REPOWERING FORT MYERS

FORT MYERS REPOWERING PROJECT

AIR PERMIT APPLICATION

FPL

SUBMITTED BY:
FLORIDA POWER & LIGHT COMPANY

AIR PERMIT APPLICATION
FOR
FLORIDA POWER & LIGHT COMPANY'S
FORT MYERS REPOWERING PROJECT
LEE COUNTY, FLORIDA

Prepared For:

Florida Power and Light Company
700 Universe Boulevard
Juno Beach, Florida 33408

Prepared By:

Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

September 1998
9837537Y/F1

PART I

APPLICATION FOR AIR PERMIT-LONG FORM
FDEP FORM NO. 62-210.900(1)

ATTACHMENT FP-EU2A-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT FP-EU2A-D

Applicable Requirements Listing

EMISSION UNIT ID: EU2A - Combustion Turbine 2A

FDEP Rules:

Air Pollution Control-General Provisions:

62-204.800(7)(b)37. (State Only)	- NSPS Subpart GG
62-204.800(7)(c) (State Only)	- NSPS authority
62-204.800(7)(d)(State Only)	- NSPS General Provisions
62-204.800(12) (State Only)	- Acid Rain Program
62-204.800(13) (State Only)	- Allowances
62-204.800(14) (State Only)	- Acid Rain Program Monitoring
62-204.800(16) (State Only)	- Excess Emissions (Potentially applicable over term of permit)

Stationary Sources-General:

62-210.650	- Circumvention; EUs with control device
62-210.700(1)	- Excess Emissions;
62-210.700(4)	- Excess Emissions; poor maintenance
62-210.700(6)	- Excess Emissions; notification

Acid Rain:

62-214.300	- All Acid Rain Units (Applicability)
62-214.320(1)(a),(2)	- All Acid Rain Units (Application Shield)
62-214.330(1)(a)1.	- Compliance Options (if 214.430)
62-214.340	- Exemptions (new units, retired units)
62-214.350(2);(3);(6)	- All Acid Rain Units (Certification)
62-214.370	- All Acid Rain Units (Revisions; correction; potentially applicable if a need arises)
62-214.430	- All Acid Rain Units (Compliance Options-if required)

Stationary Sources-Emission Standards:

62-296.320(4)(b)(State Only)	- CTs/Diesel Units

Stationary Sources-Emission Monitoring (where stack test is required):

62-297.310(1)	- All Units (Test Runs-Mass Emission)
62-297.310(2)(b)	- All Units (Operating Rate; other than CTs;no CT)
62-297.310(3)	- All Units (Calculation of Emission)
62-297.310(4)(a)	- All Units (Applicable Test Procedures;Sampling time)
62-297.310(4)(b)	- All Units (Sample Volume)
62-297.310(4)(c)	- All Units (Required Flow Rate Range-PM/H2SO4/F)
62-297.310(4)(d)	- All Units (Calibration)
62-297.310(4)(e)	- All Units (EPA Method 5-only)
62-297.310(5)	- All Units (Determination of Process Variables)
62-297.310(6)(a)	- All Units (Permanent Test Facilities-general)

62-297.310(6)(c)	- All Units (Sampling Ports)
62-297.310(6)(d)	- All Units (Work Platforms)
62-297.310(6)(e)	- All Units (Access)
62-297.310(6)(f)	- All Units (Electrical Power)
62-297.310(6)(g)	- All Units (Equipment Support)
62-297.310(7)(a)1.	- Applies mainly to CTs/Diesels
62-297.310(7)(a)2.	- FFSG excess emissions
62-297.310(7)(a)3.	- Permit Renewal Test Required
62-297.310(7)(a)4.a	- Annual Test
62-297.310(7)(a)5.	- PM exemption if <400 hrs/yr
62-297.310(7)(a)6.	- PM FFSG semi annual test required if >200 hrs/yr
62-297.310(7)(a)7.	- PM quarterly monitoring if >100 hrs/yr
62-297.310(7)(a)9.	- FDEP Notification - 15 days
62-297.310(7)(c)	- Waiver of Compliance Tests (Fuel Sampling)
62-297.310(8)	- Test Reports

Federal Rules:

NSPS Subpart GG:

40 CFR 60.332(a)(1)	- NOx for Electric Utility CTs
40 CFR 60.332(a)(3)	- NOx for Electric Utility CTs
40 CFR 60.333	- SO2 limits
40 CFR 60.334	- Monitoring of Operations (Custom Monitoring for Gas)
40 CFR 60.335	- Test Methods

NSPS General Requirements:

40 CFR 60.7(a)(1)	- Notification of Construction
40 CFR 60.7(a)(2)	- Notification of Initial Start-Up
40 CFR 60.7(a)(3)	- Notification of Actual Start-Up
40 CFR 60.7(a)(4)	- Notification and Recordkeeping (Physical/Operational Cycle)
40 CFR 60.7(a)(5)	- Notification of CEM Demonstration
40 CFR 60.7(b)	- Notification and Recordkeeping (startup/shutdown/malfunction)
40 CFR 60.7(c)	- Notification and Recordkeeping (startup/shutdown/malfunction)
40 CFR 60.7(d)	- Notification and Recordkeeping (startup/shutdown/malfunction)
40 CFR 60.7(f)	- Notification and Recordkeeping (maintain records-2 yrs)
40 CFR 60.8(a)	- Performance Test Requirements
40 CFR 60.8(b)	- Performance Test Notification
40 CFR 60.8(c)	- Performance Tests (representative conditions)
40 CFR 60.8(e)	- Provide Stack Sampling Facilities
40 CFR 60.8(f)	- Test Runs
40 CFR 60.11(a)	- Compliance (ref. S. 60.8 or Subpart; other than opacity)
40 CFR 60.11(b)	- Compliance (opacity determined EPA Method 9)
40 CFR 60.11(c)	- Compliance (opacity; excludes startup/shutdown/malfunction)
40 CFR 60.11(d)	- Compliance (maintain air pollution control equip.)
40 CFR 60.11(e)(2)	- Compliance (opacity; ref. S. 60.8)
40 CFR 60.12	- Circumvention
40 CFR 60.13(a)	- Monitoring (Appendix B; Appendix F)
40 CFR 60.13(c)	- Monitoring (Opacity COMS)

40 CFR 60.13(d)(1)	- Monitoring (CEMS; span, drift, etc.)
40 CFR 60.13(d)(2)	- Monitoring (COMS; span, system check)
40 CFR 60.13(e)	- Monitoring (frequency of operation)
40 CFR 60.13(f)	- Monitoring (frequency of operation)
40 CFR 60.13(h)	- Monitoring (COMS; data requirements)
Acid Rain-Permits:	
40 CFR 72.9(a)	- Permit Requirements
40 CFR 72.9(b)	- Monitoring Requirements
40 CFR 72.9(c)(1)	- SO2 Allowances-hold allowances
40 CFR 72.9(c)(2)	- SO2 Allowances-violation
40 CFR 72.9(c)(3)(iii)	- SO2 Allowances-Phase II Units (listed)
40 CFR 72.9(c)(4)	- SO2 Allowances-allowances held in ATS
40 CFR 72.9(c)(5)	- SO2 Allowances-no deduction for 72.9(c)(1)(i)
40 CFR 72.9(d)	- NOx Requirements
40 CFR 72.9(e)	- Excess Emission Requirements
40 CFR 72.9(f)	- Recordkeeping and Reporting
40 CFR 72.9(g)	- Liability
40 CFR 72.20(a)	- Designated Representative; required
40 CFR 72.20(b)	- Designated Representative; legally binding
40 CFR 72.20(c)	- Designated Representative; certification requirements
40 CFR 72.21	- Submissions
40 CFR 72.22	- Alternate Designated Representative
40 CFR 72.23	- Changing representatives; owners
40 CFR 72.24	- Certificate of representation
40 CFR 72.30(a)	- Requirements to Apply (operate)
40 CFR 72.30(b)(2)	- Requirements to Apply (Phase II-Complete)
40 CFR 72.30(c)	- Requirements to Apply (reapply before expiration)
40 CFR 72.30(d)	- Requirements to Apply (submittal requirements)
40 CFR 72.31	- Information Requirements; Acid Rain Applications
40 CFR 72.32	- Permit Application Shield
40 CFR 72.33(b)	- Dispatch System ID;unit/system ID
40 CFR 72.33(c)	- Dispatch System ID;ID requirements
40 CFR 72.33(d)	- Dispatch System ID;ID change
40 CFR 72.40(a)	- General; compliance plan
40 CFR 72.40(b)	- General; multi-unit compliance options
40 CFR 72.40(c)	- General; conditional approval
40 CFR 72.40(d)	- General; termination of compliance options
40 CFR 72.51	- Permit Shield
40 CFR 72.90	- Annual Compliance Certification
Allowances:	
40 CFR 73.33(a),(c)	- Authorized account representative
40 CFR 73.35(c)(1)	- Compliance: ID of allowances by serial number
Monitoring Part 75:	
40 CFR 75.4	- Compliance Dates;
40 CFR 75.5	- Prohibitions

40 CFR 75.10(a)(1)	- Primary Measurement; SO2;
40 CFR 75.10(a)(2)	- Primary Measurement; NOx;
40 CFR 75.10(a)(3)(iii)	- Primary Measurement; CO2; O2 monitor
40 CFR 75.10(b)	- Primary Measurement; Performance Requirements
40 CFR 75.10(c)	- Primary Measurement; Heat Input; Appendix F
40 CFR 75.10(e)	- Primary Measurement; Optional Backup Monitor
40 CFR 75.10(f)	- Primary Measurement; Minimum Measurement
40 CFR 75.10(g)	- Primary Measurement; Minimum Recording
40 CFR 75.11(d)	- SO2 Monitoring; Gas- and Oil-fired units
40 CFR 75.11(e)	- SO2 Monitoring; Gaseous firing
40 CFR 75.12(a)	- NOx Monitoring; Coal; Non-peaking oil/gas units
40 CFR 75.12(b)	- NOx Monitoring; Determination of NOx emission rate; Appendix F
40 CFR 75.13(b)	- CO2 Monitoring; Appendix G
40 CFR 75.13(c)	- CO2 Monitoring; Appendix F
40 CFR 75.14(c)	- Opacity Monitoring; Gas units; exemption
40 CFR 75.20(a)	- Initial Certification Approval Process; Loss of Certification
40 CFR 75.20(b)	- Recertification Procedures (if recertification necessary)
40 CFR 75.20(c)	- Certification Procedures (if recertification necessary)
40 CFR 75.20(d)	- Recertification Backup/portable monitor
40 CFR 75.20(f)	- Alternate Monitoring system
40 CFR 75.21(a)	- QA/QC; CEMS; Appendix B (Suspended 7/17/95-12/31/96)
40 CFR 75.21(c)	- QA/QC; Calibration Gases
40 CFR 75.21(d)	- QA/QC; Notification of RATA
40 CFR 75.21(e)	- QA/QC; Audits
40 CFR 75.21(f)	- QA/QC; CEMS (Effective 7/17/96-12/31/96)
40 CFR 75.22	- Reference Methods
40 CFR 75.24	- Out-of-Control Periods; CEMS
40 CFR 75.30(a)(3)	- General Missing Data Procedures; NOx
40 CFR 75.30(a)(4)	- General Missing Data Procedures; SO2
40 CFR 75.30(b)	- General Missing Data Procedures; certified backup monitor
40 CFR 75.30(c)	- General Missing Data Procedures; certified backup monitor
40 CFR 75.30(d)	- General Missing Data Procedures; SO2 (optional before 1/1/97)
40 CFR 75.30(e)	- General Missing Data Procedures; bypass/multiple stacks
40 CFR 75.31	- Initial Missing Data Procedures (new/re-certified CMS)
40 CFR 75.32	- Monitoring Data Availability for Missing Data
40 CFR 75.33	- Standard Missing Data Procedures
40 CFR 75.36	- Missing Data for Heat Input
40 CFR 75.40	- Alternate Monitoring Systems-General
40 CFR 75.41	- Alternate Monitoring Systems-Precision Criteria
40 CFR 75.42	- Alternate Monitoring Systems-Reliability Criteria
40 CFR 75.43	- Alternate Monitoring Systems-Accessability Criteria
40 CFR 75.44	- Alternate Monitoring Systems-Timeliness Criteria
40 CFR 75.45	- Alternate Monitoring Systems-Daily QA
40 CFR 75.46	- Alternate Monitoring Systems-Missing data
40 CFR 75.47	- Alternate Monitoring Systems-Criteria for Class
40 CFR 75.48	- Alternate Monitoring Systems-Petition
40 CFR 75.53	- Monitoring Plan ; revisions

40 CFR 75.54(a)	- Recordkeeping-general
40 CFR 75.54(b)	- Recordkeeping-operating parameter
40 CFR 75.54(c)	- Recordkeeping-SO2
40 CFR 75.54(d)	- Recordkeeping-NOx
40 CFR 75.54(e)	- Recordkeeping-CO2
40 CFR 75.54(f)	- Recordkeeping-Opacity
40 CFR 75.55(c)	- General Recordkeeping (Specific Situations)
40 CFR 75.55(e)	- General Recordkeeping (Specific Situations)
40 CFR 75.56	- Certification; QA/QC Provisions
40 CFR 75.60	- Reporting Requirements-General
40 CFR 75.61	- Reporting Requirements-Notification cert/recertification
40 CFR 75.62	- Reporting Requirements-Monitoring Plan
40 CFR 75.63	- Reporting Requirements-Certification/Recertification
40 CFR 75.64(a)	- Reporting Requirements-Quarterly reports; submission
40 CFR 75.64(b)	- Reporting Requirements-Quarterly reports; DR statement
40 CFR 75.64(c)	- Rep. Req.; Quarterly reports; Compliance Certification
40 CFR 75.64(d)	- Rep. Req.; Quarterly reports; Electronic format
40 CFR 75.66	- Petitions to the Administrator (if required)
Appendix A-1	- Installation and Measurement Locations
Appendix A-2.	- Equipment Specifications
Appendix A-3.	- Performance Specifications
Appendix A-4.	- Data Handling and Acquisition Systems
Appendix A-5.	- Calibration Gases
Appendix A-6.	- Certification Tests and Procedures
Appendix A-7.	- Calculations
Appendix B	- QA/QC Procedures
Appendix C-1.	- Missing Data; SO2/NOx for controlled sources
Appendix C-2.	- Missing Data; Load-Based Procedure; NOx & flow
Appendix D	- Optional SO2; Oil-/gas-fired units
Appendix F	- Conversion Procedures
Appendix H	- Traceability Protocol

Acid Rain Program-Excess Emissions (these are future requirements):

40 CFR 77.3	- Offset Plans (future)
40 CFR 77.5(b)	- Deductions of Allowances (future)
40 CFR 77.6	- Excess Emissions Penalties (SO2 and NOx;future)

Department of
Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: **Florida Power and Light Company**	
2. Site Name: **Fort Myers Plant**	
3. Facility Identification Number: **0710002**	[ ] Unknown
4. Facility Location Information: Street Address or Other Locator: **10650 State Road 80** City: **Fort Myers** County: **Lee** Zip Code: **33905**	
5. Relocatable Facility? [ ] Yes [x] No	6. Existing Permitted Facility? [x] Yes [ ] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	September 4, 1998
2. Permit Number:	0710002-004-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

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

   William Reichel, Plant General Manager

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

Organization/Firm: **FPL Fort Myers Plant**
Street Address: **P.O. Box 430**
City: **Fort Myers** State: **FL** Zip Code: **33905**

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

Telephone: **(941) 693-4200** Fax: **(941) 693-4333**

4. Owner/Authorized Representative or Responsible Official Statement:

I, the undersigned, am the owner or authorized representative of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*

W Reichel
Signature

9/2/98
Date

* Attach letter of authorization if not currently on file.

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID		Description of Emissions Unit	Permit Type
Unit #	Unit ID		
1R	---	2ACT - Combustion Turbine 2A.	AC1B
2R	---	2BCT - Combustion Turbine 2A.	AC1B
3R	---	2CCT - Combustion Turbine 2A.	AC1B
4R	---	2DCT - Combustion Turbine 2A.	AC1B
5R	---	2ECT - Combustion Turbine 2A.	AC1B
6R	---	2FCT - Combustion Turbine 2A.	AC1B
7	---	Mechanical Draft Cooling Tower	AC1B
8R	---	Natural Gas Heater(s)	AC1B

See individual Emissions Unit (EU) sections for more detailed descriptions.
Multiple EU IDs indicated with an asterisk (*). Regulated EU indicated with an "R".

Purpose of Application and Category

Check one (except as otherwise indicated):

Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: ____________________

[ ] Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: ____________________

[ ] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: ____________________

Operation permit to be renewed: ____________________

[ ] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: ____________________

____

[ ] Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: ____________________

Reason for revision: ____________________

____

Category II: All Air Construction Permit Applications Subject to Processing Under Rule 62-210.300(2)(b),F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): ______________________

____

[ ] Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: ______________________

[ ] Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g.; to address one or more newly constructed or modified emissions units.

Operation permit to be revised: ______________________

Reason for revision: ______________________

____

Category III: All Air Construction Permit Applications for All Facilities and Emissions Units.

This Application for Air Permit is submitted to obtain:

[x] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: ______________________

071002-001-AV

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): ______________________

____

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Application Processing Fee

Check one:

[ ] Attached - Amount: ________________ [x] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations: **Replacement of the existing steam generators designated as Unit 1 (Emission Unit I.D. No. 001) and Unit 2 (Emission Unit I.D. No. 002) with 6 General Electric Frame 7FA combustion turbines. Since the facility holds a Title V permit pursuant to Chapter 62-213 F.A.C., a permit fee is not required. Refer to Part II for discussion.**
2. Projected or Actual Date of Commencement of Construction :
3. Projected Date of Completion of Construction :

Professional Engineer Certification

1. Professional Engineer Name: **Kennard F. Kosky** Registration Number: **14996**
2. Professional Engineer Mailing Address: Organization/Firm: **Golder Associates Inc.** Street Address: **6241 NW 23rd Street, Suite 500** City: **Gainesville** State: **FL** Zip Code: **32653-1500**
3. Professional Engineer Telephone Numbers: Telephone: **(352) 336-5600** Fax: **(352) 336-6603**

4. Professional Engineer's Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Kennard F. Kosky 3 September 1998

Signature, (seal) Date

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact: **Mr. Richard G. Piper, Repowering Licensing Manager**
2. Application Contact Mailing Address: Organization/Firm: **FPL Environmental Services Dep.** Street Address: **700 Universe Blvd.** City: **Juno Beach** State: **FL** Zip Code: **33408**
3. Application Contact Telephone Numbers: Telephone: **(561) 691-7058** Fax: **(561) 691-7070**

Application Comment

The existing steam generating units (Unit 1 & 2) that currently burn residual oil (including provisions for used oil), will be replaced with 6 advanced combustion turbines burning natural gas. The net emissions change from this project will result in a decrease of all regulated pollutants except Volatile Organic Compounds (VOC). The VOC increase will be less than the PSD significant emission rates. Therefore, PSD review does not apply to proposed project. Refer to Part II for discussion.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **17** East (km): **422.3** North (km): **2952.9**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): **26 / 41 / 49** Longitude: (DD/MM/SS): **81 / 46 / 55**			
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment (limit to 500 characters): **The existing Fort Myers plant consists of 2 Fossil Fuel Fired-Steam Generators (FFFSG) and 12 simple cycle gas turbines. FFFSG Unit 1 and 2 are fired with No. 6 Residual Oil and the 12 gas turbines (GT Units 1-12) are fired with No. 2 Distillate Oil. Refer to Part II for discussion.**			

Facility Contact

1. Name and Title of Facility Contact: **Mr. Bernie Tibble, Environmental Specialist**
2. Facility Contact Mailing Address: Organization/Firm: **FPL Fort Myers Plant** Street Address: **P.O. Box 430** City: **Fort Myers** State: **FL** Zip Code: **33905**
3. Facility Contact Telephone Numbers: Telephone: **(941) 693-4390** Fax: **(941) 693-4333**

Facility Regulatory Classifications

1. Small Business Stationary Source?
   [ ] Yes [x] No [ ] Unknown

2. Title V Source?
   [x] Yes [ ] No

3. Synthetic Non-Title V Source?
   [ ] Yes [x] No

4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?
   [x] Yes [ ] No

5. Synthetic Minor Source of Pollutants Other than HAPs?
   [ ] Yes [x] No

6. Major Source of Hazardous Air Pollutants (HAPs)?
   [ ] Yes [x] No

7. Synthetic Minor Source of HAPs?
   [ ] Yes [x] No

8. One or More Emissions Units Subject to NSPS?
   [x] Yes [ ] No

9. One or More Emissions Units Subject to NESHAP?
   [ ] Yes [x] No

10. Title V Source by EPA Designation?
    [ ] Yes [x] No

11. Facility Regulatory Classifications Comment (limit to 200 characters):

    After the repowering project is complete, the facility will not be a major source of HAPs. The new combustion turbines will be subject to NSPS Subpart GG.

B. FACILITY REGULATIONS

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Fac emissions covered under existing Title V permit, no additional facility applicable requirements.

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

E. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
2. Facility Plot Plan: [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
3. Process Flow Diagram(s): [x] Attached, Document ID(s): Part II [ ] Not Applicable	[ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
5. Fugitive Emissions Identification: [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [x] Attached, Document ID: Part II [ ] Not Applicable	

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities: [ ] Attached, Document ID: ____________ [ ] Not Applicable
8. List of Equipment/Activities Regulated under Title VI: [ ] Attached, Document ID: ____________ [ ] Equipment/Activities On site but Not Required to be Individually Listed [ ] Not Applicable
9. Alternative Methods of Operation: [ ] Attached, Document ID: ____________ [ ] Not Applicable
10. Alternative Modes of Operation (Emissions Trading): [ ] Attached, Document ID: ____________ [ ] Not Applicable

11. Identification of Additional Applicable Requirements:
[ ] Attached, Document ID: ____________________
[ ] Not Applicable

12. Compliance Assurance Monitoring Plan:
[ ] Attached, Document ID: ____________________
[ ] Not Applicable

13. Risk Management Plan Verification:

[ ] Plan Submitted to Implementing Agency - Verification Attached
Document ID: ____________________

[ ] Plan to be Submitted to Implementing Agency by Required Date

[ ] Not Applicable

14. Compliance Report and Plan
[ ] Attached, Document ID: ____________________
[ ] Not Applicable

15. Compliance Statement (Hard-copy Required)
[ ] Attached, Document ID: ____________________
[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **2ACT - Combustion Turbine 2A.**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [X] Yes [ ] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters): **The emission unit is a General Electric (GE) Frame 7FA Advanced Combustion Turbine. The unit will fire only natural gas and can be operated in both simple cycle and combined cycle modes. Refer to Part II for discussion.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

   Dry Low-NOx Combustion

2. Control Device or Method Code: **25**

B.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:
2. Long-term Reserve Shutdown Date:
3. Package Unit: Manufacturer: General Electric Model Number: 7FA
4. Generator Nameplate Rating: 182 MW
5. Incinerator Information: Dwell Temperature: °F Dwell Time: seconds Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate: 1,857 mmBtu/hr
2. Maximum Incineration Rate: lbs/hr tons/day
3. Maximum Process or Throughput Rate:
4. Maximum Production Rate:
5. Operating Capacity Comment (limit to 200 characters): **Maximum heat input and rating at turbine inlet temperature of 35 degrees F. Heat input as High Heating Value (HHV). Generator Nameplate Rating = 182.1**

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule: hours/day days/week weeks/yr 8,760 hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment FP-EU2A-D **See Part II**

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: See Part II		
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4		
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Unit can exhaust through a simple cycle by-pass stack and HRSG stack.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W		
6. Stack Height:	125	feet
7. Exit Diameter:	19	feet
8. Exit Temperature:	220	°F

9. Actual Volumetric Flow Rate:	**1,196,162** acfm	
10. Percent Water Vapor:	**7.6** %	
11. Maximum Dry Standard Flow Rate:	**858,197** dscfm	
12. Nonstack Emission Point Height:	feet	
13. Emission Point UTM Coordinates: Zone: **17**	East (km): **422.3**	North (km): **2953.03**
14. Emission Point Comment (limit to 200 characters): **Stack conditions for combined cycle operation and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads, stack parameters, and simple cycle operation.**		

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Natural Gas**	
2. Source Classification Code (SCC): **2-01-002-01**	
3. SCC Units: **Million Cubic Feet**	
4. Maximum Hourly Rate: **1.81**	5. Maximum Annual Rate: **15,882**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **1,024**	
10. Segment Comment (limit to 200 characters): **Maximum Hourly Rate = 1.813 (rounded to 1.81). Max. and Annual based on 35 deg. F turbine inlet. Million BTU/SCC as HHV.**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):
2. Source Classification Code (SCC):
3. SCC Units:

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
SO2			EL
NOx	025		EL
CO			NS
VOC			NS
PM10			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM			
2. Total Percent Efficiency of Control:	%		
3. Potential Emissions:	10 lb/hour	43.8 tons/year	
4. Synthetically Limited?	[ ] Yes	[X] No	
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr			
6. Emission Factor: 10 lb/hr Reference: GE, 1998; B & V 1998			
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5			
8. Calculation of Emissions (limit to 600 characters): Refer to Part II for calculations.			
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): lb/hour based on maximum provided by manufacturer with provision for margin.			

Emissions Unit Information Section 1 **of** 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 % Opacity**
4. Equivalent Allowable Emissions: **10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data, with margin. Opacity limit proposed in lieu of lb/hr limit.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: SO2	
2. Total Percent Efficiency of Control: %	
3. Potential Emissions: 5.1 lb/hour	22.5 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr	
6. Emission Factor: 1 grain S/100 cf Reference: Golder, 1998	
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5	
8. Calculation of Emissions (limit to 600 characters): Refer to Part II for calculations.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): lb/hour and tons/year at 35 deg. F turbine inlet temperature.	

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: **5.1** lb/hour **22.5** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling; vendor sampling pipeline quality natural gas**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions and Units = pipeline quality natural gas. See Part II; Allowable based on typical maximum fuel sulfur content.**

B.

