCENTRATION MAPS FROM ISC MODELING
ISC MODEL OUTPUT
GEP STRUCTURE DOWNWASH OUTPUT TABLE
FLOPPY DISK WITH MODELING AND GEP INPUT FILES**

MAXIMUM ANNUAL NO_x CONCENTRATION ($\mu\text{g}/\text{m}^3$)
100 METER GRID SPACING

MAXIMUM ANNUAL NO_x CONCENTRATION ($\mu\text{g}/\text{m}^3$)
500 METER GRID SPACING

MAXIMUM 1-HOUR CO CONCENTRATION ($\mu\text{g}/\text{m}^3$)
100 METER GRID SPACING

MAXIMUM 8-HOUR CO CONCENTRATION ($\mu\text{g}/\text{m}^3$)
100 METER GRID SPACING

FGTC Station 21 CO 8 HR max 100 M grid (ug/m3) 1984