1. Basis for Allowable Emissions Code: **RULE**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.8 % Sulfur**
4. Equivalent Allowable Emissions: **1,235** lb/hour **5,408** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: NOx	
2. Total Percent Efficiency of Control: %	
3. Potential Emissions: 68 lb/hour	297.8 tons/year
4. Synthetically Limited? [ ] Yes [x] No	
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr	
6. Emission Factor: 9 ppmvd @ 15% O2 Reference: GE,1998; B&V,1998	
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5	
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.**	

Emissions Unit Information Section 1 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **9 ppmvd @ 15% O2**	
4. Equivalent Allowable Emissions: **68** lb/hour	**297.8** tons/year
5. Method of Compliance (limit to 60 characters): **CEM-Part 75**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin. CEM will be installed prior to by-pass stack.**	

B.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **75 ppm @ 15% O2**	
4. Equivalent Allowable Emissions: **832** lb/hour	**3.483** tons/year
5. Method of Compliance (limit to 60 characters): **Method 20; Initial Test only**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS; 40 CFR Part 60; Subpart GG [60.32(a)(1)]; Initial compliance test only. CEM Montoring Method.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **CO**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **44.9** lb/hour **196.6** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr
6. Emission Factor: **12 ppmvd** Reference: **GE, 1998; B&V, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.**

Emissions Unit Information Section 1 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **12 ppmvd**	
4. Equivalent Allowable Emissions: **44.9** lb/hour	**196.6** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10; Initial Compliance Test Only**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **See Part II; Allowable based on manufacturer data with margin.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions: lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: VOC		
2. Total Percent Efficiency of Control: %		
3. Potential Emissions:	3 lb/hour	13.1 tons/year
4. Synthetically Limited? [ ] Yes [X] No		
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr		
6. Emission Factor: 1.4 ppmvd Reference: GE,1998; Golder,1998		
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5		
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature. Emissions as methane and exclusive of background.**		

Emissions Unit Information Section 1 of 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 1.4 ppmvd	
4. Equivalent Allowable Emissions: 3 lb/hour	13.1 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 25A; Initial Compliance Only	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): See Part II; Allowable based on manufacturer data with margin.	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions: lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **10** lb/hour **43.8** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **10 lb/hr** Reference: **GE, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour based on maximum provided by manufacturer with margin.**

Emissions Unit Information Section 1 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 % Opacity**
4. Equivalent Allowable Emissions: **10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: VE10
2.	Basis for Allowable Opacity: [ ] Rule [x] Other
3.	Requested Allowable Opacity Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: Annual VE Test EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: VE99
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 6 min/hour
4.	Method of Compliance: None
5.	Visible Emissions Comment (limit to 200 characters): FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24 hours for start up, shutdown and malfunction.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 1 of 1

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Not Yet Determined Model Number: Serial Number:	
5. Installation Date: 01 Jan 2001	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): **NOx CEM proposed to meet requirements of 40 CFR Part 75. Will include dilution monitor (oxygen or carbon dioxide). Installed prior to by-pass stack.**	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION (Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [x] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:				
	PM	[ ] C	[x] E	[ ] Unknown
	SO_2	[ ] C	[x] E	[ ] Unknown
	NO_2	[ ] C	[x] E	[ ] Unknown
4. Baseline Emissions:				
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5. PSD Comment (limit to 200 characters):				
	Proposed project will result in a net emissions decrease of PM, SO2 and NO2; therefore, PSD will not apply. See Part II.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram		
	[x] Attached, Document ID: Part II		
	[ ] Not Applicable	[ ] Waiver Requested	
2.	Fuel Analysis or Specification		
	[x] Attached, Document ID: Part II		
	[ ] Not Applicable	[ ] Waiver Requested	
3.	Detailed Description of Control Equipment		
	[x] Attached, Document ID: Part II		
	[ ] Not Applicable	[ ] Waiver Requested	
4.	Description of Stack Sampling Facilities		
	[x] Attached, Document ID: Part II		
	[ ] Not Applicable	[ ] Waiver Requested	
5.	Compliance Test Report		
	[ ] Attached, Document ID: ____	[x] Not Applicable	
	[ ] Previously Submitted, Date: ____		
6.	Procedures for Startup and Shutdown		
	[ ] Attached, Document ID: ____	[x] Not Applicable	
7.	Operation and Maintenance Plan		
	[ ] Attached, Document ID: ____	[x] Not Applicable	
8.	Supplemental Information for Construction Permit Application		
	[x] Attached, Document ID: Part II	[ ] Not Applicable	
9.	Other Information Required by Rule or Statute		
	[x] Attached, Document ID: Part II	[ ] Not Applicable	

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: ____________ [ ] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: ____________ [ ] Not Applicable
12.	Identification of Additional Applicable Requirements [ ] Attached, Document ID: ____________ [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [ ] Attached, Document ID: ____________ [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: ____________ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: ____________ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: ____________ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: ____________ [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **2BCT - Combustion Turbine 2A.**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [X] Yes [ ] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters): **The emission unit is a General Electric (GE) Frame 7FA Advanced Combustion Turbine. The unit will fire only natural gas and can be operated in both simple cycle and combined cycle modes. Refer to Part II for discussion.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Dry Low-NOx Combustion**
2. Control Device or Method Code: **25**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer: General Electric	Model Number: 7FA
4. Generator Nameplate Rating:	182 MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	1,857	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters): **Maximum heat input and rating at turbine inlet temperature of 35 degrees F. Heat input as High Heating Value (HHV). Generator Nameplate Rating = 182.1**		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	8,760 hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment FP-EU2A-D **See Part II**

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Part II**	
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Unit can exhaust through a simple cycle by-pass stack and HRSG stack.**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W	
6. Stack Height:	**125** feet
7. Exit Diameter:	**19** feet
8. Exit Temperature:	**220** °F

9. Actual Volumetric Flow Rate:	**1,196,162**	acfm
10. Percent Water Vapor:	**7.6**	%
11. Maximum Dry Standard Flow Rate:	**858,197**	dscfm
12. Nonstack Emission Point Height:		feet
13. Emission Point UTM Coordinates: Zone: **17** East (km): **422.2** North (km): **2953.02**		
14. Emission Point Comment (limit to 200 characters): **Stack conditions for combined cycle operation and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads, stack parameters, and simple cycle operation.**		

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Natural Gas**	
2. Source Classification Code (SCC): **2-01-002-01**	
3. SCC Units: **Million Cubic Feet**	
4. Maximum Hourly Rate: **1.81**	5. Maximum Annual Rate: **15,882**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **1,024**	
10. Segment Comment (limit to 200 characters): **Maximum Hourly Rate = 1.813 (rounded to 1.81). Max. and Annual based on 35 deg. F turbine inlet. Million BTU/SCC as HHV.**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
SO2			EL
NOx	025		EL
CO			NS
VOC			NS
PM10			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **10** lb/hour **43.8** tons/year

4. Synthetically Limited? [ ] Yes [**X**] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 __________ to __________ tons/yr

6. Emission Factor: **10 lb/hr**

   Reference: **GE, 1998; B & V 1998**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour based on maximum provided by manufacturer with provision for margin.

Emissions Unit Information Section 2 of 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 % Opacity**
4. Equivalent Allowable Emissions: **10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data, with margin. Opacity limit proposed in lieu of lb/hr limit.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SO2**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **5.1** lb/hour **22.6** tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **1 grain S/100 cf** Reference: **Golder, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature.**

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	**5.1** lb/hour **22.6** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling; vendor sampling pipeline quality natural gas**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions and Units = pipeline quality natural gas. See Part II; Allowable based on typical maximum fuel sulfur content.**	

B.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.8 % Sulfur**	
4. Equivalent Allowable Emissions:	**1,235** lb/hour **5,408** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: NOx
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 68 lb/hour 297.8 tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ____________ to ____________ tons/yr
6. Emission Factor: 9 ppmvd @ 15% O2 Reference: GE,1998; B&V,1998
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.**

Emissions Unit Information Section 2 of 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:
   OTHER

2. Future Effective Date of Allowable Emissions:

3. Requested Allowable Emissions and Units:
   9 ppmvd @ 15% O2

4. Equivalent Allowable Emissions: **68** lb/hour **297.8** tons/year

5. Method of Compliance (limit to 60 characters):
   CEM-Part 75

6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin. CEM will be installed prior to by-pass stack.

B.

1. Basis for Allowable Emissions Code: **RULE**

2. Future Effective Date of Allowable Emissions:

3. Requested Allowable Emissions and Units:
   75 ppm @ 15% O2

4. Equivalent Allowable Emissions: **832** lb/hour **3.483** tons/year

5. Method of Compliance (limit to 60 characters):
   Method 20; Initial Test only

6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   NSPS; 40 CFR Part 60; Subpart GG [60.32(a)(1)]; Initial compliance test only. CEM Montoring Method.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **CO**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **44.9** lb/hour **196.6** tons/year

4. Synthetically Limited? [ ] Yes [x] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ____________ to ____________ tons/yr

6. Emission Factor: **12 ppmvd**

   Reference: **GE, 1998; B&V, 1998**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.

Emissions Unit Information Section 2 of 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **12 ppmvd**
4. Equivalent Allowable Emissions: **44.9** lb/hour **196.6** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10; Initial Compliance Test Only**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **See Part II; Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: VOC

2. Total Percent Efficiency of Control: %

3. Potential Emissions: lb/hour 13.1 tons/year

4. Synthetically Limited? [ ] Yes [x] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr

6. Emission Factor: 1.4 ppmvd

   Reference: GE,1998; Golder,1998

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour and tons/year at 35 deg. F turbine inlet temperature. Emissions as methane and exclusive of background.

Emissions Unit Information Section 2 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **1.4 ppmvd**
4. Equivalent Allowable Emissions: **3** lb/hour **13.1** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 25A; Initial Compliance Only**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **See Part II; Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **10** lb/hour **43.8** tons/year
4. Synthetically Limited? [ ] Yes [**X**] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **10 lb/hr** Reference: **GE, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour based on maximum provided by manufacturer with margin.**

Emissions Unit Information Section 2 of 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 % Opacity**
4. Equivalent Allowable Emissions: **10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: VE10
2.	Basis for Allowable Opacity: [ ] Rule [x] Other
3.	Requested Allowable Opacity Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: Annual VE Test EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: VE99
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 6 min/hour
4.	Method of Compliance: None
5.	Visible Emissions Comment (limit to 200 characters): FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24 hours for start up, shutdown and malfunction.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

<u>Continuous Monitoring System</u> Continuous Monitor 1 of 1

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Not Yet Determined Model Number: Serial Number:	
5. Installation Date: 01 Jan 2001	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): **NOx CEM proposed to meet requirements of 40 CFR Part 75. Will include dilution monitor (oxygen or carbon dioxide). Installed prior to by-pass stack.**	

<u>Continuous Monitoring System</u> Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [x] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[ ] C	[x] E	[ ] Unknown
	SO_2	[ ] C	[x] E	[ ] Unknown
	NO_2	[ ] C	[x] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Proposed project will result in a net emissions decrease of PM, SO2 and NO2; therefore, PSD will not apply. See Part II.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: ______ [ ] Previously Submitted, Date: ______	[x] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: ______	[x] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: ______	[x] Not Applicable
8.	Supplemental Information for Construction Permit Application [x] Attached, Document ID: Part II	[ ] Not Applicable
9.	Other Information Required by Rule or Statute [x] Attached, Document ID: Part II	[ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID: ____________ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID: ____________ [ ] Not Applicable

12. Identification of Additional Applicable Requirements

[ ] Attached, Document ID: ____________ [ ] Not Applicable

13. Compliance Assurance Monitoring Plan

[ ] Attached, Document ID: ____________ [ ] Not Applicable

14. Acid Rain Permit Application (Hard Copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: ____________

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: ____________

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: ____________

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: ____________

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

<u>**Type of Emissions Unit Addressed in This Section**</u>

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **2CCT - Combustion Turbine 2A.**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [X] Yes [ ] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters): **The emission unit is a General Electric (GE) Frame 7FA Advanced Combustion Turbine. The unit will fire only natural gas and can be operated in both simple cycle and combined cycle modes. Refer to Part II for discussion.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Dry Low-NOx Combustion**
2. Control Device or Method Code: **25**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer: General Electric	Model Number: 7FA	
4. Generator Nameplate Rating:	182 MW	
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F	

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	1,857	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters): **Maximum heat input and rating at turbine inlet temperature of 35 degrees F. Heat input as High Heating Value (HHV). Generator Nameplate Rating = 182.1**		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	8,760 hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment FP-EU2A-D
See Part II

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Part II**
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Unit can exhaust through a simple cycle by-pass stack and HRSG stack.**
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W
6. Stack Height: **125** feet
7. Exit Diameter: **19** feet
8. Exit Temperature: **220** °F

9. Actual Volumetric Flow Rate:	1,196,162	acfm
10. Percent Water Vapor:	7.6	%
11. Maximum Dry Standard Flow Rate:	858,197	dscfm
12. Nonstack Emission Point Height:		feet
13. Emission Point UTM Coordinates: Zone: 17 East (km): 422.2 North (km): 2953.00		
14. Emission Point Comment (limit to 200 characters): **Stack conditions for combined cycle operation and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads, stack parameters, and simple cycle operation.**		

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

   Natural Gas

2. Source Classification Code (SCC):

   2-01-002-01

3. SCC Units:

   Million Cubic Feet

4. Maximum Hourly Rate: **1.81**	5. Maximum Annual Rate: **15,882**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:

9. Million Btu per SCC Unit:

   1,024

10. Segment Comment (limit to 200 characters):

    Maximum Hourly Rate = 1.813 (rounded to 1.81). Max. and Annual based on 35 deg. F turbine inlet. Million BTU/SCC as HHV.

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):
2. Source Classification Code (SCC):
3. SCC Units:

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
SO2			EL
NOx	025		EL
CO			NS
VOC			NS
PM10			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **10** lb/hour **43.8** tons/year

4. Synthetically Limited? [ ] Yes [**X**] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr

6. Emission Factor: **10 lb/hr**

   Reference: **GE, 1998; B & V 1998**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour based on maximum provided by manufacturer with provision for margin.

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 10 % Opacity
4. Equivalent Allowable Emissions: 10 lb/hour 43.8 tons/year
5. Method of Compliance (limit to 60 characters): VE Test < 10% Opacity
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Allowable based on manufacturer data, with margin. Opacity limit proposed in lieu of lb/hr limit.

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: SO2	
2. Total Percent Efficiency of Control: %	
3. Potential Emissions: 5.1 lb/hour	22.6 tons/year
4. Synthetically Limited? [ ] Yes [x] No	
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr	
6. Emission Factor: 1 grain S/100 cf Reference: Golder, 1998	
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5	
8. Calculation of Emissions (limit to 600 characters): Refer to Part II for calculations.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): lb/hour and tons/year at 35 deg. F turbine inlet temperature.	

Emissions Unit Information Section 3 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: **5.1** lb/hour **22.6** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling; vendor sampling pipeline quality natural gas**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions and Units = pipeline quality natural gas. See Part II; Allowable based on typical maximum fuel sulfur content.**

B.

1. Basis for Allowable Emissions Code: **RULE**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.8 % Sulfur**
4. Equivalent Allowable Emissions: **1,235** lb/hour **5,408** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: VOC
2. Total Percent Efficiency of Control: %
3. Potential Emissions: lb/hour 13.1 tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: 1.4 ppmvd Reference: GE,1998; Golder,1998
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): Refer to Part II for calculations.
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): lb/hour and tons/year at 35 deg. F turbine inlet temperature. Emissions as methane and exclusive of background.

Emissions Unit Information Section 3 **of** 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **9 ppmvd @ 15% O2**	
4. Equivalent Allowable Emissions: **68** lb/hour	**297.8** tons/year
5. Method of Compliance (limit to 60 characters): **CEM-Part 75**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin. CEM will be installed prior to by-pass stack.**	

B.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **75 ppm @ 15% O2**	
4. Equivalent Allowable Emissions: **832** lb/hour	**3.483** tons/year
5. Method of Compliance (limit to 60 characters): **Method 20; Initial Test only**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS; 40 CFR Part 60; Subpart GG [60.32(a)(1)]; Initial compliance test only. CEM Montoring Method.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: CO

2. Total Percent Efficiency of Control: %

3. Potential Emissions: 44.9 lb/hour 196.6 tons/year

4. Synthetically Limited? [ ] Yes [x] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ____________ to ____________ tons/yr

6. Emission Factor: 12 ppmvd

   Reference: GE, 1998; B&V, 1998

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **12 ppmvd**
4. Equivalent Allowable Emissions: **44.9** lb/hour **196.6** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10; Initial Compliance Test Only**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **See Part II; Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **VOC**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **3** lb/hour **13.1** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **1.4 ppmvd** Reference: **GE,1998; Golder,1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperatures. Emissions as methane and exclusive of background.**

Emissions Unit Information Section 3 **of** 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **1.4** **ppmvd**
4. Equivalent Allowable Emissions: **3** lb/hour **13.1** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 25A; Initial Compliance Only**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **See Part II; Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **10** lb/hour **43.8** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr
6. Emission Factor: **10 lb/hr** Reference: **GE, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour based on maximum provided by manufacturer with margin.**

Emissions Unit Information Section 3 **of** 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 % Opacity**
4. Equivalent Allowable Emissions: **10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: VE10

2. Basis for Allowable Opacity: [ ] Rule [x] Other

3. Requested Allowable Opacity
Normal Conditions: 10 % Exceptional Conditions: %
Maximum Period of Excess Opacity Allowed: min/hour

4. Method of Compliance:
Annual VE Test EPA Method 9

5. Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: VE99

2. Basis for Allowable Opacity: [x] Rule [ ] Other

3. Requested Allowable Opacity
Normal Conditions: % Exceptional Conditions: 100 %
Maximum Period of Excess Opacity Allowed: 6 min/hour

4. Method of Compliance:
None

5. Visible Emissions Comment (limit to 200 characters):
FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24 hours for start up, shutdown and malfunction.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 1 of 1

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Not Yet Determined Model Number: Serial Number:	
5. Installation Date: 01 Jan 2001	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): **NOx CEM proposed to meet requirements of 40 CFR Part 75. Will include dilution monitor (oxygen or carbon dioxide). Installed prior to by-pass stack.**	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [x] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:

PM	[ ] C	[x] E	[ ] Unknown
SO_2	[ ] C	[x] E	[ ] Unknown
NO_2	[ ] C	[x] E	[ ] Unknown

4. Baseline Emissions:

PM	lb/hour	tons/year
SO_2	lb/hour	tons/year
NO_2		tons/year

5. PSD Comment (limit to 200 characters):

Proposed project will result in a net emissions decrease of PM, SO2 and NO2; therefore, PSD will not apply. See Part II.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: ____ [ ] Previously Submitted, Date: ____	[x] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: ____	[x] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: ____	[x] Not Applicable
8.	Supplemental Information for Construction Permit Application [x] Attached, Document ID: Part II	[ ] Not Applicable
9.	Other Information Required by Rule or Statute [x] Attached, Document ID: Part II	[ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID: ____________ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID: ____________ [ ] Not Applicable

12. Identification of Additional Applicable Requirements

[ ] Attached, Document ID: ____________ [ ] Not Applicable

13. Compliance Assurance Monitoring Plan

[ ] Attached, Document ID: ____________ [ ] Not Applicable

14. Acid Rain Permit Application (Hard Copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: ____________

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: ____________

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: ____________

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: ____________

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **2DCT - Combustion Turbine 2A.**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [X] Yes [ ] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters): **The emission unit is a General Electric (GE) Frame 7FA Advanced Combustion Turbine. The unit will fire only natural gas and can be operated in both simple cycle and combined cycle modes. Refer to Part II for discussion.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Dry Low-NOx Combustion**
2. Control Device or Method Code: **25**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer: **General Electric**	Model Number: **7FA**
4. Generator Nameplate Rating:	**182** MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	**1,857**	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters): **Maximum heat input and rating at turbine inlet temperature of 35 degrees F. Heat input as High Heating Value (HHV). Generator Nameplate Rating = 182.1**		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/yr	**8,760**	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment FP-EU2A-D
See Part II

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Part II**	
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Unit can exhaust through a simple cycle by-pass stack and HRSG stack.**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W	
6. Stack Height:	**125** feet
7. Exit Diameter:	**19** feet
8. Exit Temperature:	**220** °F

9. Actual Volumetric Flow Rate:	1,196,162	acfm
10. Percent Water Vapor:	7.6	%
11. Maximum Dry Standard Flow Rate:	858,197	dscfm
12. Nonstack Emission Point Height:		feet
13. Emission Point UTM Coordinates: Zone: 17 East (km): 422.1 North (km): 2953.99		
14. Emission Point Comment (limit to 200 characters): **Stack conditions for combined cycle operation and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads, stack parameters, and simple cycle operation.**		

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Natural Gas**	
2. Source Classification Code (SCC): **2-01-002-01**	
3. SCC Units: **Million Cubic Feet**	
4. Maximum Hourly Rate: **1.81**	5. Maximum Annual Rate: **15,882**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **1,024**	
10. Segment Comment (limit to 200 characters): **Maximum Hourly Rate = 1.813 (rounded to 1.81). Max. and Annual based on 35 deg. F turbine inlet. Million BTU/SCC as HHV.**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
SO2			EL
NOx	025		EL
CO			NS
VOC			NS
PM10			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM					
2. Total Percent Efficiency of Control: %					
3. Potential Emissions: 10 lb/hour			43.8 tons/year		
4. Synthetically Limited? [ ] Yes [X] No					
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr					
6. Emission Factor: 10 lb/hr Reference: GE, 1998; B & V 1998					
7. Emissions Method Code:					
[ ] 0	[ ] 1	[X] 2	[ ] 3	[ ] 4	[ ] 5
8. Calculation of Emissions (limit to 600 characters): Refer to Part II for calculations.					
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): lb/hour based on maximum provided by manufacturer with provision for margin.					

Emissions Unit Information Section 4 **of** 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **10 % Opacity**	
4. Equivalent Allowable Emissions:	**10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data, with margin. Opacity limit proposed in lieu of lb/hr limit.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SO2**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **5.1** lb/hour **22.6** tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **1 grain S/100 cf** Reference: **Golder, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature.**

Emissions Unit Information Section 4 **of** 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: **5.1** lb/hour **22.6** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling; vendor sampling pipeline quality natural gas**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions and Units = pipeline quality natural gas. See Part II; Allowable based on typical maximum fuel sulfur content.**

B.

1. Basis for Allowable Emissions Code: **RULE**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.8** **% Sulfur**
4. Equivalent Allowable Emissions: **1,235** lb/hour **5,408** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: NOx
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 68 lb/hour 297.8 tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: 9 ppmvd @ 15% O2 Reference: GE,1998; B&V,1998
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.**

Emissions Unit Information Section 4 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:
   OTHER

2. Future Effective Date of Allowable Emissions:

3. Requested Allowable Emissions and Units:
   9 ppmvd @ 15% O2

4. Equivalent Allowable Emissions: **68** lb/hour **297.8** tons/year

5. Method of Compliance (limit to 60 characters):
   CEM-Part 75

6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin. CEM will be installed prior to by-pass stack.

B.

1. Basis for Allowable Emissions Code: **RULE**

2. Future Effective Date of Allowable Emissions:

3. Requested Allowable Emissions and Units:
   75 ppm @ 15% O2

4. Equivalent Allowable Emissions: **832** lb/hour **3.483** tons/year

5. Method of Compliance (limit to 60 characters):
   Method 20; Initial Test only

6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   NSPS; 40 CFR Part 60; Subpart GG [60.32(a)(1)]; Initial compliance test only. CEM Montoring Method.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **CO**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **44.9** lb/hour **196.6** tons/year

4. Synthetically Limited? [ ] Yes [x] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr

6. Emission Factor: **12 ppmvd**

   Reference: **GE, 1998; B&V, 1998**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.

Emissions Unit Information Section 4 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **12 ppmvd**
4. Equivalent Allowable Emissions: **44.9** lb/hour **196.6** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10; Initial Compliance Test Only**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **See Part II; Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: VOC

2. Total Percent Efficiency of Control: %

3. Potential Emissions: lb/hour 13.1 tons/year

4. Synthetically Limited? [ ] Yes [x] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ____ to ____ tons/yr

6. Emission Factor: 1.4 ppmvd

   Reference: GE,1998; Golder,1998

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour and tons/year at 35 deg. F turbine inlet temperature. Emissions as methane and exclusive of background.

Emissions Unit Information Section 4 of 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **1.4 ppmvd**
4. Equivalent Allowable Emissions: **3** lb/hour **13.1** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 25A; Initial Compliance Only**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **See Part II; Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **10** lb/hour **43.8** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ___ to ___ tons/yr
6. Emission Factor: **10 lb/hr** Reference: **GE, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour based on maximum provided by manufacturer with margin.**

Emissions Unit Information Section 4 of 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **10 % Opacity**	
4. Equivalent Allowable Emissions: **10** lb/hour	**43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data with margin.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions: lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: **VE10**
2.	Basis for Allowable Opacity: [ ] Rule [x] Other
3.	Requested Allowable Opacity Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE Test EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: **VE99**
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **6** min/hour
4.	Method of Compliance: **None**
5.	Visible Emissions Comment (limit to 200 characters): **FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24 hours for start up, shutdown and malfunction.**

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 1 of 1

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Not Yet Determined Model Number: Serial Number:	
5. Installation Date: 01 Jan 2001	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): NOx CEM proposed to meet requirements of 40 CFR Part 75. Will include dilution monitor (oxygen or carbon dioxide). Installed prior to by-pass stack.	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION (Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[x] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[ ] C	[x] E	[ ] Unknown
	SO_2	[ ] C	[x] E	[ ] Unknown
	NO_2	[ ] C	[x] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Proposed project will result in a net emissions decrease of PM, SO2 and NO2; therefore, PSD will not apply. See Part II.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [X] Attached, Document ID: Part II [ ] Not Applicable		[ ] Waiver Requested
2.	Fuel Analysis or Specification [X] Attached, Document ID: Part II [ ] Not Applicable		[ ] Waiver Requested
3.	Detailed Description of Control Equipment [X] Attached, Document ID: Part II [ ] Not Applicable		[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [X] Attached, Document ID: Part II [ ] Not Applicable		[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: ______ [ ] Previously Submitted, Date: ______		[X] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: ______		[X] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: ______		[X] Not Applicable
8.	Supplemental Information for Construction Permit Application [X] Attached, Document ID: Part II		[ ] Not Applicable
9.	Other Information Required by Rule or Statute [X] Attached, Document ID: Part II		[ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

    [ ] Attached, Document ID: ____________ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

    [ ] Attached, Document ID: ____________ [ ] Not Applicable

12. Identification of Additional Applicable Requirements

    [ ] Attached, Document ID: ____________ [ ] Not Applicable

13. Compliance Assurance Monitoring Plan

    [ ] Attached, Document ID: ____________ [ ] Not Applicable

14. Acid Rain Permit Application (Hard Copy Required)

    [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
    Attached, Document ID: ____________

    [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
    Attached, Document ID: ____________

    [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
    Attached, Document ID: ____________

    [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
    Attached, Document ID: ____________

    [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **2ECT - Combustion Turbine 2A.**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [x] Unknown		
3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [x] Yes [ ] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters): **The emission unit is a General Electric (GE) Frame 7FA Advanced Combustion Turbine. The unit will fire only natural gas and can be operated in both simple cycle and combined cycle modes. Refer to Part II for discussion.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

   Dry Low-NOx Combustion

2. Control Device or Method Code: **25**

B.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer: General Electric	Model Number: 7FA
4. Generator Nameplate Rating:	182 MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	1,857	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters): **Maximum heat input and rating at turbine inlet temperature of 35 degrees F. Heat input as High Heating Value (HHV). Generator Nameplate Rating = 182.1**		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	8,760 hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment FP-EU2A-D **See Part II**

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Part II**
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Unit can exhaust through a simple cycle by-pass stack and HRSG stack.**
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W
6. Stack Height: **125** feet
7. Exit Diameter: **19** feet
8. Exit Temperature: **220** °F

9. Actual Volumetric Flow Rate:	1,196,162	acfm
10. Percent Water Vapor:	7.6	%
11. Maximum Dry Standard Flow Rate:	858,197	dscfm
12. Nonstack Emission Point Height:		feet
13. Emission Point UTM Coordinates: Zone: 17 East (km): 422.1 North (km): 2953.97		
14. Emission Point Comment (limit to 200 characters): **Stack conditions for combined cycle operation and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads, stack parameters, and simple cycle operation.**		

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Natural Gas**	
2. Source Classification Code (SCC): **2-01-002-01**	
3. SCC Units: **Million Cubic Feet**	
4. Maximum Hourly Rate: **1.81**	5. Maximum Annual Rate: **15,882**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **1,024**	
10. Segment Comment (limit to 200 characters): **Maximum Hourly Rate = 1.813 (rounded to 1.81). Max. and Annual based on 35 deg. F turbine inlet. Million BTU/SCC as HHV.**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
SO2			EL
NOx	025		EL
CO			NS
VOC			NS
PM10			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **10** lb/hour **43.8** tons/year

4. Synthetically Limited? [ ] Yes [X] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr

6. Emission Factor: **10 lb/hr**

   Reference: **GE, 1998; B & V 1998**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour based on maximum provided by manufacturer with provision for margin.

Emissions Unit Information Section 5 **of** 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 % Opacity**
4. Equivalent Allowable Emissions: **10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data, with margin. Opacity limit proposed in lieu of lb/hr limit.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SO2**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **5.1** lb/hour **22.6** tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **1 grain S/100 cf** Reference: **Golder, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature.**

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions: **5.1** lb/hour	**22.6** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling; vendor sampling pipeline quality natural gas**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions and Units = pipeline quality natural gas. See Part II; Allowable based on typical maximum fuel sulfur content.**	

B.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.8 % Sulfur**	
4. Equivalent Allowable Emissions: **1,235** lb/hour	**5,408** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: NOx		
2. Total Percent Efficiency of Control:	%	
3. Potential Emissions:	68 lb/hour	297.8 tons/year
4. Synthetically Limited? [ ] Yes [x] No		
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr		
6. Emission Factor: 9 ppmvd @ 15% O2 Reference: GE,1998; B&V,1998		
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5		
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.**		

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **9 ppmvd @ 15% O2**	
4. Equivalent Allowable Emissions: **68** lb/hour	**297.8** tons/year
5. Method of Compliance (limit to 60 characters): **CEM-Part 75**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin. CEM will be installed prior to by-pass stack.**	

B.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **75 ppm @ 15% O2**	
4. Equivalent Allowable Emissions: **832** lb/hour	**3.483** tons/year
5. Method of Compliance (limit to 60 characters): **Method 20; Initial Test only**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS; 40 CFR Part 60; Subpart GG [60.32(a)(1)]; Initial compliance test only. CEM Montoring Method.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **CO**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **44.9** lb/hour **196.6** tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr
6. Emission Factor: **12 ppmvd** Reference: **GE, 1998; B&V, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.**

Emissions Unit Information Section 5 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **12 ppmvd**
4. Equivalent Allowable Emissions: **44.9** lb/hour **196.6** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10; Initial Compliance Test Only**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **See Part II; Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **VOC**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: lb/hour **13.1** tons/year

4. Synthetically Limited? [ ] Yes [x] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr

6. Emission Factor: **1.4 ppmvd**

   Reference: **GE,1998; Golder,1998**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour and tons/year at 35 deg. F turbine inlet temperature. Emissions as methane and exclusive of background.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **10** lb/hour **43.8** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **10 lb/hr** Reference: **GE, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour based on maximum provided by manufacturer with margin.**

Emissions Unit Information Section 5 of 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 % Opacity**
4. Equivalent Allowable Emissions: **10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: VE10
2.	Basis for Allowable Opacity: [ ] Rule [x] Other
3.	Requested Allowable Opacity Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: Annual VE Test EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: VE99
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 6 min/hour
4.	Method of Compliance: None
5.	Visible Emissions Comment (limit to 200 characters): FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24 hours for start up, shutdown and malfunction.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 1 of 1

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Not Yet Determined Model Number: Serial Number:	
5. Installation Date: 01 Jan 2001	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): NOx CEM proposed to meet requirements of 40 CFR Part 75. Will include dilution monitor (oxygen or carbon dioxide). Installed prior to by-pass stack.	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION (Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [x] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[ ] C	[x] E	[ ] Unknown
	SO_2	[ ] C	[x] E	[ ] Unknown
	NO_2	[ ] C	[x] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Proposed project will result in a net emissions decrease of PM, SO2 and NO2; therefore, PSD will not apply. See Part II.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [x] Attached, Document ID: Part II [ ] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: ______ [ ] Previously Submitted, Date: ______	[x] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: ______	[x] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: ______	[x] Not Applicable
8.	Supplemental Information for Construction Permit Application [x] Attached, Document ID: Part II	[ ] Not Applicable
9.	Other Information Required by Rule or Statute [x] Attached, Document ID: Part II	[ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: ____________ [ ] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: ____________ [ ] Not Applicable
12.	Identification of Additional Applicable Requirements [ ] Attached, Document ID: ____________ [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [ ] Attached, Document ID: ____________ [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: ____________ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: ____________ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: ____________ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: ____________ [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **2FCT - Combustion Turbine 2A.**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [X] Yes [ ] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters): **The emission unit is a General Electric (GE) Frame 7FA Advanced Combustion Turbine. The unit will fire only natural gas and can be operated in both simple cycle and combined cycle modes. Refer to Part II for discussion.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Dry Low-NOx Combustion**
2. Control Device or Method Code: **25**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer: General Electric	Model Number: 7FA
4. Generator Nameplate Rating:	182 MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	1,857	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters): **Maximum heat input and rating at turbine inlet temperature of 35 degrees F. Heat input as High Heating Value (HHV). Generator Nameplate Rating = 182.1**		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	8,760 hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment FP-EU2A-D **See Part II**

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:
   See Part II

2. Emission Point Type Code:
   [ ] 1 [ ] 2 [x] 3 [ ] 4

3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):
   Unit can exhaust through a simple cycle by-pass stack and HRSG stack.

4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:

5. Discharge Type Code:
   [ ] D [ ] F [ ] H [ ] P
   [ ] R [x] V [ ] W

6. Stack Height:	125	feet
7. Exit Diameter:	19	feet
8. Exit Temperature:	220	°F

9. Actual Volumetric Flow Rate:	1,196,162	acfm
10. Percent Water Vapor:	7.6	%
11. Maximum Dry Standard Flow Rate:	858,197	dscfm
12. Nonstack Emission Point Height:		feet
13. Emission Point UTM Coordinates: Zone: 17 East (km): 422.1 North (km): 2953.95		
14. Emission Point Comment (limit to 200 characters): **Stack conditions for combined cycle operation and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads, stack parameters, and simple cycle operation.**		

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Natural Gas**	
2. Source Classification Code (SCC): **2-01-002-01**	
3. SCC Units: **Million Cubic Feet**	
4. Maximum Hourly Rate: **1.81**	5. Maximum Annual Rate: **15,882**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **1,024**	
10. Segment Comment (limit to 200 characters): **Maximum Hourly Rate = 1.813 (rounded to 1.81). Max. and Annual based on 35 deg. F turbine inlet. Million BTU/SCC as HHV.**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
SO2			EL
NOx	025		EL
CO			NS
VOC			NS
PM10			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **10** lb/hour **43.8** tons/year

4. Synthetically Limited? [ ] Yes [X] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr

6. Emission Factor: **10 lb/hr**

   Reference: **GE, 1998; B & V 1998**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour based on maximum provided by manufacturer with provision for margin.

Emissions Unit Information Section 6 **of** 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 % Opacity**
4. Equivalent Allowable Emissions: **10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data, with margin. Opacity limit proposed in lieu of lb/hr limit.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SO2**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **5.1** lb/hour **22.6** tons/year

4. Synthetically Limited? [ ] Yes [**x**] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr

6. Emission Factor: **1 grain S/100 cf**

   Reference: **Golder, 1998**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour and tons/year at 35 deg. F turbine inlet temperature.

Emissions Unit Information Section 6 of 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:
   OTHER
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: **5.1** lb/hour **22.6** tons/year
5. Method of Compliance (limit to 60 characters):
   Fuel Sampling; vendor sampling pipeline quality natural gas
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   Requested Allowable Emissions and Units = pipeline quality natural gas. See Part II; Allowable based on typical maximum fuel sulfur content.

B.

1. Basis for Allowable Emissions Code: **RULE**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
   0.8 % Sulfur
4. Equivalent Allowable Emissions: **1,235** lb/hour **5,408** tons/year
5. Method of Compliance (limit to 60 characters):
   Fuel Sampling
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **NOx**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **68** lb/hour **297.8** tons/year

4. Synthetically Limited? [ ] Yes [x] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 __________ to __________ tons/yr

6. Emission Factor: **9 ppmvd @ 15% O2**

   Reference: **GE,1998; B&V,1998**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Refer to Part II for calculations.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **9 ppmvd @ 15% O2**	
4. Equivalent Allowable Emissions: **68** lb/hour	**297.8** tons/year
5. Method of Compliance (limit to 60 characters): **CEM-Part 75**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin. CEM will be installed prior to by-pass stack.**	

B.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **75 ppm @ 15% O2**	
4. Equivalent Allowable Emissions: **832** lb/hour	**3.483** tons/year
5. Method of Compliance (limit to 60 characters): **Method 20; Initial Test only**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS; 40 CFR Part 60; Subpart GG [60.32(a)(1)]; Initial compliance test only. CEM Montoring Method.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **CO**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **44.9** lb/hour **196.6** tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr
6. Emission Factor: **12 ppmvd** Reference: **GE, 1998; B&V, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour and tons/year at 35 deg. F turbine inlet temperature. Based on manufacturer data with margin.**

Emissions Unit Information Section 6 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:
   OTHER
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
   12 ppmvd
4. Equivalent Allowable Emissions: **44.9** lb/hour **196.6** tons/year
5. Method of Compliance (limit to 60 characters):
   EPA Method 10; Initial Compliance Test Only
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   See Part II; Allowable based on manufacturer data with margin.

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: VOC
2. Total Percent Efficiency of Control: %
3. Potential Emissions: lb/hour 13.1 tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: 1.4 ppmvd Reference: GE,1998; Golder,1998
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): Refer to Part II for calculations.
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): lb/hour and tons/year at 35 deg. F turbine inlet temperature. Emissions as methane and exclusive of background.

Emissions Unit Information Section 6 **of** 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **1.4 ppmvd**		
4. Equivalent Allowable Emissions:	**3** lb/hour	**13.1** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 25A; Initial Compliance Only**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **See Part II; Allowable based on manufacturer data with margin.**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **10** lb/hour **43.8** tons/year
4. Synthetically Limited? [ ] Yes [**x**] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **10 lb/hr** Reference: **GE, 1998**
7. Emissions Method Code: [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Part II for calculations.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **lb/hour based on maximum provided by manufacturer with margin.**

Emissions Unit Information Section 6 **of** 8
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 % Opacity**
4. Equivalent Allowable Emissions: **10** lb/hour **43.8** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 10% Opacity**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: **VE10**
2.	Basis for Allowable Opacity: [ ] Rule [x] Other
3.	Requested Allowable Opacity Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE Test EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: **VE99**
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **6** min/hour
4.	Method of Compliance: **None**
5.	Visible Emissions Comment (limit to 200 characters): **FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24 hours for start up, shutdown and malfunction.**

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 1 of 1

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Not Yet Determined Model Number: Serial Number:	
5. Installation Date: 01 Jan 2001	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): NOx CEM proposed to meet requirements of 40 CFR Part 75. Will include dilution monitor (oxygen or carbon dioxide). Installed prior to by-pass stack.	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [x] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[ ] C	[x] E	[ ] Unknown
	SO_2	[ ] C	[x] E	[ ] Unknown
	NO_2	[ ] C	[x] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Proposed project will result in a net emissions decrease of PM, SO2 and NO2; therefore, PSD will not apply. See Part II.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram		
	[X] Attached, Document ID: Part II		
	[ ] Not Applicable	[ ] Waiver Requested	
2.	Fuel Analysis or Specification		
	[X] Attached, Document ID: Part II		
	[ ] Not Applicable	[ ] Waiver Requested	
3.	Detailed Description of Control Equipment		
	[X] Attached, Document ID: Part II		
	[ ] Not Applicable	[ ] Waiver Requested	
4.	Description of Stack Sampling Facilities		
	[X] Attached, Document ID: Part II		
	[ ] Not Applicable	[ ] Waiver Requested	
5.	Compliance Test Report		
	[ ] Attached, Document ID: ______	[X] Not Applicable	
	[ ] Previously Submitted, Date: ______		
6.	Procedures for Startup and Shutdown		
	[ ] Attached, Document ID: ______	[X] Not Applicable	
7.	Operation and Maintenance Plan		
	[ ] Attached, Document ID: ______	[X] Not Applicable	
8.	Supplemental Information for Construction Permit Application		
	[X] Attached, Document ID: Part II	[ ] Not Applicable	
9.	Other Information Required by Rule or Statute		
	[X] Attached, Document ID: Part II	[ ] Not Applicable	

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: ____________ [ ] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: ____________ [ ] Not Applicable
12.	Identification of Additional Applicable Requirements [ ] Attached, Document ID: ____________ [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [ ] Attached, Document ID: ____________ [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: ____________ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: ____________ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: ____________ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: ____________ [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[ ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[x] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Mechanical Draft Cooling Tower**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters): **A mechanical draft cooling tower will be constructed which will use brackish water with a total dissolved solids content up to 30,000 ppm. A small portion of the water will be emitted as drift which will form particulate matter.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Mist Eliminator**
2. Control Device or Method Code: **15**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Circulating Water Rate**	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate: **10.2**	5. Maximum Annual Rate: **89,352**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Maximum Hourly and Annual Rate in gallons.**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):
2. Source Classification Code (SCC):
3. SCC Units:
4. Maximum Hourly Rate: / 5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: / 8. Maximum Percent Ash:
9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	014		EL
PM10	014		EL

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [x] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[ ] C	[x] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	The facility will have a net decrease in PM.			

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Natural Gas Heater(s)**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters): **This EU will be either direct fired heaters or steam boiler. A boiler with parameters that envelope either source was assumed. The heater(s) will be used to heat natural gas prior to combustion during simple cycle operation. Steam can also be used for pressurizing steam turbine seals during cold startups.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Low NOx burners**
2. Control Device or Method Code: **24**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information: Dwell Temperature:	°F	
Dwell Time:	seconds	
Incinerator Afterburner Temperature:	°F	

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	132	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters): **Maximum Heat Input Rate = 132.1 (rounded to 132). Maximum heat input based on steam boiler.**		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment FP-E08-D

ATTACHMENT FP-E08-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT FP-E08-D

APPLICABLE REQUIREMENTS LISTING

EMISSION UNIT: Package Boiler

FDEP Rules:

Air Pollution Control-General Provisions:
62-204.800(7)(b)3. (State Only) - NSPS Subpart Db

Stationary Sources-General:

62-210.650	- Circumvention
62-210.700(1)	- Excess Emissions; malfunction; 2hrs/24hrs
62-210.700(2)	- Excess Emissions; FFFSG; startup/shutdown
62-210.700(3)	- Excess Emissions; FFFSG; soot blowing/load change
62-210.700(4)	- Excess Emissions; Excludes poor maintenance
62-210.700(6)	- Excess Emissions; reporting

Stationary Sources-Emission Monitoring:

62-297.310(1)	- Test Runs-Mass Emission
62-297.310(2)(b)	- Operating Rate
62-297.310(3)	- Calculation of Emission
62-297.310(4)(a)1.	- Applicable Test Procedures;Sampling time
62-297.310(4)(b)	- Sample Volume
62-297.310(4)(c)	- Required Flow Rate Range-PM
62-297.310(4)(d)	- Calibration
62-297.310(5)	- Determination of Process Variables
62-297.310(6)(a)	- Permanent Test Facilities-general
62-297.310(6)(c)	- Sampling Ports
62-297.310(6)(d)	- Work Platforms
62-297.310(6)(e)	- Access
62-297.310(6)(f)	- Electrical Power
62-297.310(6)(g)	- Equipment Support
62-297.310(7)(a)1.	- Renewal
62-297.310(7)(a)3.	- Permit Renewal Test Required
62-297.310(7)(a)4.b.	- Annual Test
62-297.310(7)(a)9.	- FDEP Notification - 15 days
62-297.310(8)	- Test Reports

Federal Rules:

NSPS General:

40 CFR 60.7(b)	- Notification and Recordkeeping (startup/shutdown/malfunction)
40 CFR 60.7(f)	- Notification and Recordkeeping (maintain records)
40 CFR 60.8(c)	- Performance Tests (representative conditions)
40 CFR 60.8(e)	- Performance Tests (test facilities required)
40 CFR 60.8(f)	- Performance Tests (test runs)
40 CFR 60.11(a)	- Compliance (ref. S.60.8 or Subpart; other than opacity)
40 CFR 60.11(d)	- Compliance (maintain air pollution control equipment)
40 CFR 60.12	- Circumvention
40 CFR 60.13(c)	- Monitoring Requirements (opacity COMS)
40 CFR 60.13(e)	- Monitoring Requirements (frequency of operation)

NSPS Subpart Db:

40 CFR 60.44b(a)(1)(ii)	- NOx; gas (0.2 lb/mmBtu)
40 CFR 60.44b(h)	- NOx standard applies at all times
40 CFR 60.46b(a)	- Compliance; must comply at all times for NOx (VE excludes startup/shutdown/malfunction
40 CFR 60.46b(c)	- Performance tests for NOx
40 CFR 60.48b(b)	- CEMS for NOx required
40 CFR 60.48b(c)	- CEMS for NOx; data requirements
40 CFR 60.48b(d)	- CEMS for NOx; data requirements
40 CFR 60.48b(f)	- CEMS for NOx; minimum 75% data recovery
40 CFR 60.49b(d)	- Reporting/Recordkeeping; record fuel usage
40 CFR 60.49b(g)	- Reporting and Recordkeeping; maintain NOx records
40 CFR 60.49b(h)	- Reporting and Recordkeeping; quarterly reporting (VE&NOx)
40 CFR 60.49b(r)	- Reporting and Recordkeeping; quarterly reporting (SO2-fuel receipts; maintain records)
Appendix B to 40 CFR 60	- Performance Specifications
Appendix F to 40 CFR 60	- Quality Assurance Procedures

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:
   Part II

2. Emission Point Type Code:
   [x] 1 [ ] 2 [ ] 3 [ ] 4

3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):

4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:

5. Discharge Type Code:
   [ ] D [ ] F [ ] H [ ] P
   [ ] R [x] V [ ] W

6. Stack Height: 30 feet

7. Exit Diameter: 3.5 feet

8. Exit Temperature: 306 °F

9. Actual Volumetric Flow Rate:	34,059 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: 17 East (km): 422.2 North (km): 2953.0	
14. Emission Point Comment (limit to 200 characters):	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **External Combustion Boilers - Natural Gas > 100 MMBtu/hr**	
2. Source Classification Code (SCC): **10100601**	
3. SCC Units: **Million Cubic Feet**	
4. Maximum Hourly Rate: **0.129**	5. Maximum Annual Rate: **1,130**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **1,024**	
10. Segment Comment (limit to 200 characters):	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NOx	024		EL
CO			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: NOx

2. Total Percent Efficiency of Control: %

3. Potential Emissions: 13.2 lb/hour 57.9 tons/year

4. Synthetically Limited? [ ] Yes [X] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr

6. Emission Factor: 0.1 lb/MMBtu

   Reference: Manufacturer

7. Emissions Method Code:

   [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   See Part II

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   Potential tons/year based on 100% capacity factor.

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:
   OTHER

2. Future Effective Date of Allowable Emissions:

3. Requested Allowable Emissions and Units:
   0.1 lb/MMBtu

4. Equivalent Allowable Emissions: **13.2** lb/hour **57.9** tons/year

5. Method of Compliance (limit to 60 characters):
   EPA Method 7E

6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   Emissions based on manufacturer information. Monitoring by CEM if capacity greater than 10 percent.

B.

1. Basis for Allowable Emissions Code: **RULE**

2. Future Effective Date of Allowable Emissions:

3. Requested Allowable Emissions and Units:
   0.2 lb/MMBtu

4. Equivalent Allowable Emissions: **26.4** lb/hour **115.8** tons/year

5. Method of Compliance (limit to 60 characters):
   EPA Method 7E

6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   NSPS Part 60 Subpart Db. If high release rate unit.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: CO

2. Total Percent Efficiency of Control: %

3. Potential Emissions: 19.8 lb/hour 86.8 tons/year

4. Synthetically Limited? [x] Yes [ ] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr

6. Emission Factor: 0.15 lb/MMBtu

   Reference: Manufacturer

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   See Part II

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   Potential tons/year based on 100% capacity factor.

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.15 lb/MMBtu
4. Equivalent Allowable Emissions: 19.8 lb/hour 86.8 tons/year
5. Method of Compliance (limit to 60 characters): Initial test only; EPA Method 10
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Emissions based on manufacturer information.

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-296.320(4)(b)1.

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: VE99
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-210.700(1); not to exceed 2hr in 24hr.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 1 of 1

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Not yet determined Model Number: Serial Number:	
5. Installation Date: 01 Jan 2001	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): NOx CEM will be installed if steam boiler > 100 MMBtu/hr is installed.	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [x] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[ ] C	[x] E	[ ] Unknown
	SO_2	[ ] C	[x] E	[ ] Unknown
	NO_2	[ ] C	[x] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Net emission reduction for facility.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [ ] Attached, Document ID: ______ [x] Not Applicable		[ ] Waiver Requested
2.	Fuel Analysis or Specification [x] Attached, Document ID: Part II [ ] Not Applicable		[ ] Waiver Requested
3.	Detailed Description of Control Equipment [ ] Attached, Document ID: ______ [x] Not Applicable		[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [x] Attached, Document ID: Part II [ ] Not Applicable		[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: ______ [ ] Previously Submitted, Date: ______		[x] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: ______		[x] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: ______		[x] Not Applicable
8.	Supplemental Information for Construction Permit Application [ ] Attached, Document ID: ______		[x] Not Applicable
9.	Other Information Required by Rule or Statute [x] Attached, Document ID: Part II		[ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation		
	[ ] Attached, Document ID: ____________	[ ] Not Applicable	
11.	Alternative Modes of Operation (Emissions Trading)		
	[ ] Attached, Document ID: ____________	[ ] Not Applicable	
12.	Identification of Additional Applicable Requirements		
	[ ] Attached, Document ID: ____________	[ ] Not Applicable	
13.	Compliance Assurance Monitoring Plan		
	[ ] Attached, Document ID: ____________	[ ] Not Applicable	
14.	Acid Rain Permit Application (Hard Copy Required)		
	[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: ____________		
	[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: ____________		
	[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: ____________		
	[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: ____________		
	[ ] Not Applicable		

PART II

EMISSION UNIT DESCRIPTIONS, DIAGRAMS, EMISSION CALCULATIONS, AND AIR QUALITY ANALYSIS

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1.0 INTRODUCTION

Florida Power & Light Company (FPL) proposes to repower its existing Fort Myers Plant located in Lee County, Florida (Figures 1-1 and 1-2). The Fort Myers Plant is located on 460 acres approximately 2.5 miles east of Tice, Florida, and north of State Road 80. Currently, the FPL Fort Myers Plant consists of two fossil-fuel-fired steam-generating units (Units 1 and 2) with a combined generating capacity of 593 megawatts (MW) and 12 simple-cycle gas turbines (GT 1-12) with a combined generating capacity of 708 MW. Unit 1 and Unit 2 burn residual fuel oil with a maximum sulfur content of 2.5 percent. The gas turbine units burn distillate fuel oil with a maximum sulfur content of 0.5 percent. Unit 1 began commercial operation in November 1958, and Unit 2 began commercial operation in July 1969. The 12 gas turbine units began commercial operation in May 1974.

The FPL Fort Myers Repowering Project will consist of replacing the existing two fossil-fuel-fired steam generators with combustion turbines (CTs) and heat recovery steam generators (HRSGs) operating as a combined-cycle plant. Six "F" Class advanced CTs with associated HRSGs will be installed. Only natural gas will be used as fuel for the CTs. The CTs directly drive electric generators with a nominal capacity of 170 MW [at 59 degrees Fahrenheit (°F) turbine inlet temperature]. The exhaust gases from the CTs will go through the HRSGs producing steam for generating electric power in the existing steam electric turbines for Units 1 and 2. The steam cycle for these existing steam electric generators will be integrated in a configuration that produces the most efficient steam cycle. There will be no duct firing of the HRSGs. The Project also includes a cooling tower to reduce the temperature of the cooling water discharged from the existing once-through condenser cooling system.

The repowered plant will have a nominal generating capacity of 1,500 MW (at 59°F turbine inlet temperature). The CT units will be capable of operating in either a simple-cycle or a combined-cycle configuration. Simple-cycle mode will be used primarily during the construction period, after installation of the CTs and before integration of the combined-cycle configuration.

FPL has contracted Golder Associates Inc. (Golder) to:

- Prepare this application;
- Determine the applicability of state and federal new source review (NSR) regulations, including prevention of significant deterioration (PSD) and nonattainment review requirements; and
- Evaluate the project's compliance with any applicable requirements.

Air quality impact analyses are also provided using an air dispersion model approved by the Florida Department of Environmental Protection (FDEP).

The U.S. Environmental Protection Agency (EPA) has implemented regulations requiring PSD review for projects that result in net increases in emissions above certain threshold amounts in areas meeting the National Ambient Air Quality Standards (NAAQS) ("attainment areas"). Because the Project will not result in significant net increases in emissions of any pollutant, it is not subject to PSD review. The Federal PSD regulations are codified at 40 Code of Federal Regulations (CFR) Part 52.21. Florida's PSD program, including Rule 62-212, F.A.C., has been approved by EPA.

Lee County is designated as either an attainment area or an unclassifiable area for all criteria pollutants [i.e., attainment for ozone (O_3), particulate matter with aerodynamic diameter of 10 micrometers or less (PM10), sulfur dioxide (SO_2), carbon monoxide (CO), and nitrogen dioxide (NO_2); unclassifiable for lead] and is classified as a PSD Class II area for PM10, SO_2, and NO_2.

The existing Fort Myers Plant is a major source of air pollution. The repowering project will result in decreases in emissions of virtually all regulated air pollutants.

The potential and actual emissions from the existing Units 1 and 2, potential emissions from the new emission units to be installed as part of the Project, and the differences (net increases/decreases) are presented in Table 1-1. As shown, the net emissions resulting from the repowering project decrease for all pollutants except VOCs, which shows a 35.5 TPY increase. PSD review is not required for any regulated pollutant having a net emission increase less than the PSD significant emission rate. The PSD significant emission rate for VOCs is 40 TPY; therefore, PSD review is not applicable for the project. Nonetheless, for informational purposes, this application presents the results of ambient air quality impact analyses that would be required if PSD review were applicable. Moreover, the emission limits proposed for the CTs by FPL reflect use of best available control technology (BACT) and are at least as stringent as those established in recent PSD permits issued by FDEP

The air permit application is divided into seven major sections.

- Section 2.0 presents a description of the facility, including air emissions and stack parameters
- Section 3.0 provides a review of the PSD and nonattainment requirements
- Section 4.0 provides a discussion of the control technology
- Section 5.0 discusses the ambient air monitoring data and existing source impacts
- Section 6.0 presents a summary of the air modeling approach and results used in assessing compliance of the proposed project with ambient air quality standards (AAQS), and good engineering practice (GEP) stack height regulations

Table 1-1. Net Emission Increases/Decreases for Fort Myers Repowering Project

Pollutant	Emissions Rate (TPY)			
	Potential (Permitted) for Units 1 and 2	Actual 1996-1997	Repowered Unit[a]	Net Decrease (-) or Increase (+) From Actual
PM as TSP	3,115	607[b]	313	-294
PM10	3,115	607[b]	290	-317
NO_2	17,790	7,095[c]	1,845	-5,250
SO_2	68,536	20,561[c]	137	-20,424
CO	3,516	1,507[d]	1,267	-240
VOCs	124	46.7[e]	82.2	+35.5

[a]Proposed emissions based on six CTs operating at 100 percent load at ambient temperature of 35°F using following emission rates:

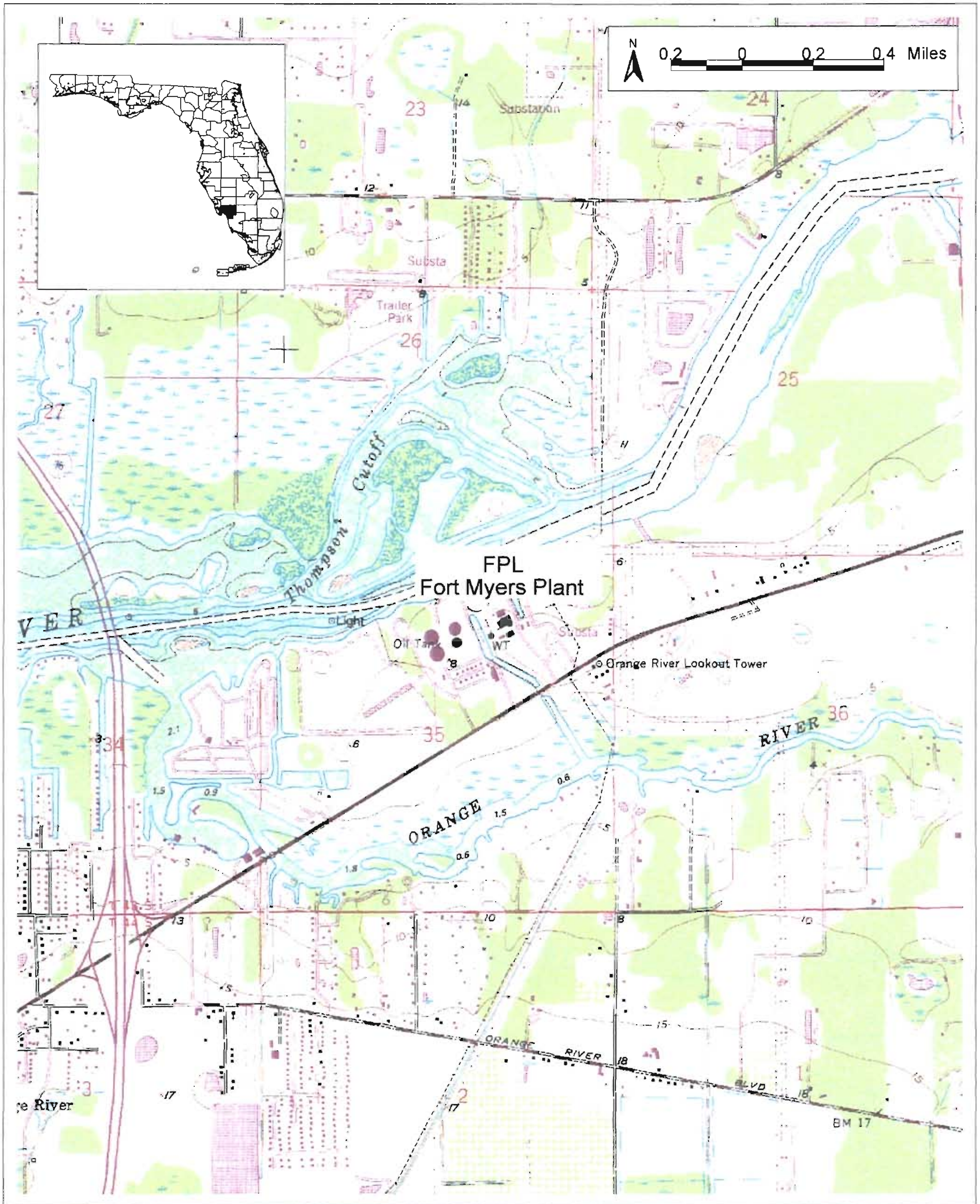
SO_2 – 1 grain/100 cubic ft
NO_x – 9 parts per million volume dry (ppmvd) at 15 percent oxygen (O_2)
PM – 10 lb/hr (excludes H_2SO_4)
CO – 12 ppmvd
VOC – 1.4 ppmvd
46.6 tons PM from drift (one-half as PM10).
Natural gas heater(s) included at 132 MMBtu/hr.

[b]PM based on 1996/1997 CEM heat input rates and 1996/1997 PM stack test data assuming 21 hours and 3 hours of steady-state and soot-blowing, respectively.

[c]SO_2, NO_x based on 1996/1997 CEM emission data.

[d]CO based on 1996/1997 CEM heat input rates and assuming emission rates for Units 1 and 2 of 0.12 and 0.15 lb/MMBtu, respectively.

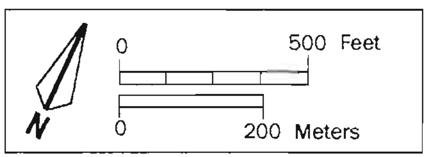
[e]VOC based on AP-42.



FORT MYERS
REPOWERING
PROJECT

Figure 1-1
Project Site Location

FPL



FORT MYERS REPOWERING PROJECT

Figure 1-2
Aerial Photograph of Fort Myers Plant Facilities

FPL

2.0 PROJECT DESCRIPTION

2.1 SITE DESCRIPTION

The existing Fort Myers Plant site, shown in Figure 2-1, consists of 460 acres. The repowered plant elevation will be approximately 13 feet above mean sea level (ft-msl). The terrain surrounding the site is flat.

2.2 EXISTING FORT MYERS PLANT

Units 1 and 2 are existing fossil-fuel-fired steam generators firing residual oil. Unit 1 has a maximum heat input of 1,690 million British thermal units per hour (MMBtu/hr) and Unit 2 has a maximum heat input of 4,000 MMBtu/hr. These units are defined as *existing* units and have PM and SO_2 emission limits as codified in Rule 62-296.405(1)(a) and (b), F.A.C., respectively. The PM emission limit is 0.1 pound per million British thermal units (lb/MMBtu) with an allowance of 0.3 lb/MMBtu for up to 3 hours in any 24-hour period for sootblowing and load changes [Rule 62-210.700(3) F.A.C.]. The SO_2 emission limit is 2.75 lb/MMBtu which is equivalent to 2.5 percent sulfur residual oil. The gas turbine units (GT 1-12) have a maximum heat input of 850 MMBtu/hr each and are operated as peaking units. The maximum sulfur content for the distillate oil is 0.5 percent. The repowering project involves no change to, and will have no effect upon, the existing gas turbines.

The short-term (i.e., hourly) and long-term (annual) operation of Units 1 and 2 has resulted in emissions of regulated pollutants. Although Units 1 and 2 have operated at near-capacity levels for short-term periods, their long-term (annual) capacity factor has depended on FPL system load demand, unit dispatch order, and unit availability. The important criterion in determining regulatory applicability of the Fort Myers Repowering Project is the long-term or *actual* (annual) emission rate as defined in FDEP regulations. As defined in Chapter 62-210, F.A.C., *actual* emission rate, in general, is the average rate, in tons per year, at which the emission unit emitted the pollutant during the 2-year period preceding a particular date and is representative of normal operation of the emission unit. The operation of Units 1 and 2 has been reviewed, and the last 2 calendar years prior to the submittal of this application, i.e., 1996 and 1997, are considered representative of normal operation. To determine the actual emissions during 1996 and 1997, the data available from continuous emissions monitoring (CEM) systems, compliance testing, and U.S. Environmental Protection Agency (EPA) emission factors were used. For determining actual emissions of SO_2 and NO_x, data from CEM systems installed to meet the EPA Acid Rain Program monitoring requirements (40 CFR Part 75) were used. For PM, compliance test data were used to estimate actual emissions. The actual emissions for CO were estimated using actual test data from similar units in the FPL system. In 1991 through 1993, FPL conducted CO measurements using EPA Method 10 to determine CO emissions during normal operation of typical unit sizes and operating conditions. Testing was conducted on other FPL units that are identical (i.e., same size, manufacturer, configuration, design, and operating conditions) as Fort Myers Units 1 and 2. The FPL Sanford Unit 3, which began commercial operation in 1959, is an oil-fired unit of the same size as Fort Myers Unit 1. The CO emissions for this unit were determined to be 0.12 lb/MMBtu during the study. The FPL Turkey Point Unit 1, which began commercial operation in 1967, is an oil-fired unit of the same size as Fort Myers Unit 2; the CO emissions for this unit were determined to be 0.15 lb/MMBtu for the study. These CO emission rates and the corresponding annual heat input rates from CEM data for 1996 and 1997 were used to calculate actual emissions for Fort Myers Units 1 and 2. For VOCs and other regulated pollutants, EPA emissions factors (i.e., AP-42) were used. Attachment A presents a summary of the CEM, compliance test data and EPA emission factors used.

Table 2-1 presents a summary of the potential and actual emissions of Units 1 and 2, potential emissions from the new emission units, and the net changes in plant emissions resulting from the repowering project.

2.3 FORT MYERS REPOWERING PROJECT

The proposed project will consist of replacing the existing steam generators with six advanced General Electric Frame 7FA CTs and associated facilities. Each CT will have an inlet fogger that reduces the inlet air temperature and increases the efficiency, mass flow, and power output. The annual capacity factors of the repowered plant are expected to be in excess of 90 percent in the early years of operation; therefore, operation at 8,760 hours per year (hr/yr) at full load has been assumed. The fuel will be natural gas. Natural gas will be supplied by a natural gas pipeline to the site. Table 2-2 presents natural gas specifications.

Water for the inlet fogger cooler, potable uses, other service, and fire protection will be supplied by existing groundwater sources.

Air emissions control will consist of using state-of-the-art dry low-NO_x burners in the CTs. The dry low-NO_x combustors for the advanced machines typically have premixed fuel zones, and low NO_x levels are achieved by introducing fuel primarily to the pre-mix zones. Good combustion practices and clean fuels will also minimize potential emissions of PM, CO, VOCs, and other pollutants (e.g., trace metals).

The estimated maximum hourly emissions and exhaust information representative of the advanced CT design operating at base load conditions (100-percent load), 75-percent load, and 50-percent load conditions are presented in Tables 2-3 through 2-5. The information is presented in these tables for one-unit operation. The data are presented for turbine inlet temperatures of 35, 59, and 95°F. These temperatures represent the range of temperatures that the CTs are most likely to experience. Vendor performance data for the General Electric PG7241(FA) CTs were used to develop operation and emissions data proposed for the project. To account for degradation in performance and sampling procedures, the mass flow provided by GE was increased by 11 percent. This results in a conservative estimate of potential hourly emissions. The performance data sheets for the operating conditions and emission calculations are given in Attachment B.

The maximum short-term emission rates (lb/hr) generally occur at base load and low turbine inlet temperature (e.g., 35°F), where the CT has the greatest output and greatest fuel consumption. The maximum potential annual emissions for the proposed repowered facility for regulated air pollutants were based on a turbine inlet temperature of 35°F and are presented in Table 2-6 for one and six CTs. To produce the maximum annual emissions, the CTs are assumed to operate at base load for 8,760 hours (100 percent capacity factor). The potential emissions (annual) are based on a 35°F turbine inlet air condition representing a conservative operating condition with higher emission levels compared to the nominal (59°F) condition and the 95°F turbine inlet condition (summer).

The process flow diagram for a CT operating at a turbine inlet temperature of 35°F is presented in Figure 2-2.

As discussed in Section 6.0, the air modeling analyses that address compliance with ambient standards were based on modeling the CTs for the operating load and ambient temperature which produced the maximum impacts from the load impact analysis that was performed. Although the highest emission rates occur with low turbine inlet temperatures (i.e., 35°F) and base load conditions, the lowest exhaust gas flow rates occur with a turbine inlet temperature of 95°F and 50 percent operating load. Since this low exhaust flow condition can result in potentially higher impacts due to lower plume rise (i.e., due to lower exit velocity and temperature), the load analysis included modeling the CTs for the following six scenarios designed to determine the maximum impacts for the project:

1. Base operating load for a turbine inlet temperature of 35°F,
2. Base operating load for a turbine inlet temperature of 95°F,
3. 75 percent operating load for a turbine inlet temperature of 35°F,
4. 75 percent operating load for a turbine inlet temperature of 95°F,
5. 50 percent operating load for a turbine inlet temperature of 35°F, and
6. 50 percent operating load for a turbine inlet temperature of 95°F.

The combined-cycle plant will begin operation by December 2001. The CTs will operate in simple-cycle mode including following their installation and prior to completion of the combined-cycle configuration. Bypass stacks will be installed to allow simple-cycle operation when the units are installed. Simple-cycle operation may occur with the first CT in early 2001 with about one additional CT capable of simple-cycle operation each month. During this period, the CTs in simple-cycle mode will be able to provide power to the FPL system and maintain system reliability. Operation of the CTs and Units 1 and 2 during high-power demand periods will be possible. In Spring 2001, the steam generators for Units 1 and 2 will be taken out of service to allow for the integration of the existing steam turbine generator units with the HRSGs. After the combined-cycle plant begins operation, the steam generators and stacks for Units 1 and 2 will be dismantled which will occur no longer than 1 year after the combined-cycle plant begins operation.

During cold startup of the combined-cycle plant, the steam must be regulated from the HRSG to the steam turbine to allow gradual increases in temperatures. This incremental temperature increase must be carefully regulated from combined-cycle plants since the CT, even at low loads, can produce high temperatures and exhaust flow through the HRSG. For the Fort Myers Repowering Project, an exception from the allowable excess emissions in Rule 62-210.700(1) is requested. A condition similar to that approved by FDEP for FPL's Martin Plant Title V permit (refer to Final Permit No. 0850001-004-AV; Condition B.15) is requested. The requested condition is as follows: "The excess emissions authorized under Rule 62-210.700(1), F.A.C., shall be extended an additional two hours (four hours total) for a cold steam turbine start for the first 3 CTs that begin operation. The fourth and subsequent CTs shall comply with the established emission limits in accordance with Rule 62-210.700(1), F.A.C." FPL is requesting additional excess emissions for three CTs, since the Fort Myers combined-cycle plant will operate as a single unit and there are a total of six CTs operating the integrated steam turbines for the existing Units 1 and 2.

The natural gas must be heated to about 300°F for the dry low-NO_x combustors to operate effectively. This will be accomplished, during simple-cycle operation and during cold starts, by installing either direct fired natural gas heaters (three) or a steam boiler. Table 2-7 presents the performance, stack parameters, and emissions data for a steam boiler that takes into account those factors for either a direct-fired heater or a steam boiler. Since a steam boiler of the heat input proposed (i.e., about 130 Mt/hr) would be required to comply with the NSPS for Subpart Db, the boiler reflects the most stringently regulated emission unit. Only natural gas would be used in the direct-fired heaters and the steam boiler.

The Fort Myers Repowering Project will also include the installation of a cooling tower for reducing the discharge temperature of the once-through condenser cooling system used for the electric steam generators. The cooling tower will be of a once-through counterflow design. Particulate matter in the form of drift will result from the operation of the tower. The tower will be equipped with a high-efficiency drift eliminator that will reduce drift to 0.001 percent of the circulating water flow rate. Since the drift will contain dissolved solids, particulate matter will be formed when the drift aerosols evaporate in the atmosphere. Table 2-8 presents the physical, performance, and emissions data for the cooling tower proposed for the project. For the purposes of regulatory applicability and impact analysis, it was assumed that all drift was PM and that 50 percent of the drift was PM10. The latter assumption is conservative, since representative data of cooling tower particle size indicate that 50 percent of the drift is 0 to 50 μm in diameter.

2.4 SITE LAYOUT, STRUCTURES, AND STACK SAMPLING FACILITIES

A plot plan of the proposed facility is presented in Figure 2-3, and Figure 2-4 presents a profile of the existing and proposed facilities. The dimensions of the buildings and structures are presented in Section 6.0. Stack sampling facilities will be constructed in accordance to Rule 62-297.310(6) F.A.C.

Table 2-1. Actual and Maximum Potential Pollutant Emissions for Fort Myers Units 1 and 2

Case	Year	Unit	Emission Rate (TPY) SO_2 [a]	NO_x [a]	PM[b]	CO[c]	VOC[d]
Existing	1996	1	4,027	911	141	255	9.7
		2	13,765	4,322	354	1,064	30.5
		Total	17,792	5,233	495	1,319	40.2
	1997	1	3,746	861	166	226	9.2
		2	19584	8096	553	1468	44.0
		Total	23,330	8,957	719	1,694	53.2
	Average	1	3,887	886	154	241	9.5
		2	16,675	6,209	454	1,266	37.3
		Total Actual	20,561	7,095	607	1,507	46.7
Repowered Unit							
Six CTs[e]			135	1,787	263	1,180	78.7
Cooling Tower[f]			- -	--	46.6	--	--
Natural Gas Heater[g]			1.6	57.9	3.5	86.8	3.5
Total			137	1,845	313	1,267	82.2
Net Emissions Change			-20,424	-5,250	-294	-240	35.5

[a] SO2, NO_x based on 1996/1997 CEM emission data.

[b] PM based on 1996/1997 CEM heat input rates and 1996/1997 PM stack test data assuming 21 hours and 3 hours of steady-state and soot-blowing, respectively.

[c] CO based on 1996/1997 CEM heat input rates and assuming emission rates for Units 1 and 2 of 0.12 and 0.15 lb/MMBtu, respectively.

[d] VOC based on AP-42.

[e] Proposed emissions based on six CTs operating at 100 percent load at ambient temperature of 35°F using following emission rates (see Table 2-6):

SO_2 - 1 grain/ 100 cubic ft

NO_x - 9 parts per million volume dry (ppmvd) at 15% oxygen (O_2)

PM - 10 lb/hr (excludes H_2SO_4)

CO - 12 ppmvd

VOC - 1.4 ppmvd (exclusive of background VOCs)

[f] 46.6 tons PM from drift (half as PM10); see Table 2-8.

[g] Natural gas heater(s); see Table 2-7.

Table 2-2. Natural Gas Specifications

Compound	Percent by Volume	Percent by Weight
Methane (CH_4)	95.873	91.45
Ethane (C_2H_6)	2.579	4.61
Propane (C_3H_8)	0.161	0.042
Butane (C_4H_{10})	0.017	0.06
Pentane (C_5H_{12})	0.007	0.03
Hexane (C_6H_{14})	0.027	0.14
Carbon Dioxide (CO_2)	0.883	2.53
Nitrogen (N_2)	0.453	0.76
Total Sulfur (S)	1 gr/100 scf [a]	–
Water Vapor (H_2O)	0.6 lb/MMscf	–

HHV = 23,006 Btu/lb = 1,024 Btu/scf [60°F @ 14.7 pounds per square inch (psi)]

LHV = 20,751 Btu/lb = 924 Btu/scf (60°F @ 14.7 psi)

[a]Typical maximum.

Table 2-3. Stack, Operating, and Emission Data for the Proposed GE Frame 7FA Combustion Turbine with Dry Low-NO_x Combustors Firing Natural Gas—Base Load

Parameter		Operating and Emission Data[a] for Turbine Inlet Temperature 35 °F	59 °F	95 °F
Stack Data (ft) (SC/CC)				
Height		98/125	98/125	98/125
Diameter		22/19	22/19	22/19
Operating Data (SC/CC)				
Temperature(°F)		1,096/220	1,118/220	1,147/220
Velocity (ft/sec)		120/70.3	116.5/67.3	109.9/62.4
Maximum Hourly Emission per Unit[b]				
SO_2	lb/hr	5.1	4.9	4.4
	Basis	1.0 grain S/100 CF	1.0 grain S/100 CF	1.0 grain S/100 CF
PM/PM10	lb/hr	10	10	10
	Basis	Dry filterables	Dry filterables	Dry filterables
NO_x	lb/hr	68.0	65.0	58.9
	Basis	9 ppmvd at 15% O_2	9 ppmvd at 15% O_2	9 ppmvd at 15% O_2
CO	lb/hr	44.9	42.6	38.8
	Basis	12 ppmvd	12 ppmvd	12 ppmvd
VOC (as methane)	lb/hr	3.0	2.8	2.6
	Basis	1.4 ppmvd	1.4 ppmvd	1.4 ppmvd

Note: SC = simple cycle; CC = combined cycle; ppmvd = parts per million by volume dry; O_2 = oxygen; S = sulfur; CF = cubic feet

[a] Refer to Attachment B for detailed information.

[b] Other regulated pollutants are assumed to have negligible emissions. These pollutants include lead, reduced sulfur compounds, hydrogen sulfide, sulfuric acid mist, fluorides, mercury, municipal waste combustor (MWC) metals, MWC organics, and MWC acid gases.

Table 2-4. Stack, Operating, and Emission Data for the Proposed GE Frame 7FA Combustion Turbine with Dry Low-NO_x Combustors Firing Natural Gas–75 Percent Load

Parameter		Operating and Emission Data[a] for Turbine Inlet Temperature 35°F	59°F	95°F
Stack Data (ft) (SC/CC)				
Height		98/125	98/125	98/125
Diameter		22/19	22/19	22/19
Operating Data (SC/CC)				
Temperature(°F)		1,124/220	1,142/220	1,172/220
Velocity (ft/sec)		98.4/56.7	96.9/55.1	92.5/51.7
Maximum Hourly Emission per Unit[b]				
SO_2	lb/hr	4.1	3.9	3.6
	Basis	1.0 grain S/100 CF	1.0 grain S/100 CF	1.0 grain S/100 CF
PM/PM10	lb/hr	10.0	10.0	10.0
	Basis	Dry filterables	Dry filterables	Dry filterables
NO_x	lb/hr	54.3	52.4	47.9
	Basis	9 ppmvd at 15% O_2	9 ppmvd at 15% O_2	9 ppmvd at 15% O_2
CO	lb/hr	36.2	34.9	32.2
	Basis	12 ppmvd	12 ppmvd	12 ppmvd
VOC (as methane)	lb/hr	2.4	2.3	2.2
	Basis	1.4 ppmvd	1.4 ppmvd	1.4 ppmvd

Note: SC = simple cycle; CC = combined cycle; ppmvd = parts per million by volume dry; O_2 = oxygen; S = sulfur; CF = cubic feet

[a] Refer to Attachment B for detailed information.

[b] Other regulated pollutants are assumed to have negligible emissions. These pollutants include lead, reduced sulfur compounds, hydrogen sulfide, sulfuric acid mist, fluorides, mercury, municipal waste combustor (MWC) metals, MWC organics, and MWC acid gases.

Table 2-5. Stack, Operating, and Emission Data for the Proposed GE Frame 7FA Combustion Turbine with Dry Low-NO_x Combustors Firing Natural Gas–50 Percent Load

Parameter		Operating and Emission Data[a] for Turbine Inlet Temperature		
		32°F	59°F	95°F
Stack Data (ft) (SC/CC)				
Height		98/125	98/125	98/125
Diameter		22/19	22/19	22/19
Operating Data (SC/CC)				
Temperature(°F)		1,171/220	1,186/220	1,200/220
Velocity (ft/sec)		83.3/46.6	82.3/45.6	79.2/43.5
Maximum Hourly Emission per Unit[b]				
SO_2	lb/hr	3.2	3.1	2.9
	Basis	1.0 grain S/100 CF	1.0 grain S/100 CF	1.0 grain S/100 CF
PM/PM10	lb/hr	10.0	10.0	10.0
	Basis	Dry filterables	Dry filterables	Dry filterables
NO_x	lb/hr	43.0	41.6	38.3
	Basis	9 ppmvd at 15% O_2	9 ppmvd at 15% O_2	9 ppmvd at 15% O_2
CO	lb/hr	29.9	29.0	27.2
	Basis	12 ppmvd	12 ppmvd	12 ppmvd
VOC (as methane)	lb/hr	2.0	1.9	1.8
	Basis	1.4 ppmvd	1.4 ppmvd	1.4 ppmvd

Note: SC = simple cycle; CC = combined cycle; ppmvd = parts per million by volume dry; O_2 = oxygen; S = sulfur; CF = cubic feet

a Refer to Attachment B for detailed information.

b Other regulated pollutants are assumed to have negligible emissions. These pollutants include lead, reduced sulfur compounds, hydrogen sulfide, sulfuric acid mist, fluorides, mercury, municipal waste combustor (MWC) metals, MWC organics, and MWC acid gases.

Table 2-6. Maximum Potential Emissions for the FPL Fort Myers Repowering Project

Pollutant	Number of CTs	Operating Load (%) 100	75	50
PM	1	43.8	43.8	43.8
SO_2	1	22.5	18.0	14.3
NO_x	1	297.8	238.0	188.3
CO	1	196.6	158.6	130.8
VOC	1	13.1	10.6	8.7
PM	6	262.8	262.8	262.8
SO_2	6	135.0	108.0	85.8
NO_x	6	1,786.8	1,428.0	1,129.8
CO	6	1,179.6	951.6	784.8
VOC	6	78.7	63.6	52.2

Note: Based on turbine inlet temperature at 35°F and 60% relative humidity.
All units are in tons per year.

Table 2-7. Performance, Stack Parameters, and Emissions for Natural Gas Heaters

	Data
Performance	
Fuel Usage (scf/hr/unit)	129,000
Heat Input (Btu/hr-HHV)	132.10
Hours per Year	8,760
Number of Units	1
Stack Parameters	
Diameter (ft)	3.5
Height (ft)	20
Temperature (°F)	306
Velocity (ft/sec)	64
Flow (acfm)	36,898
Emissions	
SO_2 -Basis (grains S/100 scf)[a]	1
(lb/hr)	0.369
(TPY)	1.614
NO_x - (lb/MMBtu)[b]	0.100
(lb/hr)	13.210
(TPY)	57.858
CO - (lb/MMBtu)[b]	0.150
(lb/hr)	19.814
(TPY)	86.787
VOC - (lb/MMBtu)[b]	0.006
(lb/hr)	0.793
(TPY)	3.471
PM/PM10 - (lb/10^6 ft^3)[c]	6.200
(lb/hr)	0.800
(TPY)	3.503

[a] Typical maximum for pipeline natural gas.

[b] Manufacturer

[c] AP-42 Table 1.4-2 Filterable PM; higher factor used if small heaters are used.

Table 2-8. Typical Physical, Performance, and Emissions Data for FPL Fort Myers Cooling Tower

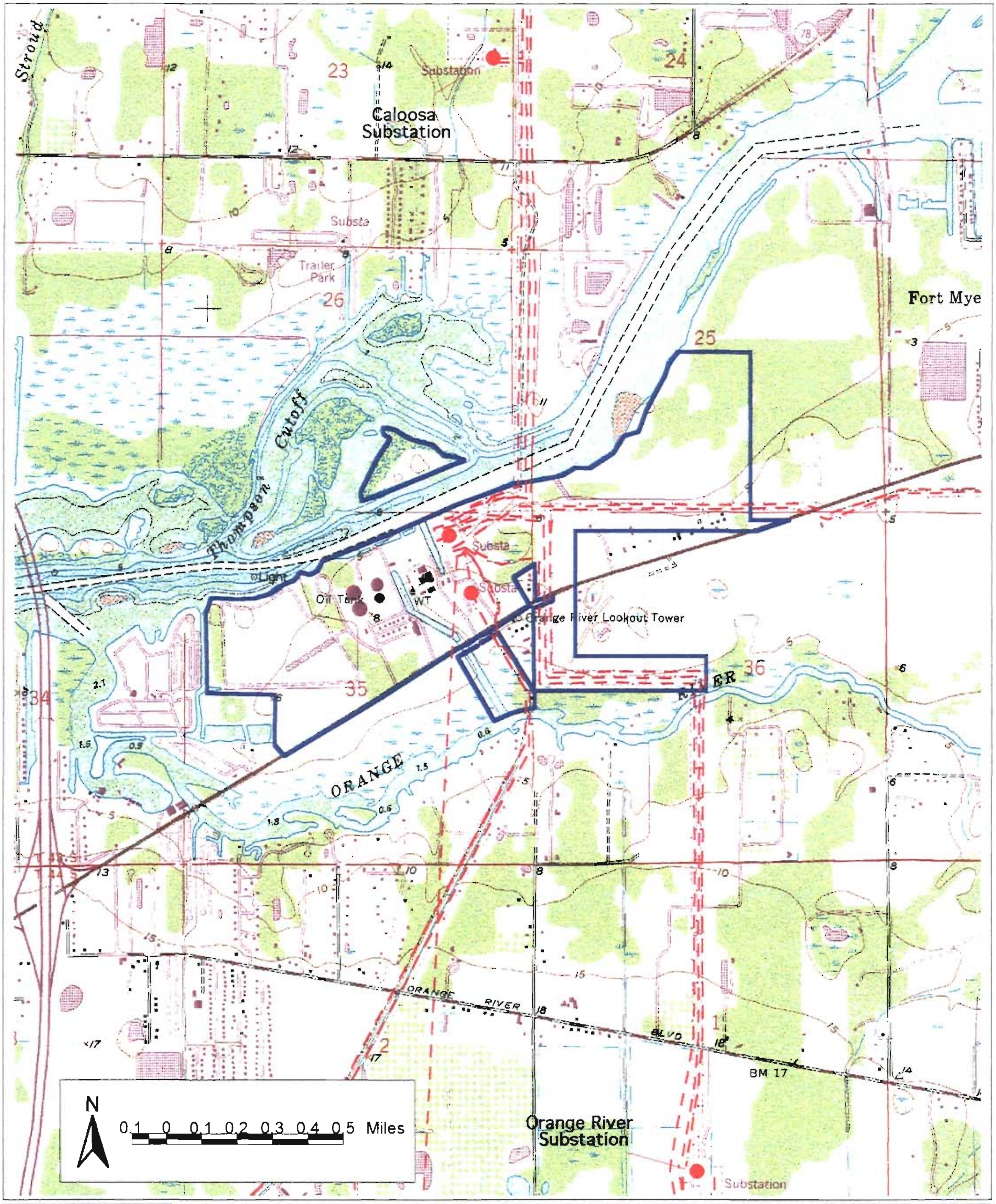
Physical Data	
Tower Type	Mechanical Draft Rectangular
Number of Cells	12
Deck Dimensions, ft	
Length	580
Width	50
Height	31
Stack Dimensions	
Height, ft	45
Stack Top Effective Inner Diameter, per cell, ft	32
Effective Diameter, all cells, ft	110.85
Performance Data	
Discharge Velocity, ft/min	1,600
Circulating Water Flow Rate (CWFR), gpm	170,000
Design hot water temperature, °F	105
Design cold water temperature, °F	90
Heat Rejected, million Btu/hr	1,275
Design Air Flow Rate per cell, acfm	1,388,000
Liquid:Gas Ratio	1.3
Emission Data	
Drift Rate[a] (DR), percent	0.001
TDS Concentration[b], maximum, ppm	30,000
Solution Drift[c] (SD), lb/hr	850
PM Drift[d] , lb/hr	25.5
tons/year	46.6

Notes: [a] Drift rate is the percent of circulating water flow rate.

[b] Maximum TDS at Fort Myers Plant; based on data from South Florida Water Management District.

[c] Includes water.

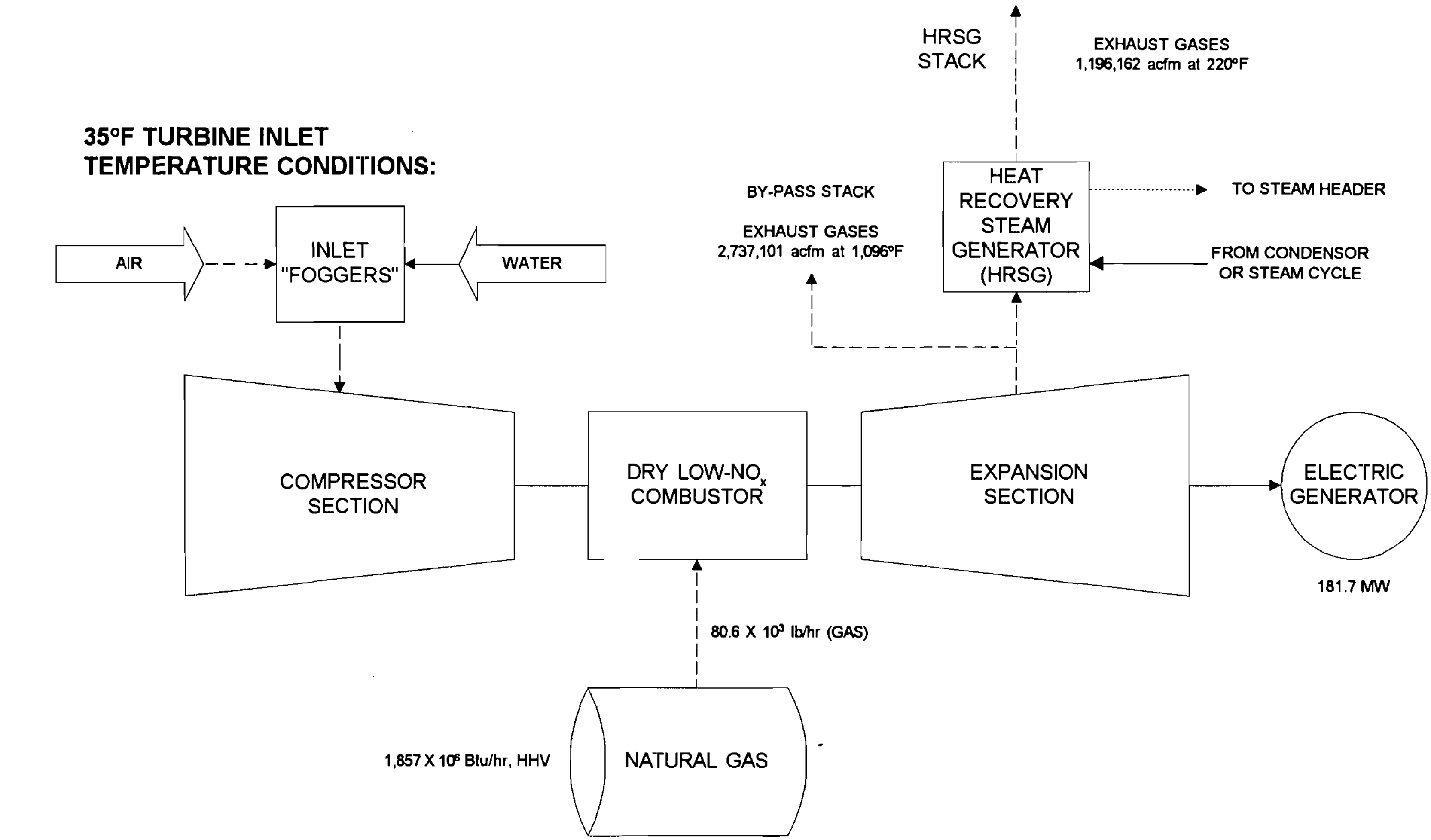
[d] PM calculated based on TDS and drift rates (CWFR x DR x SD x TDS) 170,000 gpm x 0.001/100 x 8.34 lb/g x 30,000 ppm/1,000,000 x 60 min/hr = 25.52 lb/hr; annual emissions based on 5 months operation at maximum TDS. Annual average TDS is 1,000 ppm with a maximum emission of 0.9 lb/hr and 3.7 TPY (assuming 12 months of operation).



FORT MYERS REPOWERING PROJECT

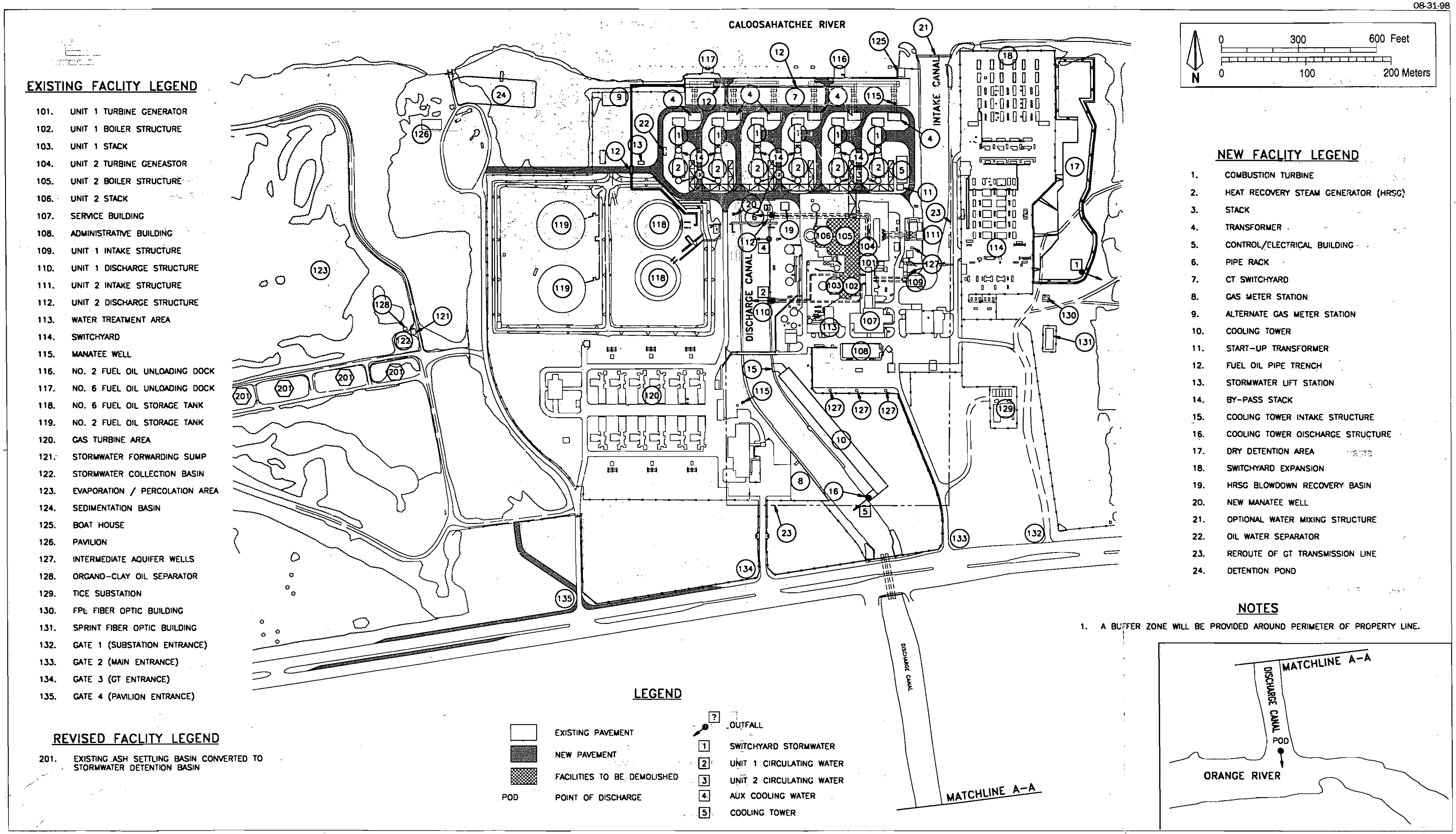
Figure 2-1
Property Boundary of the Fort Myers Plant Site

FPL



NOTE: SEE ATTACHMENT B FOR DESIGN INFORMATION AND STACK PARAMETERS.
BASED ON DATA PROVIDED BY GENERAL ELECTRIC CORPORATION.

FORT MYERS REPOWERING PROJECT	Figure 2-2 Simplified Flow Diagram of GE Frame 7FA Fort Myers Repowering Project	FPL

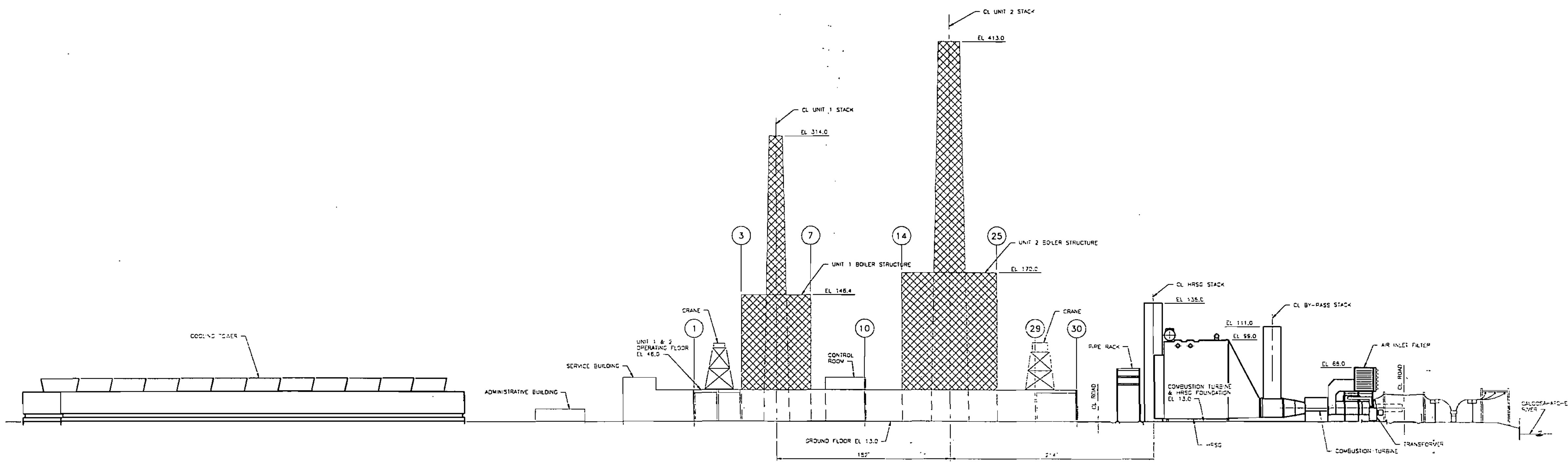


FORT MYERS REPOWERING PROJECT

Figure 2-3
Fort Myers Plant Overall Site Arrangement

Source: Black & Veatch, 1998.

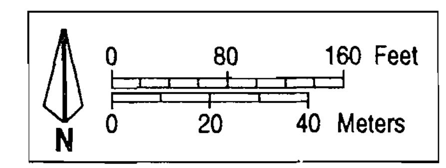
FPL



ELEVATION LOOKING WEST

LEGEND

FACILITIES TO BE DEMOLISHED



FORT MYERS REPOWERING PROJECT

Figure 2-4
Fort Myers Plant Site Elevation

Source: Black & Veatch, 1998.

FPL

3.0 AIR QUALITY REVIEW REQUIREMENTS AND APPLICABILITY

The following discussion pertains to the federal and state air regulatory requirements and their applicability to the proposed Fort Myers Repowering Project. These regulations must be satisfied before the proposed project can begin operation.

3.1 NATIONAL AND STATE AAQS

The existing applicable national and Florida AAQS are presented in Table 3-1. Primary national AAQS were promulgated to protect the public health, and secondary national AAQS were promulgated to protect the public welfare from any known or anticipated adverse effects associated with the presence of pollutants in the ambient air. Areas of the country in violation of AAQS are designated as nonattainment areas, and new sources to be located in or near these areas may be subject to more stringent air permitting requirements.

3.2 PSD REQUIREMENTS

3.2.1 General Requirements

Under federal and State of Florida PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) must be reviewed and a pre-construction permit issued. Florida's State Implementation Plan (SIP), which contains PSD regulations, has been approved by EPA; therefore, PSD permitting authority has been granted to FDEP.

A "major facility" is defined as any one of 28 named source categories that have the potential to emit 100 tons per year (TPY) or more or any other stationary facility that has the potential to emit 250 TPY or more of any pollutant regulated under CAA. "Potential-to-emit" means the capability, at maximum design capacity, to emit a pollutant after the application of control equipment.

A "major modification" is defined under PSD regulations as a change at an existing major facility that increases emissions by greater than significant amounts. PSD significant emission rates are shown in Table 3-2.

EPA has promulgated as regulations certain increases above an air quality baseline concentration level of SO_2, PM10, and NO_2 concentrations that would constitute significant deterioration. The EPA class designations and allowable PSD increments are presented in Table 3-1. The State of Florida has adopted the EPA class designations and allowable PSD increments for SO_2, PM10, and NO_2 increments.

PSD review is used to determine whether significant air quality deterioration will result from the new or modified facility. Federal PSD requirements are contained in 40 CFR 52.21, Prevention of Significant Deterioration of Air Quality. The State of Florida has adopted PSD regulations codified in Rule 62-212.400. Major facilities and major modifications are required to undergo the following analysis related to PSD for each pollutant emitted in significant amounts:

1. Control technology review,
2. Source impact analysis,
3. Air quality analysis (monitoring),
4. Source information, and
5. Additional impact analyses.

In addition to these analyses, a new facility also must be reviewed with respect to GEP stack height regulations, new source performance standards, state and local regulations. Discussions concerning each of these requirements are presented in the following sections.

3.2.2 Control Technology Review

The control technology review requirements of the federal and state PSD regulations require that all applicable federal and state emission-limiting standards be met, and that BACT be applied to control emissions from the source (Rule 62-212.410, F.A.C.). The BACT requirements are applicable to all regulated pollutants for which the increase in emissions from the facility or modification exceeds the significant emission rate (see Table 3-2).

BACT is defined in 52.21 (b)(12) and Rule 62-210.200(40), F.A.C., as:

> An emissions limitation (including a visible emission standard) based on the maximum degree of reduction of each pollutant subject to regulation under the Act which would be emitted by any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60 and 61. If the Administrator determines that

> technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means which achieve equivalent results.

BACT was promulgated within the framework of the PSD requirements in the 1977 amendments of the CAA [Public Law 95-95; Part C, Section 165(a)(4)]. The primary purpose of BACT is to optimize consumption of PSD air quality increments and thereby enlarge the potential for future economic growth without significantly degrading air quality (EPA, 1978; 1980). Guidelines for the evaluation of BACT can be found in EPA's *Guidelines for Determining Best Available Control Technology (BACT)* (EPA, 1978) and in the *PSD Workshop Manual* (EPA, 1980). These guidelines were promulgated by EPA to provide a consistent approach to BACT and to ensure that the impacts of alternative emission control systems are measured by the same set of parameters. In addition, through implementation of these guidelines, BACT in one area may not be identical to BACT in another area. According to EPA (1980), "BACT analyses for the same types of emissions unit and the same pollutants in different locations or situations may determine that different control strategies should be applied to the different sites, depending on site-specific factors. Therefore, BACT analyses must be conducted on a case-by-case basis."

The BACT requirements are intended to ensure that the control systems incorporated in the design of a proposed facility reflect the latest in control technologies used in a particular industry and take into consideration existing and future air quality in the vicinity of the proposed facility. BACT must, as a minimum, demonstrate compliance with new source performance standards (NSPS) for a source (if applicable). An evaluation of the air pollution control techniques and systems, including a cost-benefit analysis of alternative control technologies capable of achieving a higher degree of emission reduction than the proposed control technology, is required. The cost-benefit analysis requires the documentation of the materials, energy, and economic penalties associated with the proposed and alternative control systems, as well as the environmental benefits derived from these systems. A decision on BACT is to be based on sound judgment, balancing environmental benefits with energy, economic, and other impacts (EPA, 1978).

Historically, a "bottom-up" approach consistent with the BACT Guidelines and PSD Workshop Manual has been used. With this approach, an initial control level, which is usually NSPS, is evaluated against successively more stringent controls until a BACT level is selected. However, EPA developed a concern that the bottom-up approach was not providing the level of BACT decisions originally intended. As a result, in December 1987, the EPA Assistant Administrator for Air and Radiation mandated changes in the implementation of the PSD program, including the adoption of a new "top-down" approach to BACT decision making.

The top-down BACT approach essentially starts with the most stringent (or top) technology and emissions limit that have been applied elsewhere to the same or a similar source category. The applicant must next provide a basis for rejecting this technology in favor of the next most stringent technology or propose to use it. Rejection of control alternatives may be based on technical or economic unfeasibility. Such decisions are made on the basis of physical differences (e.g., fuel type), location differences (e.g., availability of water), or significant differences that may exist in the environmental, economic, or energy impacts. The differences between the proposed facility and the facility on which the control technique was applied previously must be justified. EPA has issued a draft guidance document on the top-down approach entitled *Top-Down Best Available Control Technology Guidance Document* (EPA, 1990).

3.2.3 Source Impact Analysis

A source impact analysis must be performed for a proposed major source subject to PSD review for each pollutant for which the increase in emissions exceeds the significant emission rate (Table 3-2). The PSD regulations specifically provide for the use of atmospheric dispersion models in performing impact analyses, estimating baseline and future air quality levels, and determining compliance with AAQS and allowable PSD increments. Designated EPA models normally must be used in performing the impact analysis. Specific applications for other than EPA-approved models require EPA's consultation and prior approval. Guidance for the use and application of dispersion models is presented in the EPA publication Guideline on Air Quality Models (Revised). The source impact analysis for criteria pollutants to address compliance with AAQS and PSD Class II increments may be limited to the new or modified source if the net increase in impacts as a result of the new or modified source is above significance levels, as presented in Table 3-1.

If the project's impacts are above the significant impact levels, then a more detailed air modeling analysis that includes background sources is performed. Current FDEP policies stipulate that the highest annual average and highest short-term (i.e., 24 hours or less) concentrations are to be compared to the applicable significant impact levels. Based on the screening modeling analysis results, additional modeling refinements with a denser receptor grid are performed, as necessary, to obtain the maximum concentration. Modeling refinements are performed with a receptor grid spacing of 100 meters (m) or less.

In general, when 5 years of meteorological data are used in the analysis, the highest annual and the highest, second-highest (HSH) short-term concentrations are compared to the applicable AAQS and allowable PSD increments. The HSH concentration is calculated for a receptor field by:

1. Eliminating the highest concentration predicted at each receptor,
2. Identifying the second-highest concentration at each receptor, and
3. Selecting the highest concentration among these second-highest concentrations.

This approach is consistent with air quality standards and allowable PSD increments, which permit a short-term average concentration to be exceeded once per year at each receptor.

The EPA has proposed significant impact levels for Class I areas. The National Park Service (NPS) as the designated agency for oversight in air quality impacts to Class I areas has also recommended significant impact levels for PSD Class I areas. The levels are as follows:

Pollutant	Averaging Time	Proposed EPA PSD Class I Significant Impact Levels ($\mu g/m^3$)	Recommended NPS PSD Class I Significance Level ($\mu g/m^3$)
SO_2	3-hour	1	0.48
	24-hour	0.2	0.07
	Annual	0.1	0.03
PM10	24-hour	0.3	0.27
	Annual	0.2	0.08
NO_2	Annual	0.1	0.03

$\mu g/m^3$ = micrograms per cubic meter.

Although these levels have not been officially promulgated as part of the PSD review process and may not be binding for states in performing PSD review, the proposed levels serve as a guideline in assessing a source's impact in a Class I area. The EPA action to incorporate Class I significant impact levels in the PSD process is part of implementing NSR provisions of the 1990 CAA Amendments. Because the process of developing the regulations will be lengthy, EPA believes that the proposed rules concerning the significant impact levels is appropriate in order to assist states in implementing the PSD permit process.

Generally, if a new project also is within 150 km of a PSD Class I area, then a significant impact analysis is also performed for the PSD Class I area. Currently, the National Park Service (NPS) has recommended significant impact levels for PSD Class I areas. The recommended levels have not been promulgated as rules. EPA also has proposed PSD Class I significant impact levels that have not been finalized as of this report.

Various lengths of record for meteorological data can be used for impact analysis. A 5-year period can be used with corresponding evaluation of highest-, second-highest short-term concentrations for comparison to AAQS or PSD increments. The term *highest-, second-highest* (HSH) refers to the highest of the second-highest concentrations at all receptors (i.e., the highest concentration at each receptor is discarded). The second-highest concentration is significant because short-term AAQS specifies that the standard should not be exceeded at any location more than once a year. If fewer than 5 years of meteorological data are used in the modeling analysis, the highest concentration at each receptor normally must be used for comparison to air quality standards.

The term *baseline concentration* evolves from federal and state PSD regulations and refers to a concentration level corresponding to a specified baseline date and certain additional baseline sources. By definition, in the PSD regulations as amended August 7, 1980, baseline concentration means the ambient concentration level that exists in the baseline area at the time of the applicable baseline date. A baseline concentration is determined for each pollutant for which a baseline date is established and includes:

1. The actual emissions representative of facilities in existence on the applicable baseline date; and

2. The allowable emissions of major stationary facilities that commenced construction before January 6, 1975, for SO_2 and PM(TSP) concentrations, or February 8, 1988, for NO_2 concentrations, but that were not in operation by the applicable baseline date.

The following emissions are not included in the baseline concentration and therefore affect PSD increment consumption:

1. Actual emissions from any major stationary facility on which construction commenced after January 6, 1975, for SO_2 and PM(TSP) concentrations, and after February 8, 1988, for NO_2 concentrations; and
2. Actual emission increases and decreases at any stationary facility occurring after the baseline date.

In reference to the baseline concentration, the term "baseline date" actually includes three different dates:

1. The major facility baseline date, which is January 6, 1975, in the cases of SO_2 and PM(TSP), and February 8, 1988, in the case of NO_2.
2. The minor facility baseline date, which is the earliest date after the trigger date on which a major stationary facility or major modification subject to PSD regulations submits a complete PSD application.
3. The trigger date, which is August 7, 1977, for SO_2 and PM(TSP), and February 8, 1988, for NO_2.

The minor source baseline date for SO_2 and PM(TSP) has been set as December 27, 1977, for the entire State of Florida (Rule 62-275.700(1)(a), F.A.C.). The minor source baseline for NO_2 has been set as March 28, 1988 (Rule 62-275.700(3)(a), F.A.C). It should be noted that references to PM(TSP) are also applicable to PM10.

3.2.4 Air Quality Monitoring Requirements

In accordance with requirements of 40 CFR 52.21(m) and Rule 62-212.400(5)(f), F.A.C,, any application for a PSD permit must contain an analysis of continuous ambient air quality data in the area affected by the proposed major stationary facility or major modification. For a new major facility, the affected pollutants are those that the facility potentially would emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate (see Table 3-2).

Ambient air monitoring for a period of up to 1 year generally is appropriate to satisfy the PSD monitoring requirements. A minimum of 4 months of data is required. Existing data from the vicinity of the proposed source may be used if the data meet certain quality assurance requirements; otherwise, additional data may need to be gathered. Guidance in designing a PSD monitoring network is provided in EPA's *Ambient Monitoring Guidelines for Prevention of Significant Deterioration* (EPA, 1987).

The regulations include an exemption that excludes or limits the pollutants for which an air quality analysis must be conducted. This exemption states that FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause, in any area, air quality impacts less than the *de minimis* levels presented in Table 3-2 (Rule 62-212.400-3, F.A.C.).

3.2.5 Source Information/Good Engineering Practice Stack Height

Source information must be provided to adequately describe the proposed project. The general type of information required for this project is presented in Section 2.0.

The 1977 CAA Amendments require that the degree of emission limitation required for control of any pollutant not be affected by a stack height that exceeds GEP or any other dispersion technique. On July 8, 1985, EPA promulgated final stack height regulations (EPA, 1985a). Identical regulations have been adopted by FDEP (Rule 62-210.550, F.A.C.). GEP stack height is defined as the highest of:

1. 65 meters (m); or
2. A height established by applying the formula:

   $Hg = H + 1.5L$

   where: Hg = GEP stack height,

   H = Height of the structure or nearby structure, and

   L = Lesser dimension (height or projected width) of nearby structure(s); or
3. A height demonstrated by a fluid model or field study.

"Nearby" is defined as a distance up to five times the lesser of the height or width dimensions of a structure or terrain feature, but not greater than 0.8 km. Although GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height, the actual stack height may be greater.

The stack height regulations also allow increased GEP stack height beyond that resulting from the above formula in cases where plume impaction occurs. Plume impaction is defined as concentrations measured or predicted to occur when the plume interacts with elevated terrain. Elevated terrain is defined as terrain that exceeds the height calculated by the GEP stack height formula.

3.2.6 Additional Impact Analysis

In addition to air quality impact analyses, federal and State of Florida PSD regulations require analyses of the impairment to visibility and the impacts on soils and vegetation that would occur as a result of the proposed source [40 CFR 52.21(o); Rule 62-212.400(5)(e), F.A.C.]. These analyses are to be conducted primarily for PSD Class I areas. Impacts as a result of general commercial, residential, industrial, and other growth associated with the source also must be addressed. These analyses are required for each pollutant emitted in significant amounts (Table 3-2).

3.3 NONATTAINMENT RULES

Based on the current nonattainment provisions (Rule 62-212.500, F.A.C.), all major new facilities and modifications to existing major facilities located in a nonattainment area must undergo nonattainment review. A new major facility is required to undergo this review if the proposed pieces of equipment have the potential to emit 100 TPY or more of the nonattainment pollutant. A major modification at a major facility is required to undergo review if it results in a significant net emission increase of 40 TPY or more of the nonattainment pollutant or if the modification is major (i.e., 100 TPY or more).
For major facilities or major modifications that locate in an attainment or unclassifiable area, the nonattainment review procedures apply if the source or modification is located within the area of influence of a nonattainment area. The area of influence is defined as an area that is outside the boundary of a nonattainment area but within the locus of all points that are 50 km outside the boundary of the nonattainment area. Based on Rule 62-2.500(2)(c)2.a., F.A.C., all VOC sources that are located within an area of influence are exempt from the provisions of NSR for nonattainment areas. Sources that emit other nonattainment pollutants and are located within the area of influence are subject to nonattainment review unless the maximum allowable emissions from the proposed source do not have a significant impact within the nonattainment area.

3.4 EMISSION STANDARDS

3.4.1 New Source Performance Standards

The NSPS are a set of national emission standards that apply to specific categories of new sources. As stated in the CAA Amendments of 1977, these standards "shall reflect the degree of emission limitation and the percentage reduction achievable through application of the best technological system of continuous emission reduction the Administrator determines has been adequately demonstrated."

Stationary electric utility gas turbines with a heat input at peak load equal to 10.7 gigajoules per hour (10 MMBtu/hr), based on the lower heating value of the fuel fired, are subject to NO_x and SO_2 emission limitations covered under 40 CFR Subpart GG, which limits emissions.

NO_x emissions are limited to 75 ppmvd corrected to 15 percent oxygen and heat rate while sulfur dioxide emissions are limited to using a fuel with a sulfur content of 0.8 percent. In addition to emission limitations, these are requirements for notification, record keeping, reporting, performance testing and monitoring. These are summarized below:

40 CFR 60.7 Notification and Record Keeping

(a)(1) Notification of the date of construction - 30 days after such date.

(a)(2) Notification of the date of initial start-up - no more than 60 days or less than 30 days prior to date.

(a)(3) Notification of actual date of initial start-up - within 15 days after such date.

(a)(5) Notification of date which demonstrates CEM - not less than 30 days prior to date.

60.7 (b) Maintain records of the start-up, shutdown, and malfunction quarterly.

(c) Excess emissions reports - by the 30th day following end of quarter. (required even if no excess emissions occur)

(d) Maintain file of all measurements for two years.

60.8 Performance Tests

(a) must be performed within 60 days after achieving maximum production rate but no later than 180 days after initial start-up.

(d) Notification of Performance tests at least 30 days prior to them occurring.

40 CFR Subpart GG

60.334 Monitoring of Operations

(a) continuous monitoring system required for water-to-fuel ratio to meet NSPS; system must be accurate within ± 5 percent.

(b) Monitor sulfur and nitrogen content of fuel (Exceptions provided for natural gas firing).

Industrial, commercial, and institutional steam-generating units with a heat input greater than 100 MMBtu/hr are required to meet the NSPS in Subpart Db. For natural gas firing, NO_x emissions are limited to 0.2 lb/MMBtu for high-heat-release units and 0.1 lb/MMBtu for low-heat-release units [Section 60.44b(a)(1)]. A continuous emission monitoring (CEM) system for NO_x is required if the annual capacity factor is greater than 10 percent. There are no emission or monitoring requirements for emissions of PM or SO_2 when firing natural gas.

3.4.2 Florida Rules

The FDEP regulations for new stationary sources are covered in the F.A.C. FDEP has adopted the EPA NSPS by reference in Rule 62-204.800(7); subsection (b)38 for stationary gas turbines. FDEP has authority for implementing NSPS requirements in Florida.

3.4.3 Florida Air Permitting Requirements

FDEP regulations require any modification to an existing major source to obtain an air permit prior to construction. Major modifications must meet the appropriate PSD and nonattainment requirements as discussed previously. Required permits and approvals for air pollution sources include NSR for nonattainment areas, PSD, NSPS, National Emission Standards for Hazardous Air Pollutants (NESHAP), Permit to Construct, and Permit to Operate. The requirements for construction permits and approvals are contained in Rules 62-4.030, 62-4.050, 62-4.052, 62-4.210, and 62-210.300(1), F.A.C. Specific emission standards are set forth in Chapter 62-296, F.A.C.

3.4.4 Hazardous Pollutant Review

FDEP has issued guidelines (FDEP, 1995) to determine whether any emission of a potentially hazardous or toxic pollutant can pose a possible health risk to the public. Maximum concentrations for all regulated pollutants for which an ambient standard does not exist and all nonregulated hazardous pollutants are to be compared to ambient reference concentrations (ARCs) for each applicable pollutant. If the maximum predicted concentration for any hazardous pollutant is less than the corresponding ARC for each applicable averaging time, that emission is considered not to pose a significant health risk. However, the ARCs are not environmental standards but, rather, evaluation tools to determine if an apparent threat to the public health may exist.

3.4.5 Local Air Regulations

Lee County does not have specific regulations regarding ambient air quality or air pollutant emissions. The Lee County Comprehensive Plan identifies goals and objectives (Goal 88: Air Quality), which indicate that the county should maintain the best possible air quality, meet or be better than the ambient air quality standards, promote measures for preserving and improving current air quality, and maintain the present attainment status.

3.5 SOURCE APPLICABILITY

3.5.1 Area Classification

The Fort Myers Plant site is located in Lee County, which has been designated by EPA and FDEP as an attainment area for all criteria pollutants. Lee County and surrounding counties are designated as PSD Class II areas for SO_2, PM(TSP), and NO_2. The nearest Class I area to the site is the Everglades National Park located 97.2 km (60.8 miles) from the site.

3.5.2 PSD Review

3.5.2.1 Pollutant Applicability

The existing Fort Myers Plant project is a major facility because the emissions of several regulated pollutants are estimated to exceed 100 TPY. PSD review would be required for any pollutant for which the emissions from the repowered facility minus the actual emissions of the existing facility exceed the PSD significant emission rate. As shown in Table 3-3, potential emissions from the proposed repowering project minus the actual emissions from existing Units 1 and 2 do not trigger PSD review.

3.5.2.2 Emission Standards

The applicable NSPS for the CTs is 40 CFR Part 60, Subpart GG. The proposed emissions for the turbines will be well below the specified limits (see Section 4.0). The applicable NSPS for CTs are codified in 40 CFR 60, Subpart GG. The applicable NSPS emission limit for NO_x is 75 parts per million by volume dry (ppmvd) corrected for heat rate and 15 percent oxygen. For the CTs being considered for the project, the NSPS emission limit NO_x with the NSPS heat rate correction is 110.3 parts per million (ppm) on gas (corrected to 15 percent oxygen). The proposed NO_x emission limits for the project will be much lower than the NSPS.

The requirements of Section 60.334(b) suggest that daily monitoring of sulfur and nitrogen content is required. FDEP, using EPA guidance dated August 14, 1987, has provided custom fuel monitoring schedules in PSD and Title V permits. Recently, EPA Region V extended the guidance regarding the use of pipeline-supplied natural gas (refer to Attachment C containing EPA Region V Determination Detail dated 1/16/96). This guidance eliminates the requirements for fuel sampling of pipeline natural gas under certain conditions, including:

- Issuance of an approved Phase II Acid Rain Permit,
- Submittal of a monitoring plan stating that pipeline natural gas will be the primary fuel, and
- Monitoring of SO_2 using the applicable methods in 40 CFR Part 75.

FPL proposes that this guidance be used as a condition of the Fort Myers Repowering Project in lieu of previous custom fuel monitoring schedules. A recent project in South Carolina was approved with the new EPA guidance, and it is FPL's understanding that EPA Region IV concurred with this approach.

If either a steam boiler or direct-fired heater is used to heat natural gas, NO_x emissions would be limited to 0.1 lb/MMBtu or less. This level of NO_x emissions would meet the requirements of NSPS Subpart Db. If direct-fired heaters are used, the heat input would be less than 100 MMBtu/heater and no steam or other heat transfer fluid would be used. As a result, the requirements of NSPS Subpart Dc (small industrial, commercial and institutional steam-generating units from 100 to 10 MMBtu/hr heat input) would not be applicable.

3.5.2.3 Ambient Monitoring

Based on the estimated pollutant emissions from the Project, a preconstruction ambient monitoring analysis is not required for any regulated pollutant.

3.5.2.4 GEP Stack Height Impact Analysis

The GEP stack height regulations allow any stack to be at least 65 m [213 feet (ft)] high. The CT stacks for the project will be 125 ft. This stack height does not exceed the GEP stack height. However, as discussed in Section 6.0, Air Quality Modeling Approach, since the stack height is less than GEP, building downwash effects must be considered in the modeling analysis. As a result, the potential for downwash of the CTs' emissions caused by nearby structures is included in the modeling analysis.

3.5.3 NONATTAINMENT REVIEW

The project site is located in Lee County, which is classified as an attainment area for all criteria pollutants. Therefore, nonattainment requirements are not applicable.

3.5.4 Other Clean Air Act Requirements

The 1990 CAA Amendments established a program to reduce potential precursors of acidic deposition. The Acid Rain Program was delineated in Title IV of the CAA Amendments and required EPA to develop the program. EPA's final regulations were promulgated on January 11, 1993, and included permit provisions (40 CFR Part 72), allowance system (Part 73), continuous emission monitoring (Part 75), excess emission procedures (Part 77), and appeal procedures (Part 78).

EPA's Acid Rain Program applies to all existing and new utility units except those serving a generator less than 25 MW, existing simple-cycle CTs, and certain non-utility facilities; units which fall under the program are referred to as affected units. The EPA regulations would be applicable to the proposed project for the purposes for obtaining a permit and allowances, as well as emission monitoring. New units are required to obtain permits under the program by submitting a complete application 24 months before the later of January 1, 2000, or the date on which the unit begins serving an electric generator (greater than 25 MW).

The permit would provide SO_2 and NO_x emission limitations and the requirement to hold emission allowances. Emission limitations established in the Acid Rain Program are presumed to be less stringent than BACT or lowest achievable emission rate (LAER) for new units. An allowance is a market-based financial instrument that is equivalent to 1 ton of SO_2 emissions. Allowances can be sold, purchased, or traded. For the proposed project, SO_2 allowances will be generated by the reduction in SO_2 emissions from Units 1 and 2.

CEM systems for SO_2 and NO_x are potentially required for gas-fired and oil-fired affected units. When an SO_2 CEM is selected to monitor SO_2 mass emissions, a flow monitor is also required. Alternately, SO_2 emissions may be determined using procedures established in Attachment D, 40 CFR Part 75 (flow proportional oil sampling or manual daily oil sampling). CO_2 emissions must also be determined either through a CEM (e.g., as a diluent for NO_X monitoring) or calculation. Alternate procedures, test methods, and quality assurance/quality control (QA/QC) procedures for CEM are specified (Part 75 Appendices A through I). The CEM requirements including QA/QC procedures are, in general, more stringent than those specified in the NSPS for Subpart GG. New units are required to meet the requirements by the later of January 1, 1995, or not later than 90 days after the unit commences commercial operation. For the Fort Myers Repowering Project, CEM systems will be used to determine emissions for NO_x. The monitoring location will be prior to the bypass stack within the CT exhaust. This will allow monitoring during both simple- and combined-cycle operation. The procedures in 40 CFR Part 75, Appendix D, will be used to monitor SO_2 emissions.

3.5.5 Local Air Regulations

The substantial reduction in air pollutant emissions from shutting down the steam generators for Units 1 and 2 and the resulting lower air quality impacts will meet the County's objective outlined in the comprehensive plan.

Table 3-1. National and State AAQS, Allowable PSD Increments, and Significant Impact Levels

Pollutant	Averaging Time	AAQS ($\mu g/m^3$) Primary Standard	AAQS ($\mu g/m^3$) Secondary Standard	AAQS ($\mu g/m^3$) Florida	PSD Increment ($\mu g/m^3$) Class I	PSD Increment ($\mu g/m^3$) Class II	Significant Impact Level ($\mu g/m^3$) [b]
Particulate Matter[c] (PM10)	Annual Arithmetic Mean	50	50	50	4	17	1
	24-Hour Maximum	150	150	150	8	30	5
Sulfur Dioxide	Annual Arithmetic Mean	80	NA	60	2	20	1
	24-Hour Maximum	365	NA	260	5	91	5
	3-Hour Maximum	NA	1,300	1,300	25	512	25
Carbon Monoxide	8-Hour Maximum	10,000	10,000	10,000	NA	NA	500
	1-Hour Maximum	40,000	40,000	40,000	NA	NA	2,000
Nitrogen Dioxide	Annual Arithmetic Mean	100	100	100	2.5	25	1
Ozone[c]	1-Hour Maximum[d]	235	235	235	NA	NA	NA
Lead	Calendar Quarter Arithmetic Mean	1.5	1.5	1.5	NA	NA	NA

Note: Particulate matter (PM10) = particulate matter with aerodynamic diameter less than or equal to 10 micrometers.
NA = Not applicable, i.e., no standard exists.

[a] Short-term maximum concentrations are not to be exceeded more than once per year.

[b] Maximum concentrations are not to be exceeded.

[c] On July 18, 1997, EPA promulgated revised AAQS for particulate matter and ozone. For particulate matter, PM2.5 standards were introduced with a 24-hour standard of 65 g/m^3 (3-year average of 98th percentile) and an annual standard of 15 g/m^3 (3-year average at community monitors). Implementation of these standards is many years away. The ozone standard was modified to be 0.08 ppm for 3-hour average; achieved when 3-year average of 99th percentile is 0.08 ppm or less. FDEP has not yet adopted these standards.

[d] 0.12 ppm; achieved when the expected number of days per year with concentrations above the standard is fewer than 1.

Sources: Federal Register, Vol. 43, No. 118, June 19, 1978.
40 CFR 50; 40 CFR 52.21.
Chapter 62-272, F.A.C.

Table 3-2. PSD Significant Emission Rates and *De Minimis* Monitoring Concentrations

Pollutant	Regulated Under	Significant Emission Rate (TPY)	*De Minimis* Monitoring Concentration[a] ($\mu g/m^3$)
Sulfur Dioxide	NAAQS, NSPS	40	13, 24-hour
Particulate Matter [PM(TSP)]	NSPS	25	10, 24-hour
Particulate Matter (PM10)	NAAQS	15	10, 24-hour
Nitrogen Dioxide	NAAQS, NSPS	40	14, annual
Carbon Monoxide	NAAQS, NSPS	100	575, 8-hour
Volatile Organic Compounds (Ozone)	NAAQS, NSPS	40	100 TPY[b]
Lead	NAAQS	0.6	0.1, 3-month
Sulfuric Acid Mist	NSPS	7	NM
Total Fluorides	NSPS	3	0.25, 24-hour
Total Reduced Sulfur	NSPS	10	10, 1-hour
Reduced Sulfur Compounds	NSPS	10	10, 1-hour
Hydrogen Sulfide	NSPS	10	0.2, 1-hour
Mercury	NESHAP	0.1	0.25, 24-hour
MWC Organics	NSPS	3.5×10^{-6}	NM
MWC Metals	NSPS	15	NM
MWC Acid Gases	NSPS	40	NM
MSW Landfill			

Note: Ambient monitoring requirements for any pollutant may be exempted if the impact of the increase in emissions is below *de minimis* monitoring concentrations.

NAAQS = National Ambient Air Quality Standards.
NM = No ambient measurement method established; therefore, no *de minimis* concentration has been established.
NSPS = New Source Performance Standards.
NESHAP = National Emission Standards for Hazardous Air Pollutants.
$\mu g/m^3$ = micrograms per cubic meter.
MWC = municipal waste combustor.
MSW = municipal solid waste.

[a] Short-term concentrations are not to be exceeded.
[b] No *de minimis* concentration; an increase in VOC emissions of 100 TPY or more will require monitoring analysis for ozone.
[c] Any emission rate of these pollutants.

Sources: 40 CFR 52.21.
Rule 62-212.400

Table 3-3. Net Emission Changes Due to the Proposed FPL Fort Myers Repowering Project Compared to the PSD Significant Emission Rates

	Pollutant Emissions (TPY) from Repowered Facility				
Pollutant	Actual Emissions	Potential Emissions[a]	Net Emissions Change	Significant Emission Rate	PSD Review
Sulfur Dioxide	20,561	137	-20,424	40	No
Particulate Matter [PM(TSP)]	607	313	-294	25	No
Particulate Matter (PM10)	607	290[b]	-317	15	No
Nitrogen Dioxide	7,095	1,845	-5,250	40	No
Carbon Monoxide	1,507	1,267	-240	100	No
Volatile Organic Compounds	46.7	82.2	35.5	40	No
Lead	0.05	NEG	-0.05	0.6	No
Sulfuric Acid Mist	915	20.7	-894	7	No
Total Fluorides	58	NEG	-58	3	No
Total Reduced Sulfur	NEG	NEG	–	10	No
Reduced Sulfur Compounds	NEG	NEG	–	10	No
Hydrogen Sulfide	NEG	NEG	–	10	No
Mercury	0.021	<0.0001	-0.021	0.1	No
MWC Organics (as 2,3,7,8-TCDD)	8.7×10^{-8}	5.9×10^{-8}	-2.8×10^{-8}	3.5×10^{-6}	No
MWC Metals (as Be and Cd)	0.0513	NEG	-0.0153	15	No
MWC Acid Gases (as HCl)	25.1	NEG	-25.1	40	No

Note: NEG = Negligible; MWC= Municipal Waste Combustor

[a] Based on emissions when operating at base load at 35°F; firing natural gas for 8,760 hours per year per turbine (total of six CTs); cooling tower and natural gas heater (refer to Table 2-1).

[b] Assumes one-half of the cooling tower drift emissions is PM10.

4.0 CONTROL TECHNOLOGY DESCRIPTION

4.1 NITROGEN OXIDES

The CT proposed for the project will utilize advanced dry low-NO_x combustors at an emission rate of 9 ppmvd corrected to 15 percent O_2.

Dry low-NO_x combustor technology has been offered and installed by manufacturers to reduce NO_x emissions by inhibiting thermal NO_x formation through premixing fuel and air prior to combustion and providing staged combustion to reduce flame temperatures. NO_x emission rates of 25 ppmvd (corrected to 15 percent O_2) and less have been offered by manufacturers for advanced combustion turbines. Advanced in this context is the larger (over 150 MW) and more efficient (higher initial firing temperatures and lower heat rate) combustion turbines. This technology is truly pollution prevention since NO_x emissions are inhibited from forming.

The permitting trend for advanced (i.e., Frame "F" class) combustion turbines is the use of dry low-NO_x combustors. At least five projects in Florida (Florida Power & Light Martin Units 3 and 4; Florida Power Corporation Polk Power Park; and Central Florida Cogeneration Project; Hardee Unit 3 Project, and the City of Tallahassee Purdom Unit 8 Project) have been permitted using this technology.

This type of machine advances the state-of-the-art for CTs by being more efficient and less polluting than previous CTs. Integral to the machine's design is dry low-NO_x combustors that prevent the formation of air pollutants within the combustion process, thereby eliminating the need for add-on controls that can have detrimental effects on the environment. An analogy of this technology is a more efficient automotive engine that gives better mileage and reduces pollutant formation without the need of a catalytic converter.

An advanced gas turbine is unique from an engineering perspective in two ways. First, the advanced machine is larger and has higher initial firing (i.e., combustion) temperatures than conventional turbines. This results in a larger, more thermally efficient machine. For example, the electrical generating capability of the selected Class F advanced machine is about 170 MW compared to 70 to 120 MW for conventional machines. The higher initial firing temperature (i.e., 2,400°F) results in about 10 percent more electrical energy produced for the same amount of fossil fuel used in conventional machines. This has the added advantage of producing lower air pollutant emissions (e.g.,

NO_x, PM, and CO) for each MW generated. While the increased firing temperature increases the thermal NO_x generated, this NO_x increase is controlled through combustor design.

The second unique attribute of the advanced machine is the use of dry low-NO_x combustors that will reduce NO_x emissions to 9 ppmvd corrected to 15 percent O_2. Thermal NO_x formation is inhibited by using staged combustion techniques where the natural gas and combustion air are premixed prior to ignition. This level of control will result in NO_x emissions of about 0.03 lb/10^6 Btu, which is significantly less than the emission rate from the existing fossil-fuel-fired steam generators.

The GE Frame 7FA will be equipped with the GE dry low-NO_x 2.6 (DLN-2.6) combustion system that regulates the distribution of fuel delivery to a multi-nozzle, total premix combustor arrangement. The fuel flow distribution to each combustion system fuel nozzle is regulated to maintain unit load and optimum turbine emissions. The DLN-2.6 combustion system consists of six fuel nozzles per combustion can, with each operating as a fully premixed combustor. Of the six nozzles, five are located radially and one is in the center. The fuel system is fully automated and sequences the DLN-2.6 combustion system through a number of staging modes prior to reaching full load. The GE Frame 7FA has 14 combustors per turbine. GE has guaranteed 9 ppmvd corrected to 15 percent oxygen for the Fort Myers Repowering Project. Similar systems have been field tested at or below 9 ppmvd corrected to 15 percent O_2. An emission limit of 9 ppmvd corrected to 15 percent O_2 on a 30-day rolling average basis is being requested. This provides some margin for operation in future years while still providing considerable reduction in NO_x emissions from the facility. A description of the GE dry low-NO_x system is included in Attachment B.

4.2 CARBON MONOXIDE

Emissions of CO are dependent upon the combustion design, which is a result of the manufacturer's operating specifications. The CTs proposed for the project have designs to optimize combustion efficiency and minimize CO as well as NO_x emissions. The emissions limit proposed for CO is 12 ppmvd, which is within the range of limits established as BACT for other projects. FDEP approved an emission limit of 25 ppmvd for the City of Tallahassee Purdom Unit 8 Project. GE has guaranteed 9 ppmvd for the Fort Myers Repowering Project. The requested limit provides additional margin while still reducing CO emissions from the facility.

4.3 VOLATILE ORGANIC COMPOUNDS

VOCs will be emitted by the CT as a result of incomplete combustion. Emissions of VOCs will be limited by the use of combustion technology and clean fuels so that emissions will not exceed 1.4 ppmvd with natural gas firing. These emission levels are similar to the BACT emission levels established for other similar sources.

4.4 PM/PM10, SO_2, AND OTHER REGULATED AND NONREGULATED POLLUTANT EMISSIONS

The PM/PM10 emissions from the CTs are a result of incomplete combustion and trace elements in the fuel. The design of the CT ensures that particulate emissions will be minimized by combustion controls and the use of natural gas.

4.5 PROPOSED EMISSION LIMITS

Table 4-1 presents a summary of the emission limits proposed for the project including averaging times and compliance methods.

Table 4-1. Proposed Emission Limits for the CTs Associated with the Fort Myers Repowering Project

Pollutant	Proposed Limit	Averaging Time	Compliance Method
Nitrogen Oxides	9 ppmvd corrected to 15% O_2	30-day rolling average	Part 75 CEM
Carbon Monoxide	12 ppmvd	Initial compliance test	EPA Method 10
Sulfur Dioxide	1 grain per 100 scf	Annual average	Supplier analyses
Volatile Organic Compounds	1.4 ppmvd	Initial compliance test	EPA Method 25A
Particulate Matter	10% opacity or less	6-minute average	EPA Method 9

pmvd = parts per million (volume), dry

5.0 AMBIENT MONITORING DATA

The Fort Myers Plant is located in a rural area of Lee County which has a minimal number of air pollution sources. A number of air monitoring stations have operated in the county over the past several years to measure air concentrations from existing sources. A summary of the maximum pollutant concentrations measured in Lee County from 1994 to 1997 is presented in Table 5-1. The monitoring locations are presented in Figure 5-1. These data indicate that the maximum PM10 and O_3 concentrations measured in the county are well below applicable standards.

Recent measurements through July 1998 also show that the maximum O_3 concentrations are below the AAQS. The highest and second-highest 1-hour average O_3 concentrations at the Cape Coral monitoring site were 0.117 and 0.109 ppm, respectively. At the Fort Myers Beach site (intersection of School and Bay Streets), the highest and second-highest 1-hour O_3 concentrations were 0.103 and 0.102 ppm, respectively.

In addition to the monitors in Lee County, FDEP operates a PM10 ambient monitor in Naples, Collier County, about 48 km (30 miles) to south of the plant site. The maximum concentrations from this monitoring station are well below the applicable ambient standards. No other FDEP-operated ambient air monitoring stations are located in adjacent counties.

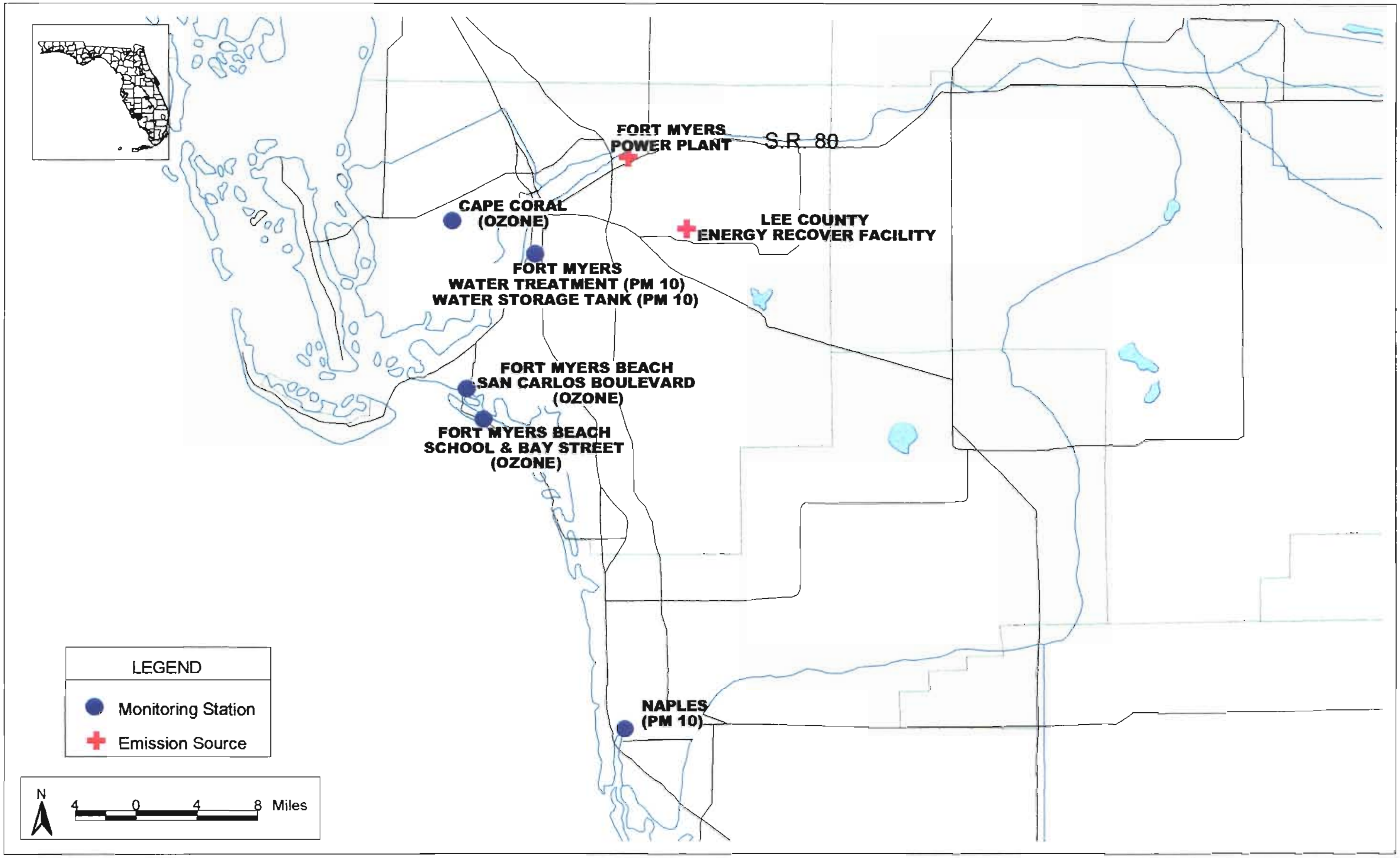
Given the lack of industrial development in the vicinity of the plant, existing concentrations of other criteria pollutants, i.e., SO_2, NO_2, CO, and Pb, which are usually associated with an urban environment, are expected to be well below the AAQS.

Table 5-1. Summary of Maximum PM10 and O_3 Concentrations Measured in Lee and Collier Counties, 1994 to 1997

Saroad Site No.	Operator	Location [a]	Measurement Period Year	Measurement Period Months	Number of Observations	Concentration (ppm) 1-Hour Highest	Concentration (ppm) 1-Hour Second-Highest	Concentration (µg/m³) 24-Hour Highest	Concentration (µg/m³) 24-Hour Second-Highest	Concentration (µg/m³) Period Average
PM10										
		Florida AAQS				**NA**	**NA**	**NA**	**150**	**50**
Lee County										
1300-005-F01	FDEP	Fort Myers/ Water Treatment Plant	1994	Oct-Dec	11	NA	NA	22	22	13
			1995	Jan-Dec	59	NA	NA	59	30	16
			1996	Jan-Dec	57	NA	NA	65	38	17
			1997	Jan-Dec	58	NA	NA	38	33	18
1300-005-F09	FDEP	Fort Myers/ Water Storage Tank	1994	Nov-Dec	9	NA	NA	23	17	12
			1995	Apr-Dec	60	NA	NA	59	29	16
			1996	Jan-Dec	50	NA	NA	65	38	17
			1997	Jan-Dec	53	NA	NA	38	33	17
Collier County										
1300-005-F09	FDEP	Naples/ East Naples, Fire Dept.	1995	Jan-Dec	59	NA	NA	65	34	16
			1996	Jan-Dec	56	NA	NA	60	45	16
			1997	Jan-Dec	58	NA	NA	46	37	18
Ozone										
		Florida AAQS				**NA**	**0.12**	**NA**	**NA**	**NA**
Lee County										
0475-001-F01	FDEP	Cape Coral/ 1111 SE Sixth Court	1994	Jan-Dec	8,592	0.093	0.092	NA	NA	NA
			1995	Jan-Dec	8,544	0.092	0.086	NA	NA	NA
			1996	Jan-Dec	8,448	0.074	0.072	NA	NA	NA
			1997	Jan-Dec	8,533	0.081	0.076	NA	NA	NA
1304-001-F01	FDEP	Fort Myers Beach/ 17891 San Carlos Boulevard	1994	Jan-Dec	8,480	0.092	0.090	NA	NA	NA
			1995	Jan-Dec	6,986	0.089	0.088	NA	NA	NA
1304-002-F01	FDEP	Fort Myers Beach/ Intersection of School and Bay	1995	Oct-Dec	1,433	0.066	0.065	NA	NA	NA
			1996	Jan-Dec	8,636	0.089	0.080	NA	NA	NA
			1997	Jan-Dec	8,655	0.098	0.083	NA	NA	NA

Note: NA = not applicable.
AAQS = ambient air quality standard.

[a] See Figure 5-1 for station locations



FORT MYERS REPOWERING PROJECT

Figure 5-1
Location of Ambient Air Quality Monitoring Stations and Air Emission Sources

FPL

6.0 AIR QUALITY IMPACT ANALYSIS

The general modeling approach followed EPA and FDEP modeling guidelines for determining compliance with AAQS and PSD increments. For this project, the net emissions changes will be less than the PSD significant emission rates. As a result, an air quality impact analysis is not required by FDEP new source review air regulations. However, as a supplement to the air permit application, air quality impacts were estimated for the existing plant and the repowered plant, including impacts related to construction activities and future operations, in the vicinity of the plant and in the PSD Class I area following FDEP policies.

6.1 AIR MODELING ANALYSIS APPROACH

6.1.1 Air Modeling Scenarios

Several air quality analyses were performed to assess the maximum impacts for the existing Fort Myers Plant and the repowered plant. The inventory of emission sources used in these analyses is presented in Section 6.1.5.

For the existing plant, air quality impacts were predicted for the existing air emission sources at the plant: Units 1 and 2 and GTs 1 to 12. These plant impacts were added to a non-modeled background concentration (see Section 6.1.8) to produce a total air quality impact which was then compared to the AAQS for SO_2, NO_2, and PM10.

For the repowered plant, air quality impacts were predicted for construction activities and future operations.

For the construction activities, potential air quality impacts will vary depending on the level of activity, the specific operations, site conditions, control measures, and prevailing weather conditions. Because of the type and nature of potential emission sources at the site, the maximum impacts due to construction are expected to occur in areas within FPL property.

Many of the site preparation and construction operations, such as land clearing, filling and grading, and foundation work, will be intermittent and of short duration. Open burning will occur only from 9:00 a.m. to 1 hour before sunset (i.e., during daylight hours). These aspects of the construction activities will act to reduce potential impacts, since better air dispersion conditions exist during the daytime as opposed to nighttime. Based on the intermittent nature of these construction activities, the air emission control measures implemented to reduce emissions, and the distance to plant property boundaries from the activities, air impacts offsite are not expected to be adverse and, therefore, were not considered in the modeling.

However, air quality impacts during construction that could occur offsite for longer periods of time were assessed for the projects' emissions related to the operation of the proposed CTs and other fuel combustion sources at the plant while Units 1 and 2 are still in operation. For a few months during the construction phase, the proposed CTs will operate in simple-cycle mode while Units 1 and 2 remain in operation. During the final construction phase, the proposed CTs will operate either in simple-cycle or combined-cycle mode with Units 1 and 2 not in operation. For modeling purposes, during this construction phase, the boiler buildings for Units 1 and 2 were assumed to be in existence. As a result, the stacks for the proposed CTs, proposed cooling tower, and existing GTs would be potentially under the influence of building downwash effects from those buildings. To estimate the maximum air quality impacts during construction, the following modeling scenarios were performed:

- Proposed CTs operating in simple-cycle mode; proposed cooling tower; Units 1 and 2 and GT1 to GT12 (buildings for Units 1 and 2 included for building downwash analyses)
- Proposed CTs operating in combined-cycle mode; proposed cooling tower; GT1 to GT12 (buildings for Units 1 and 2 included for building downwash analyses)

The maximum impacts due to the project sources alone were compared to the PSD Class II significant impact levels. Total air quality impacts from all sources were then estimated and compared to AAQS for SO_2, NO_2, and PM10.

For future operations, the air quality impacts were estimated for the proposed CTs operating in simple- and combined-cycle modes, proposed cooling tower, and existing GTs. For these operations, the buildings for Units 1 and 2 would not be in existence. The maximum impacts due to the project sources alone were compared to the PSD Class II and I significant impact levels. These air quality impacts were also compared to AAQS for SO_2, NO_2, and PM10.

6.1.2 General Procedures

To develop the maximum concentrations for the existing Fort Myers Plant and the repowered plant, the modeling approach was divided into screening and refined phases to reduce the computation time required to perform the modeling analysis. For this study, the only difference between the two modeling phases is the density of the receptor grid spacing employed when predicting concentrations. Concentrations are predicted for the screening phase using a coarse receptor grid and a 5-year meteorological data record.

Refinements of the maximum predicted concentrations are typically performed for the receptors of the screening receptor grid at which the highest and/or HSH concentrations occurred over the 5-year period. Generally, if the maximum concentration from other years in the screening analysis is within 10 percent of the overall maximum concentration, then those other concentrations are refined as well. Typically, if the highest and HSH concentrations are in different locations, concentrations in both areas are refined.

Modeling refinements are performed for short-term averaging times by using a denser receptor grid, centered on the screening receptor at which the maximum concentration was predicted. The angular spacing between radials is 2 degrees and the radial distance interval between receptors is 100 m. Annual modeling refinements employ an angular spacing between radials of 2 degrees and a distance interval from 100 to 300 m, depending on the concentration gradient in the vicinity of the screening receptor to be refined. If the maximum screening concentration is located on the plant property boundary, additional plant boundary receptors are input, spaced at a 2-degree angular interval and centered on the screening receptor. The domain of the refinement grid will extend to all adjacent screening receptors. The air dispersion model is then executed with the refined grid for the entire year of meteorology during which the screening concentration occurred. This approach is used to ensure that a valid highest concentration is obtained. A more detailed description of the model, along with the emission inventory, meteorological data, and screening receptor grids are presented in the following sections.

6.1.3 Model Selection

The Industrial Source Complex Short-term (ISCST3, Version 97363) dispersion model (EPA, 1997) was used to evaluate the pollutant impacts due to the proposed CTs and other emission sources. This model is maintained by EPA on its Internet website, Support Center for Regulatory Air Models (SCRAM), within the Technical Transfer Network (TTN). A listing of ISCST3 model features is presented in Table 6-1. The ISCST3 model is designed to calculate hourly concentrations based on hourly meteorological data (i.e., wind direction, wind speed, atmospheric stability, ambient temperature, and mixing heights). The ISCST3 model is applicable to sources located in either flat or rolling terrain where terrain heights do not exceed stack heights. These areas are referred to as simple terrain. The model can also be applied in areas where the terrain exceeds the stack heights. These areas are referred to as complex terrain.

Since the terrain surrounding the Fort Myers Power Plant site varies little from the stack base elevation of 13 ft-msl, the terrain was assumed to be flat and receptor elevations were set equal to the stack base elevation.

In this analysis, the EPA regulatory default options were used to predict all maximum impacts. The ISCST3 model can run in the rural or urban land use mode, which affects stability dispersion coefficients, wind speed profiles, and mixing heights. Land use can be characterized based on a scheme recommended by EPA (Auer, 1978). If more than 50 percent land use within a 3-km radius around a project is classified as industrial or commercial, or high-density residential, then the urban option should be selected. Otherwise, the rural option is appropriate. Based on the land-use within a 3-km radius of the proposed plant site (see Figure 1-1), the rural dispersion coefficients were used in the modeling analysis.

The ISCST3 model was used to provide maximum pollutant concentrations for the annual and 24-, 8-, 3-, and 1-hour averaging times when comparing the project's impacts to significant impact levels and when comparing total air quality concentrations to AAQS.

6.1.4 Meteorological Data

Meteorological data used in the ISCST3 model to determine air quality impacts consisted of a concurrent 5-year period of hourly surface weather observations and twice-daily upper air soundings from the FAA station located at the Fort Myers Page Field Airport and the NWS station located in Ruskin, respectively. Concentrations were predicted using 5 years of hourly meteorological data from 1987 through 1991. The FAA station at Fort Myers is located approximately 19 km (12 miles) to the southwest of the plant site. The NWS station at Ruskin is located approximately 140 km (85 miles) to the north of the plant site. The surface meteorological data from Fort Myers are assumed to be representative of the project site because both the project site and the weather station are located near one another and are situated near similar topographical features and land use characteristics. FDEP has recommended and approved the use of these meteorological data to address air quality impacts for proposed sources locating in Lee County.

The surface observations included wind direction, wind speed, temperature, cloud cover, and cloud ceiling height. The wind speed, cloud cover, and cloud ceiling values were used in the ISCST3 meteorological preprocessor program to determine atmospheric stability using the Turner stability scheme. Based on the temperature measurements at morning and afternoon, mixing heights were calculated from the radiosonde data at Ruskin using the Holzworth approach (Holzworth, 1972). Hourly mixing heights were derived from the morning and afternoon mixing heights using the interpolation method developed by EPA (Holzworth, 1972). The hourly surface data and mixing heights were used to develop a sequential series of hourly meteorological data (i.e., wind direction, wind speed, temperature, stability, and mixing heights). Because the observed hourly wind directions at the NWS stations are classified into one of thirty-six 10-degree sectors, the wind directions were randomized within each sector to account for the expected variability in air flow. These calculations were performed using the EPA RAMMET meteorological preprocessor program.

6.1.5 Emission Inventory

6.1.5.1 Existing Plant

The emissions and stack parameters for the existing plant are presented in Table 6-2. As discussed in Section 2.0, Units 1 and 2 will not be operated after the combined cycle configuration for the repowered plant is complete. GT1 to GT12 will continue to operate for peaking requirements.

6.1.5.2 Construction Activities

Construction activities will result in the generation of fugitive PM emissions and vehicle exhaust emissions. Open burning may also be used in connection with land-clearing activities, resulting in emissions of combustion products to the atmosphere.

Fugitive PM emissions will result primarily from land clearing and grubbing, ground excavation, grading, cut and fill operations, and vehicular travel over paved and unpaved roads. Vehicular traffic will include heavy-equipment traffic and traffic due to construction workers entering and leaving the Fort Myers Plant site. Construction personnel and equipment will enter the site primarily over surfaced roadways. Exposed land areas may also generate fugitive dust due to wind erosion.

Emissions of fugitive PM from these activities are extremely difficult to quantify because of their variable nature. They can only be estimated since emissions are dependent upon a number of factors, including specific activities conducted, level of activity, meteorological conditions, and control measures utilized.

The estimated PM10 emissions associated with fugitive emissions from construction activities are presented in the following table:

Source	TPY	Comments
Construction Worker Vehicles	2.1	591 vehicles/day on paved road with managed loading due to construction
Onsite Construction Traffic	2.1	40 vehicle-miles per day in construction area, with watering
Site Preparation	0.7	101,500 cubic yards of material
Wind Erosion	3.4	39 acres with watering as necessary
Total	8.3	

Note: All calculations based on equations in EPA AP-42 (1997) for 2-year duration of construction activities.

During the construction period, the PM10 emissions are estimated to average about 8.3 TPY, 63.8 lb/day (5 days/week), or 6.4 lb/hr (10 hr/day). An emission rate of 8.3 TPY of PM10 is less than the PSD significant emission rate of 15 TPY. As a result, the estimated fugitive emissions are not expected to significantly affect air quality outside the site boundary.

Emissions will also result from onsite construction equipment including cranes, trucks, compressors, etc., operating with diesel and gasoline engines. These equipment will produce emissions of CO, NO_x, VOC, PM and SO_2. Exhaust emissions were based on the following EPA emission factors (AP-42) for diesel engines. Based on these emission factors and number of vehicles, the CO, NO_x, VOC, PM, and SO_2 emissions are estimated to be 4.3, 19.8, 1.6, 1.4, and 1.3 TPY, respectively, over the 2-year construction period. These levels of emissions will not cause significant impacts to air quality in the vicinity of the plant site.

Open burning produces primarily PM emissions, with lesser quantities of NO_x, CO, VOCs, and SO_2. Open burning would primarily be associated with the construction of the primary laydown and parking areas. If performed, open burning will be conducted in accordance with Rule 62-256, F.A.C., Open Burning and Frost Protection Fires, as administered by the Division of Forestry. Compliance with these requirements will minimize the air emissions associated with open burning.

6.1.5.3 Repowered Plant

Summaries of the criteria pollutant emission rates, physical stack, and stack operating parameters for the proposed CTs used in the air modeling analysis are presented in Tables 2-2 through 2-4. The PM10 emission rates, physical tower, and operating parameters for the proposed cooling tower used in the air modeling analysis are presented in Table 2-6. The emission and stack operating parameters presented for 35°F and 95°F ambient temperatures were used in the modeling to determine the maximum air quality impacts for a range of possible operating conditions.

Six modeling scenarios per fuel type were considered:

1. Base operating load for the ambient temperature of 35°F,
2. Base operating load for the ambient temperature of 95°F,
3. 75 percent operating load for the ambient temperature of 35°F,
4. 75 percent operating load for the ambient temperature of 95°F,
5. 50 percent operating load for the ambient temperature of 35°F, and
6. 50 percent operating load for the ambient temperature of 95°F.

Each of the proposed CTs will have a HRSG stack with a height of 125 ft and an inner stack diameter of 19 ft; each bypass stack will have a height of 98 ft and a stack diameter of 22 ft.

The typical cooling tower dimensions are as follows: deck height of 31 ft, length of 580 ft, and width of 50 ft. The cooling tower will consist of 12 cells; each cell will have a height of 45 ft and a diameter of 32 ft.

To address impacts for the proposed CTs alone and determine the operating load and ambient temperature that produce the maximum air quality impact, a generic emission rate of 10 grams per second (g/s) was used as an emission rate for the proposed CTs. Maximum pollutant-specific air impacts were determined by multiplying the maximum pollutant-specific emission rate in pounds per hour (lb/hr) to the maximum predicted generic impact divided by 79.365 lb/hr (10 g/s). For the cooling tower impacts, PM10 concentrations were predicted using PM10 emission rates for the cooling tower and CTs based on the operating load and ambient temperature that produced the maximum impact from the CTs.

6.1.5.4 Other Emission Sources

The only air emission source, other than the existing GTs at the Fort Myers Plant, that could potentially interact with the proposed project is the Lee County Energy Recovery Facility, located about 8 km to the south of the Fort Myers Plant. The stack, operating, and pollutant emission data for the Lee County Energy Recovery Facility are as follows:

<u>Stack Data</u>	
Height	276 ft
Diameter	6.5 ft
<u>Operating Data</u>	
Exit gas temperature	290°F
Exit gas velocity	75.3 ft/s
<u>Emission Data</u>	
SO_2	82 lb/hr
NO_2	160 lb/hr
PM	40 lb/hr

6.1.6 Receptor Locations

For predicting maximum concentrations in the vicinity of the plant in the screening analysis, a polar receptor grid was used which was comprised of 695 receptors. These receptors included 36 receptors located on radials extending out from the center of the proposed CTs' stack locations (i.e., origin located between CT 3 and CT 4). Along each radial, receptors were located at the plant property and distances of 0.3, 0.5, 0.7, 0.9, 1.1, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 7.0, 10.0, 15.0, 20.0, 25.0, and 30.0 km from the center of the proposed CT stack locations. However, concentrations were predicted only at receptors located off plant property that would be considered ambient air locations. As a result, because the proposed plant property extends a minimum of about 130 m in several directions and more than 500 m in other directions, receptors were not modeled at certain distances (e.g., 200 m) because they would not be considered ambient air locations.

Because maximum concentrations due to the project were predicted to occur within 10 km of the plant site, subsequent screening modeling analyses were performed using polar grids that extended out to 10 km or less. In assessing compliance with AAQS for a particular pollutant, the model domain was limited to the distance at which the project's concentrations were greater than the applicable significant impact level.

Modeling refinements were performed, as needed, by employing a polar receptor grid with a maximum spacing of 100 m along each radial and an angular spacing between radials of 2 degrees.

Pollutant concentrations for SO_2, NO_2, and PM10 were also predicted at 51 receptors located at the PSD Class I area of the Everglades National Park.

6.1.7 Building Downwash Effects

The significant structures in the vicinity of the proposed CT stacks are the proposed CT air filter inlets, CT structure, fuel oil storage tank, and cooling towers. To address air quality impacts for the existing plant as well as impacts during construction of the repowered plant, the boiler buildings for Unit 1 and Unit 2 were included in assessing building downwash effects.

The dimensions of the structures included in the assessment of building downwash effects are as follows:

Structure	Height (ft)	Width (ft)	Length (ft)
Future Operations			
CT Air Inlet	55	20	48
HRSG Structure	86	40	68
Existing GT Structure	32	30	60
GT Maintenance Building	36	55	75
Diesel Fuel Oil Tank No. 3	40	180 (diameter)	Not applicable
Diesel Fuel Oil Tank No. 4	40	180 (diameter)	Not applicable
Cooling Tower	31	50	580
Construction–Same as Future Operations with the addition of:			
Diesel Fuel Oil Tank No. 1	43	180 (diameter)	Not applicable
Diesel Fuel Oil Tank No. 2	50	134 (diameter)	Not applicable
Unit 1 Boiler Building	133.5	68.5	75
Unit 2 Boiler Building	157	76	98

Building dimensions for the project's structures were entered into the EPA's Building Profile Input Program (BPIP, Version 95086) for the purpose of obtaining direction-specific building heights and widths for all downwash-affected sources. The direction-specific building dimensions were then input to the ISCST3 model as the building height and width for each of 36 ten-degree wind sectors. A summary of the direction-specific building dimensions used in the modeling is presented in Attachment C.

6.1.8 Background Concentrations

Total air quality impacts were estimated by adding the maximum concentrations due to project-related sources to background concentrations. Background concentrations are concentrations due to sources not associated with the Fort Myers Plant. These concentrations consist of two components:

- Impacts due to other modeled emission sources (i.e., non-project-related), and
- Impacts due to sources not explicitly modeled.

Background concentrations due to other modeled sources were predicted with the ISCST model based on the data developed from the emission inventory in Section 6.1.5.

The non-modeled background concentrations were obtained from air quality monitoring data and are as follows:

Pollutant	Averaging Period	Background Concentration ($\mu g/m^3$)
PM10	24-hour	33
	Annual	18
SO_2	3-hour	100
	24-hour	31
	Annual	5
NO_2	Annual	20

Background PM10 concentrations were based on the highest annual and second-highest 24-hour average concentrations measured in Lee County during 1997 (see Section 5.0). Background SO_2 concentrations were based on the highest annual, second-highest 24-hour, and second-highest 3-hour average concentrations measured in Sarasota County during 1997 (which is the closest SO_2 monitoring station to the plant site). Similarly, background NO_2 concentrations were based on the highest annual concentration measured at the NO_2 monitoring stations closest to the plant site. These monitoring stations are located in Pinellas, Hillsborough, and Orange County. The SO_2 and NO_2 background concentrations are conservative since they are based on air quality data collected in areas with higher vehicular and industrial emissions which would produce higher contributions from non-modeled background sources than those expected around the Fort Myers plant site.

6.2 AIR MODELING RESULTS

6.2.1 Existing Plant

Air modeling analyses were performed to determine the maximum SO_2, NO_x, and PM10 air quality impacts from the existing FPL Fort Myers facility. A summary of the maximum SO_2, NO_x, and PM10 impacts predicted from all existing sources is presented in Table 6-3. Based on the screening modeling results, refined modeling analyses were performed for each pollutant. A summary of the refined air modeling results predicted for existing total air quality is presented in Table 6-4. The highest predicted SO_2 annual, HSH 24-hour, and HSH 3-hour concentrations are 20, 188, and 731 $\mu g/m^3$, respectively.

These concentrations are below the SO_2 AAQS of 60, 260, and 1,300 $\mu g/m^3$ for the annual, 24-hour, and 3-hour averaging times, respectively.

The highest predicted NO_x concentration is 27 $\mu g/m^3$, which is below the annual NO_x AAQS of 100 $\mu g/m^3$.

The highest predicted PM10 annual and HSH 24-hour concentrations are 19 and 40 $\mu g/m^3$, respectively. These concentrations are below the PM10 AAQS of 50 and 150 $\mu g/m^3$ for the annual and 24-hour averaging times, respectively.

6.2.2 Repowered Plant

6.2.2.1 Construction

The maximum SO_2, NO_2, PM 10, and CO concentrations for the proposed CTs and cooling tower predicted during construction of the repowered plant are presented in Tables 6-5 through 6-12. In the initial phase of construction, the proposed project will operate in simple-cycle mode in conjunction with the operation of the existing Units 1 and 2 and existing GT1-GT12. In the second phase of construction, the proposed project will operate in simple-cycle and combined-cycle modes with the existing GTs. Units 1 and 2 will not be operating in this phase but the associated boiler buildings will be in existence. Since higher impacts are predicted when the proposed project is operating in combined-cycle mode, the air quality impacts for this phase were estimated only when the project will be operating in combined-cycle mode.

For the first phase of construction, the maximum pollutant concentrations for a single CT and six CTs operating in simple-cycle mode with bypass stacks are presented in Tables 6-5 and 6-6, respectively. Maximum PM10 concentrations with the cooling tower are included in Table 6-6 based on the operating load and ambient temperature that produced the maximum impacts from the CTs. These results indicate that, during construction, the project's impacts will be less than the significant impact levels for SO_2 and CO but greater than the NO_2 and PM10 significant impact levels. For NO_2 and PM10, the significant impact distance for the project extends out to about 0.3 and 1.1 km, respectively.

The maximum SO_2, NO_2, and PM10 concentrations due to all sources for this construction phase for the screening and refined analyses are presented in Tables 6-7 and 6-8, respectively. These results show that, during the initial construction phase, the repowering project will be in compliance with the AAQS.

Similar results are presented in Tables 6-9 through 6-12 for the second phase of construction for the repowering project. In this phase, the project's impacts will be less than the significant impact levels for SO_2 (3-hour and annual averaging periods) and CO and greater than the significant impact levels for SO_2 (24-hour average), NO_2, and PM10. For SO_2, NO_2, and PM10, the significant impact distance for the project extends out to about 0.5, 5.0, and 2.5 km, respectively.

The maximum SO_2, NO_2, and PM10 concentrations due to all sources for this construction phase for the screening and refined analyses are presented in Tables 6-11 and 6-12, respectively. These results show that, during the second phase of construction, the repowering project will be in compliance with the AAQS.

Based on these results, the maximum SO_2, NO_2, PM10, and CO impacts predicted during the construction phase by the project by itself and together with other emission sources, including non-modeled background concentrations, will ensure compliance with and maintenance of the AAQS.

6.2.2.2 Future Operations

The maximum SO_2, NO_2, PM10, and CO concentrations for the proposed CTs and cooling tower predicted in the vicinity of the plant for future operations are summarized in Tables 6-13 through 6-16. The maximum pollutant concentrations for a single CT and six CTs operating in simple-cycle mode with bypass stacks are presented in Tables 6-13 and 6-14, respectively. The maximum pollutant concentrations for a single CT and six CTs operating in combined-cycle mode with HRSG stacks are presented in Tables 6-15 and 6-16, respectively. These results also include the predicted PM10 impacts from the cooling tower (see Tables 6-14 and 6-16). PM10 concentrations were predicted with the cooling tower based on the operating load and ambient temperature that produced the maximum impact from the CTs.

As shown in Tables 6-14 and 6-16, the maximum predicted SO_2, NO_2, PM10, and CO impacts due to the proposed CTs and cooling tower are all below the significant impact levels, except for PM10, 24-hour averaging period, for combined-cycle mode. Therefore, for these pollutants, the proposed source will not have a significant impact upon the air quality in the vicinity of the plant site. For PM10, the significant impact distance for the project operating in combined-cycle mode extends to about 0.5 km.

The maximum SO_2, NO_2, and PM10 concentrations due to all sources for future operations are presented for the screening and refined analyses in Tables 6-17 and 6-18, respectively. These results show that the maximum SO_2, NO_2, PM 10, and CO concentrations for future operations of the project by itself and together with other emission sources will ensure compliance with and maintenance of the AAQS.

The maximum pollutant concentrations for the proposed CTs and cooling tower predicted at the PSD Class I area of the Everglades National Park are summarized in Tables 6-19 through 6-22. The maximum pollutant concentrations for a single CT and six CTs operating in simple-cycle mode with bypass stacks are presented in Tables 6-19 and 6-20, respectively. The maximum pollutant concentrations for a single CT and for six CTs operating in combined-cycle mode are presented in Tables 6-21 and 6-22, respectively. These results also include the predicted PM10 impacts from the cooling tower (see Tables 6-20 and 6-22). Similar to the previous analyses, PM10 concentrations were predicted with the cooling tower based on the operating load and ambient temperature that produced the maximum impact from the CTs.

As shown in Tables 6-20 and 6-22, the maximum predicted SO_2, NO_2, and PM10 impacts due to the proposed CTs and cooling tower are all below the recommended NPS and proposed EPA Class I significant impact levels. Indeed, with the emission reduction provided by shutting down the existing Units 1 and 2, the PSD increment will be expanded.

6.2.3 <u>Proposed Boiler Impacts</u>

The maximum pollutant concentrations for the boiler predicted in the vicinity of the plant are summarized in Table 6-23. These results are based on modeling the proposed boiler with a stack height of 30 ft. Because the location of the proposed boiler is not known at this time, air quality impacts were predicted for the boiler at two potential sites on the plant property. The first site is located along the southern boundary of the plant, about 200 ft to the southwest of the proposed cooling tower. The second site is located along the northern boundary of the plant, about 300 ft to the northwest of the proposed CTs.

As shown in Table 6-23, the maximum pollutant concentrations for the proposed boiler at the two potential sites are all below the significant impact levels, except for annual average NO_2 concentrations predicted for the boiler at the north location. It should be noted that maximum NO_2 concentrations predicted for the boiler at the north location are due to building downwash effects caused by the proposed HRSG structures and occur in a limited area to the northwest of the boiler. For most areas around the plant, the maximum NO_2 concentrations are predicted to be well below the significant impact levels.

Because the proposed boiler generally will not have a significant impact on air quality in the vicinity of the plant site, more detailed modeling analyses for determining compliance with the AAQS were not performed.

6.2.4 Summary

A summary of the maximum SO_2, NO_2, PM10, and CO concentrations predicted for the project only is presented in Table 6-24. A summary of the maximum total air quality SO_2, NO_2, and PM10 concentrations predicted for comparison to the AAQS is presented in Table 6-25.

These results show that the maximum impacts predicted for the repowered plant for future operations are below the significant impact levels, except for the 24-hour average PM10 concentration. For PM10, the maximum project impact is slightly greater than the significant impact level of 5 $\mu g/m^3$.

Further, these results show that the maximum SO_2, NO_2, and PM10 concentrations predicted for the repowered plant during construction and for future operations by itself and together with other emission sources will ensure compliance with and maintenance of the AAQS.

Table 6-1. Major Features of the ISCST3 Model

ISCST3 Model Features
• Polar or Cartesian coordinate systems for receptor locations
• Rural or one of three urban options which affect wind speed profile exponent, dispersion rates, and mixing height calculations
• Plume rise due to momentum and buoyancy as a function of downwind distance for stack emissions (Briggs, 1969, 1971, 1972, and 1975; Bowers, et al., 1979).
• Procedures suggested by Huber and Snyder (1976); Huber (1977); and Schulman and Scire (1980) for evaluating building wake effects
• Procedures suggested by Briggs (1974) for evaluating stack-tip downwash
• Separation of multiple emission sources
• Consideration of the effects of gravitational settling and dry deposition on ambient particulate concentrations
• Capability of simulating point, line, volume, area, and open pit sources
• Capability to calculate dry and wet deposition, including both gaseous and particulate precipitation scavenging for wet deposition
• Variation of wind speed with height (wind speed-profile exponent law)
• Concentration estimates for 1-hour to annual average times
• Terrain-adjustment procedures for elevated terrain including a terrain truncation algorithm for ISCST3; a built-in algorithm for predicting concentrations in complex terrain
• 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)
• Procedure for calm-wind processing including setting wind speeds less than 1 m/s to 1 m/s.

Note: ISCST3 = Industrial Source Complex Short-Term.
Source: EPA, 1995.

Table 6-2. Emissions and Stack Parameters for the Existing FPL Fort Myers Plant

Parameter	Unit 1	Unit 2	GT1 to GT12 (per unit)
Emissions (lb/hr)			
Sulfur Dioxide	4,648	11,000	429.4
Nitrogen Oxides	754	3,308	595.2
PM10	211	500	24.9
Emissions (g/s)			
Sulfur Dioxide	585.50	1,334.00	54.10
Nitrogen Oxides	94.12	356.58	75.00
PM10	21.30	48.50	3.14
Stack Parameters			
Height (ft)	301	398	32
Diameter (ft)	9.5	18.1	14.5
Temperature (oF)	300	275	975
Velocity (ft/sec)	98.10	62.99	117.13
Height (m)	91.80	121.20	9.75
Diameter (m)	2.90	5.52	4.42
Temperature (K)	422	408	797
Velocity (m/sec)	29.9	19.2	35.7

Table 6-3. Maximum SO_2, NO_2, and PM10 Impacts Due to Modeled Existing Sources - Screening Analysis

Averaging Time	Value	Concentration ($\mu g/m^3$)	Receptor Location[a] Direction (degrees)	Receptor Location[a] Distance (m)	Period Ending (YYMMDDHH)
SO_2					
Annual	Highest	10.4	240	4,000	87123124
		11.6	290	4,000	88123124
		11.5	300	3,000	89123124
		14.6 [b]	240	4,000	90123124
		12.9	240	4,000	91123124
24-Hour	HSH	154 [b]	250	2,500	87081724
		113	270	2,500	88080624
		157 [b]	320	4,000	89091324
		106	230	2,500	90090224
		124	240	1,100	91091124
HSH 3-hour	HSH	624[b]	250	2,500	87081815
		465	80	1,100	88042112
		495	310	900	89090912
		509	230	2,500	90051112
		575	140	1,100	91063012
NO_2					
Annual	Highest	6.4	190	607	87123124
		5.4	240	7,000	88123124
		5.0	300	5,000	89123124
		7.4 [b]	240	7,000	90123124
		5.9	240	5,000	91123124
PM10					
Annual	Highest	0.5	240	4,000	87123124
		0.5	290	4,000	88123124
		0.5	300	4,000	89123124
		0.7 [b]	240	4,000	90123124
		0.6	240	4,000	91123124
24-Hour	HSH	7.1 [b]	250	2,500	87081724
		5.3	270	3,000	88081924
		7.3 [b]	320	4,000	89091324
		5.0	230	2,500	90090224
		5.7	240	1,500	91062524

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.
[a] Relative to the center of the proposed CT HRSG stacks.
[b] Refined modeling analysis performed for this concentration.

Table 6-4. Maximum SO_2, NO_2, and PM10 Impacts Predicted for Existing Total Air Quality Compared to AAQS--Refined Analysis

Averaging Time	Value	Concentration ($\mu g/m^3$) Total	Concentration ($\mu g/m^3$) Modeled Sources	Concentration ($\mu g/m^3$) Background	Receptor Location[a] Direction (degrees)	Receptor Location[a] Distance (m)	Period Ending (YYMMDDHH)	Florida AAQS ($\mu g/m^3$)
SO_2								
Annual	Highest	20	14.7	5	242	4,000	90123124	60
24-hour	HSH	188	159	31	319	3,500	89091324	260
3-hour	HSH	731	631	100	248	2,400	87081815	1,300
NO_2								
Annual	Highest	27	7.4	20	238	6,800	90123124	100
PM10								
Annual	Highest	19	0.7	18	242	4,200	90123124	50
24-Hour	HSH	40	7.4	33	319	3,500	89091324	150

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.

[a] Relative to the center of the proposed CT HRSG stacks.

Table 6-5. Maximum Pollutant Concentrations Predicted for One Proposed CT, Simple-Cycle Mode, During Construction

	Maximum Emission Rates (lb/hr) by Operating Load and Air Temperature							Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)					
	Base Load		75% Load		50% Load		Averaging	Base Load		75% Load		50% Load	
Pollutant	35°F	95°F	35°F	95°F	35°F	95°F	Time	35°F	95°F	35°F	95°F	35°F	95°F
Generic (10 g/s)	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.088	0.147	0.260	0.347	0.531	0.640
							24-Hour	3.752	4.948	6.830	8.469	10.340	11.854
							8-Hour	9.893	12.302	15.950	18.189	22.822	25.881
							3-Hour	18.258	21.502	31.209	35.626	42.709	46.082
							1-Hour	46.730	52.205	72.465	58.680	59.457	60.800
SO_2	5.1	4.4	4.1	3.6	3.2	2.9	Annual	0.006	0.008	0.013	0.016	0.021	0.023
							24-Hour	0.241	0.274	0.35	0.38	0.42	0.43
							3-Hour	1.173	1.192	1.61	1.62	1.72	1.68
NO_x	90.7	78.5	72.5	63.9	57.3	51.1	Annual	0.101	0.146	0.238	0.279	0.383	0.412
PM10	10	10	10	10	10	10	Annual	0.011	0.019	0.033	0.044	0.067	0.081
							24-Hour	0.473	0.62	0.86	1.07	1.30	1.49
CO	44.9	38.8	36.2	32.2	29.9	27.2	8-Hour	5.597	6.01	7.27	7.38	8.60	8.87
							1-Hour	26.437	25.52	33.05	23.81	22.40	20.84

Note: NO_x = as NO_2

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

Pollutant concentrations were based on a modeled or generic concentration predicted using a modeled emission rate of 79.37 lb/hr (10 g/s).
Specific pollutant concentrations were estimated by multiplying the modeled concentration (at 10 g/s) by the ratio of the specific pollutant emission rate to the modeled emission rate of 10 g/s.

Table 6-6. Maximum Pollutant Concentrations Predicted for Six CTs, Simple-Cycle Mode, and Cooling Tower During Construction Compared to EPA Significant Impact Levels

Pollutant	Averaging Time	Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1) Base Load 35°F	Base Load 95°F	75% Load 35°F	75% Load 95°F	50% Load 35°F	50% Load 95°F	EPA Significant Impact Levels (ug/m^3)
Proposed CTs								
SO_2	Annual	0.03	0.05	0.08	0.09	0.13	0.14	1
	24-Hour	1.4	1.6	2.1	2.3	2.5	2.6	5
	3-Hour	7	7	10	10	10	10	25
NO_2	Annual	0.6	0.9	1.4	1.7	2.3	2.5	1
PM10	Annual	0.07	0.11	0.20	0.26	0.40	0.48	1
	24-Hour	2.8	3.7	5.2	6.4	7.8	9.0	5
CO	8-Hour	34	36	44	44	52	53	500
	1-Hour	159	153	198	143	134	125	2,000
Proposed CTs and Cooling Tower (2)								
PM10	Annual	--	--	--	--	--	1.10	1
	24-Hour	--	--	--	--	--	13.0	5

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

(2) Concentrations were predicted with cooling tower based on the operating load and ambient temperature that produced the maximum impact from the CTs alone.

Table 6-7. Maximum SO_2, NO_2, and PM10 Impacts Due to Modeled Sources During Construction (Proposed CTs, Simple-Cycle Mode) - Screening Analysis

Averaging Time	Value	Concentration ($\mu g/m^3$)	Receptor Location[a] Direction (degrees)	Receptor Location[a] Distance (m)	Period Ending (YYMMDDHH)
SO_2					
Annual	Highest	4.7	190	607	87123124
		3.9	190	607	88123124
		3.6	270	900	89123124
		3.7	240	1,023	90123124
		5.7 [b]	240	1,023	91123124
24-hour	HSH	83	190	607	87101424
		90	190	607	88101424
		86	50	900	89081324
		78	60	900	90062024
		123 [b]	240	1,023	91091124
HSH 3-hour	HSH	487	290	900	87081612
		412	310	900	88071812
		496	310	900	89090912
		479	50	900	90062015
		551 [b]	340	900	91070712
NO_2					
Annual	Highest	6.4	190	607	87123124
		5.3	190	607	88123124
		3.3	190	607	89123124
		3.1	220	906	90123124
		2.9	230	919	91123124
PM10					
Annual	Highest	1.1	160	467	87123124
		0.9	160	467	88123124
		0.9	160	467	89123124
		0.6	230	1,100	90123124
		0.7	160	467	91123124
24-Hour	HSH	10	160	467	87101324
		9	160	467	88020924
		10	160	467	89122424
		7	160	467	90102624
		8	160	467	91020824

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.
[a] Relative to the center of the proposed CT HRSG stacks.
[b] Refined modeling analysis performed for this concentration.

Table 6-8. Maximum SO_2, NO_2, and PM10 Impacts Predicted for All Sources During Construction (Proposed CTs, Simple-Cycle Mode) Compared to AAQS--Refined Analysis

Averaging Time	Value	Concentration ($\mu g/m^3$) Total	Modeled Sources	Background	Receptor Location[a] Direction (degrees)	Distance (m)	Period Ending (YYMMDDHH)	Florida AAQS ($\mu g/m^3$)
SO_2								
Annual	Highest	11	6.1	5	238	1,100	91123124	60
24-hour	HSH	157	126	31	238	1,100	91091124	260
3-hour	HSH	652	552	100	338	900	91070712	1,300
NO_2								
Annual	Highest	26	6.4	20	190	607	87123124	100
PM10								
Annual	Highest	19	1.1	18	160	467	87123124	50
24-Hour	HSH	43	10	33	160	467	89122424	150

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.

[a] Relative to the center of the proposed CT HRSG stacks.

Table 6-9. Maximum Pollutant Concentrations Predicted for One Proposed CT, Combined-Cycle Mode, During Construction

	Maximum Emission Rates (lb/hr) by Operating Load and Air Temperature							Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)					
	Base Load		75% Load		50% Load		Averaging	Base Load		75% Load		50% Load	
Pollutant	35°F	95°F	35°F	95°F	35°F	95°F	Time	35°F	95°F	35°F	95°F	35°F	95°F
Generic	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.919	1.365	1.785	2.241	2.795	3.167
(10 g/s)							24-Hour	16.014	21.111	25.073	27.653	30.763	32.131
							8-Hour	31.313	36.521	43.971	48.174	47.128	57.056
							3-Hour	48.130	54.548	57.763	70.867	85.187	93.482
							1-Hour	73.163	85.386	93.722	100.581	108.950	115.316
SO_2	5.1	4.4	4.1	3.6	3.2	2.9	Annual	0.059	0.076	0.092	0.102	0.113	0.116
							24-Hour	1.03	1.17	1.30	1.25	1.24	1.17
							3-Hour	3.09	3.02	2.98	3.21	3.43	3.42
NO_x	90.7	78.5	72.5	63.9	57.3	51.1	Annual	1.05	1.35	1.63	1.80	2.02	2.04
PM10	10.0	10.0	10.0	10.0	10.0	10.0	Annual	0.116	0.172	0.225	0.282	0.352	0.399
							24-Hour	2.02	2.66	3.16	3.48	3.88	4.05
CO	44.9	38.8	36.2	32.2	29.9	27.2	8-Hour	17.7	17.9	20.1	19.5	17.8	19.6
							1-Hour	41.4	41.7	42.7	40.8	41.0	39.5

Note: NO_x = as NO_2

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

Pollutant concentrations were based on a modeled or generic concentration predicted using a modeled emission rate of 79.37 lb/hr (10 g/s).
Specific pollutant concentrations were estimated by multiplying the modeled concentration (at 10 g/s) by the ratio of the specific pollutant emission rate to the modeled emission rate of 10 g/s.

Table 6-10. Maximum Pollutant Concentrations Predicted for Six CTs, Combined-Cycle Mode, and Cooling Tower During Construction Compared to EPA Significant Impact Levels

Pollutant	Averaging Time	Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)						EPA Significant Impact Levels (ug/m^3)
		Base Load		75% Load		50% Load		
		35°F	95°F	35°F	95°F	35°F	95°F	
Proposed CTs								
SO_2	Annual	0.35	0.45	0.55	0.61	0.68	0.69	1
	24-Hour	6.2	7.0	7.8	7.5	7.4	7.0	5
	3-Hour	19	18	18	19	21	20	25
NO_2	Annual	6.3	8.1	9.8	10.8	12.1	12.2	1
PM10	Annual	0.70	1.03	1.35	1.69	2.11	2.39	1
	24-Hour	12.1	16.0	19.0	20.9	23.3	24.3	5
CO	8-Hour	106	107	120	117	107	117	500
	1-Hour	248	250	256	245	246	237	2,000
Proposed CTs and Cooling Tower (2)								
PM10	Annual	--	--	--	--	--	2.62	1
	24-Hour	--	--	--	--	--	24.3	5

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

(2) Concentrations were predicted with cooling tower based on the operating load and ambient temperature that produced the maximum impact from the CTs alone.

Table 6-11. Maximum SO_2, NO_2, and PM10 Impacts Due to Modeled Sources During Construction (Proposed CTs, Combined-Cycle Mode) - Screening Analysis

Averaging Time	Value	Concentration (μg/m^3)	Receptor Location[a] Direction (degrees)	Receptor Location[a] Distance (m)	Period Ending (YYMMDDHH)
SO_2					
Annual	Highest	4.6	190	607	87123124
		3.9	190	607	88123124
		2.4	190	607	89123124
		2.1	190	607	90123124
		2.0	190	607	91123124
24-hour	HSH	84	190	607	87101424
		90	190	607	88101424
		52	190	607	89031124
		53	190	607	90113024
		41	190	607	91011724
HSH 3-hour	HSH	374	190	607	87010518
		288	190	607	88010524
		235	190	607	89010412
		250	190	607	90113006
		212	190	607	91121515
NO_2					
Annual	Highest	8.1	280	233	87123124
		12.8	280	233	88123124
		8.9	280	233	89123124
		9.9	270	367	90123124
		7.8	280	233	91123124
PM10					
Annual	Highest	1.6	280	233	87123124
		2.6	280	233	88123124
		1.9	280	233	89123124
		2.0	270	367	90123124
		1.6	280	233	91123124
24-Hour	HSH	19	280	233	87122524
		18	280	233	88090224
		15	280	233	89050424
		16	280	233	90012024
		16	270	367	91052224

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.
[a] Relative to the center of the proposed CT HRSG stacks.

Table 6-12. Maximum SO_2, NO_2, and PM10 Impacts Predicted for All Sources During Construction (Proposed CTs, Combined-Cycle Mode) Compared to AAQS--Refined Analysis

		Concentration (µg/m³)			Receptor Location[a]			
Averaging Time	Value	Total	Modeled Sources	Background	Direction (degrees)	Distance (m)	Period Ending (YYMMDDHH)	Florida AAQS (µg/m³)
SO_2								
Annual	Highest	10	4.6	5	190	607	87123124	60
24-hour	HSH	121	90	31	190	607	88101424	260
3-hour	HSH	474	374	100	190	607	87010518	1,300
NO_2								
Annual	Highest	33	12.8	20	280	233	88123124	100
PM10								
Annual	Highest	21	2.6	18	280	233	88123124	50
24-Hour	HSH	52	19	33	280	233	87122524	150

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.

[a] Relative to the center of the proposed CT HRSG stacks.

Table 6-13. Maximum Pollutant Concentrations Predicted for One CT, Simple-Cycle Mode, for Future Operations in Screening Analysis

	Maximum Emission Rates (lb/hr) by Operating Load and Air Temperature							Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)					
	Base Load		75% Load		50% Load		Averaging	Base Load		75% Load		50% Load	
Pollutant	35°F	95°F	35°F	95°F	35°F	95°F	Time	35°F	95°F	35°F	95°F	35°F	95°F
Generic (10 g/s)	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.014	0.014	0.016	0.017	0.019	0.019
							24-Hour	0.223	0.231	0.286	0.293	0.312	0.390
							8-Hour	0.385	0.393	0.627	0.635	0.873	1.170
							3-Hour	0.860	0.869	0.883	1.001	1.973	2.588
							1-Hour	1.795	1.865	2.227	2.938	5.019	6.221
SO_2	5.1	4.4	4.1	3.6	3.2	2.9	Annual	0.0009	0.0008	0.0008	0.0008	0.0008	0.0007
							24-Hour	0.014	0.013	0.015	0.013	0.013	0.014
							3-Hour	0.055	0.048	0.05	0.05	0.08	0.09
NO_x	90.7	78.5	72.5	63.9	57.3	51.1	Annual	0.016	0.014	0.015	0.014	0.013	0.012
PM10	10	10	10	10	10	10	Annual	0.0018	0.0017	0.0020	0.0021	0.0023	0.0024
							24-Hour	0.028	0.03	0.04	0.04	0.04	0.05
CO	44.9	38.8	36.2	32.2	29.9	27.2	8-Hour	0.218	0.19	0.29	0.26	0.33	0.40
							1-Hour	1.016	0.91	1.02	1.19	1.89	2.13

Note: NO_x = as NO_2

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

Pollutant concentrations were based on a modeled or generic concentration predicted using a modeled emission rate of 79.37 lb/hr (10 g/s). Specific pollutant concentrations were estimated by multiplying the modeled concentration (at 10 g/s) by the ratio of the specific pollutant emission rate to the modeled emission rate of 10 g/s.

Table 6-14. Maximum Pollutant Concentrations Predicted for Six CTs, Simple-Cycle Mode, and Cooling Tower for Future Operations Compared to EPA Significant Impact Levels

Pollutant	Averaging Time	Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1): Base Load 35°F	Base Load 95°F	75% Load 35°F	75% Load 95°F	50% Load 35°F	50% Load 95°F	EPA Significant Impact Levels (ug/m^3)
Proposed CTs								
SO_2	Annual	0.0055	0.0046	0.0050	0.0046	0.0045	0.0043	1
	24-Hour	0.09	0.08	0.09	0.08	0.08	0.09	5
	3-Hour	0.33	0.29	0.27	0.27	0.48	0.57	25
NO_2	Annual	0.10	0.08	0.09	0.08	0.08	0.07	1
PM10	Annual	0.011	0.010	0.012	0.013	0.014	0.015	1
	24-Hour	0.17	0.17	0.22	0.22	0.24	0.29	5
CO	8-Hour	1.3	1.2	1.7	1.5	2.0	2.4	500
	1-Hour	6	5	6	7	11	13	2,000
Proposed CTs and Cooling Tower (2)								
PM10	Annual	--	--	--	--	--	0.28	1
	24-Hour	--	--	--	--	--	2.8	5

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

(2) Concentrations were predicted with cooling tower based on the operating load and ambient temperature that produced the maximum impact from the CTs alone.

Table 6-15. Maximum Pollutant Concentrations Predicted for One CT, Combined-Cycle Mode, for Future Operations in Screening Analysis

	Maximum Emission Rates (lb/hr) by Operating Load and Air Temperature							Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)					
	Base Load		75% Load		50% Load		Averaging	Base Load		75% Load		50% Load	
Pollutant	35°F	95°F	35°F	95°F	35°F	95°F	Time	35°F	95°F	35°F	95°F	35°F	95°F
Generic (10 g/s)	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.109	0.127	0.142	0.169	0.191	0.211
							24-Hour	2.210	2.701	3.140	3.564	4.090	4.462
							8-Hour	3.847	4.620	5.307	6.000	6.824	7.382
							3-Hour	5.807	6.898	7.824	8.747	9.825	10.548
							1-Hour	10.089	10.843	11.757	12.604	14.355	15.850
SO_2	5.1	4.4	4.1	3.6	3.2	2.9	Annual	0.0070	0.0070	0.0073	0.0077	0.0077	0.0077
							24-Hour	0.14	0.15	0.16	0.16	0.16	0.16
							3-Hour	0.37	0.38	0.40	0.40	0.40	0.39
NO_x	90.7	78.5	72.5	63.9	57.3	51.1	Annual	0.12	0.13	0.13	0.14	0.14	0.14
PM10	10.0	10.0	10.0	10.0	10.0	10.0	Annual	0.014	0.016	0.018	0.021	0.024	0.027
							24-Hour	0.28	0.34	0.40	0.45	0.52	0.56
CO	44.9	38.8	36.2	32.2	29.9	27.2	8-Hour	2.2	2.3	2.4	2.4	2.6	2.5
							1-Hour	5.7	5.3	5.4	5.1	5.4	5.4

Note: NO_x = as NO_2

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

Pollutant concentrations were based on a modeled or generic concentration predicted using a modeled emission rate of 79.37 lb/hr (10 g/s). Specific pollutant concentrations were estimated by multiplying the modeled concentration (at 10 g/s) by the ratio of the specific pollutant emission rate to the modeled emission rate of 10 g/s.

Table 6-16. Maximum Pollutant Concentrations Predicted for Six CTs, Combined-Cycle Mode, and Cooling Tower for Future Operations Compared to EPA Significant Impact Levels

Pollutant	Averaging Time	Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)						EPA Significant Impact Levels (ug/m^3)
		Base Load		75% Load		50% Load		
		35°F	95°F	35°F	95°F	35°F	95°F	
Proposed CTs								
SO_2	Annual	0.042	0.042	0.044	0.046	0.046	0.046	1
	24-Hour	0.85	0.90	0.97	0.97	0.99	0.98	5
	3-Hour	2.2	2.3	2.4	2.4	2.4	2.3	25
NO_2	Annual	0.75	0.75	0.78	0.82	0.83	0.82	1
PM10	Annual	0.083	0.096	0.107	0.128	0.145	0.160	1
	24-Hour	1.7	2.0	2.4	2.7	3.1	3.4	5
CO	8-Hour	13.1	13.6	14.5	14.6	15.4	15.2	500
	1-Hour	34	32	32	31	32	33	2,000
Proposed CTs and Cooling Tower (2)								
PM10	Annual	--	--	--	--	0.44	--	1
	24-Hour	--	--	--	--	5.5	--	5

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

(2) Concentrations were predicted with cooling tower based on the operating load and ambient temperature that produced the maximum impact from the CTs alone.

Table 6-17. Maximum SO_2, NO_2, and PM10 Impacts Due to Modeled Sources for Future Operations (Proposed CTs, Combined-Cycle Mode) - Screening Analysis

Averaging Time	Value	Concentration ($\mu g/m^3$)	Receptor Location[a] Direction (degrees)	Receptor Location[a] Distance (m)	Period Ending (YYMMDDHH)
SO_2					
Annual	Highest	1.3	220	2,000	87123124
		1.5	230	2,000	88123124
		1.5	260	2,000	89123124
		2.1[b]	230	2,000	90123124
		1.9	240	2,000	91123124
24-hour	HSH	16	240	2,000	87052124
		14	300	1,500	88072724
		15	320	2,000	89091424
		15	60	2,000	90090824
		20[b]	230	1,500	91062824
HSH 3-hour	HSH	63	20	1,100	87092015
		71	120	1,500	88080712
		79	260	1,500	89071612
		73	270	1,500	90070715
		99[b]	240	1,500	91062415
NO_2					
Annual	Highest	2.3	230	2,000	87123124
		2.6	240	2,000	88123124
		2.5	290	2,000	89123124
		3.6[b]	240	2,000	90123124
		3.3	240	2,000	91123124
PM10					
Annual	Highest	0.4	230	919	87123124
		0.4	260	558	88123124
		0.4	280	300	89123124
		0.6[b]	230	919	90123124
		0.5	230	919	91123124
24-Hour	HSH	3.7	230	919	87081724
		3.9	130	700	88070124
		3.7	320	700	89091424
		3.5	220	906	90042424
		3.9	130	500	91042124

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.
[a] Relative to the center of the proposed CT HRSG stacks.
[b] Refined modeling analysis performed for this concentration.

Table 6-18. Maximum SO_2, NO_2, and PM10 Impacts Predicted for All Sources for Future Operations (Proposed CTs, Combined-Cycle Mode) Compared to AAQS--Refined Analysis

		Concentration ($\mu g/m^3$)			Receptor Location[a]			
Averaging Time	Value	Total	Modeled Sources	Background	Direction (degrees)	Distance (m)	Period Ending (YYMMDDHH)	Florida AAQS ($\mu g/m^3$)
SO_2								
Annual	Highest	8	2.5	5	233	2,400	90123124	60
24-hour	HSH	52	21	31	230	1,700	91062824	260
3-hour	HSH	212	112	100	244	1,600	91062512	1,300
NO_2								
Annual	Highest	24	3.8	20	232	2,000	90123124	100
PM10								
Annual	Highest	19	0.6	18	230	919	90123124	50
24-Hour	HSH	37	3.9	33	130	500	91042124	150

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.

[a] Relative to the center of the proposed CT HRSG stacks.

Table 6-19. Maximum Pollutant Concentrations Predicted for One CT, Simple-Cycle Mode, for Future Operations at the PSD Class I Area of the Everglades National Park

	Maximum Emission Rates (lb/hr) by Operating Load and Air Temperature							Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)					
	Base Load		75% Load		50% Load		Averaging	Base Load		75% Load		50% Load	
Pollutant	35°F	95°F	35°F	95°F	35°F	95°F	Time	35°F	95°F	35°F	95°F	35°F	95°F
Generic (10 g/s)	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.002	0.002	0.002	0.002	0.002	0.002
							24-Hour	0.052	0.054	0.059	0.060	0.065	0.067
							8-Hour	0.141	0.146	0.155	0.159	0.168	0.173
							3-Hour	0.258	0.267	0.287	0.298	0.298	0.303
							1-Hour	0.479	0.503	0.543	0.559	0.595	0.610
SO_2	5.1	4.4	4.1	3.6	3.2	2.9	Annual	0.00012	0.00011	0.00011	0.00010	0.00010	0.00009
							24-Hour	0.0033	0.0030	0.0030	0.0027	0.0026	0.0024
							3-Hour	0.017	0.015	0.01	0.01	0.01	0.01
NO_x	90.7	78.5	72.5	63.9	57.3	51.1	Annual	0.0022	0.0019	0.0020	0.0018	0.0017	0.0016
PM10	10	10	10	10	10	10	Annual	0.00024	0.00025	0.00027	0.00028	0.00030	0.00031
							24-Hour	0.0065	0.0068	0.0074	0.0076	0.0081	0.0084

Note: NO_x = as NO_2

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

Pollutant concentrations were based on a modeled or generic concentration predicted using a modeled emission rate of 79.37 lb/hr (10 g/s). Specific pollutant concentrations were estimated by multiplying the modeled concentration (at 10 g/s) by the ratio of the specific pollutant emission rate to the modeled emission rate of 10 g/s.

Table 6-20. Maximum Pollutant Concentrations Predicted for Six CTs, Simple-Cycle Mode, and Cooling Tower at the Everglades National Park for Comparison to PSD Class I Significant Impact Levels

Pollutant	Averaging Time	Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1): Base Load 35°F	Base Load 95°F	75% Load 35°F	75% Load 95°F	50% Load 35°F	50% Load 95°F	Significant Impact Levels (ug/m3): NPS Recommended	EPA Proposed
Proposed CTs									
SO_2	Annual	0.0007	0.0007	0.0007	0.0006	0.0006	0.0005	0.03	0.1
	24-Hour	0.020	0.018	0.018	0.016	0.016	0.015	0.07	0.2
	3-Hour	0.10	0.09	0.09	0.08	0.07	0.07	0.48	1.0
NO_2	Annual	0.013	0.012	0.012	0.011	0.010	0.009	0.03	0.1
PM10	Annual	0.0014	0.0015	0.0016	0.0017	0.0018	0.0019	0.08	0.2
	24-Hour	0.039	0.041	0.044	0.046	0.049	0.051	0.27	0.3
Proposed CTs and Cooling Tower (2)									
PM10	Annual	--	--	--	--	--	0.004	0.08	0.2
	24-Hour	--	--	--	--	--	0.13	0.27	0.3

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

(2) Concentrations were predicted with cooling tower based on the operating load and ambient temperature that produced the maximum impact from the CTs alone.

Table 6-21. Maximum Pollutant Concentrations Predicted for One CT, Combined-Cycle Mode, for Future Operations at the PSD Class I Area of the Everglades National Park

Pollutant	Maximum Emission Rates (lb/hr) by Operating Load and Air Temperature: Base Load 35°F	Base Load 95°F	75% Load 35°F	75% Load 95°F	50% Load 35°F	50% Load 95°F	Averaging Time	Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1): Base Load 35°F	Base Load 95°F	75% Load 35°F	75% Load 95°F	50% Load 35°F	50% Load 95°F
Generic (10 g/s)	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.005	0.005	0.005	0.005	0.005	0.005
							24-Hour	0.147	0.153	0.158	0.163	0.168	0.171
							8-Hour	0.302	0.316	0.327	0.337	0.349	0.359
							3-Hour	0.637	0.665	0.688	0.709	0.733	0.749
							1-Hour	1.201	1.294	1.371	1.446	1.532	1.589
SO_2	5.1	4.4	4.1	3.6	3.2	2.9	Annual	0.00029	0.00026	0.00025	0.00022	0.00020	0.00019
							24-Hour	0.0094	0.0085	0.0082	0.0074	0.0068	0.0063
							3-Hour	0.041	0.037	0.036	0.032	0.030	0.027
NO_x	90.7	78.5	72.5	63.9	57.3	51.1	Annual	0.0052	0.0046	0.0043	0.0040	0.0036	0.0033
PM10	10.0	10.0	10.0	10.0	10.0	10.0	Annual	0.00057	0.00059	0.00060	0.00062	0.00063	0.00064
							24-Hour	0.019	0.019	0.020	0.021	0.021	0.022

Note: NO_x = as NO_2

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

Pollutant concentrations were based on a modeled or generic concentration predicted using a modeled emission rate of 79.37 lb/hr (10 g/s).
Specific pollutant concentrations were estimated by multiplying the modeled concentration (at 10 g/s) by the ratio of the specific pollutant emission rate to the modeled emission rate of 10 g/s.

Table 6-22. Maximum Pollutant Concentrations Predicted for Six CTs, Combined-Cycle Mode, and Cooling Tower at the Everglades National Park for Comparison to PSD Class I Significant Impact Levels

		Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)						Significant Impact Levels (ug/m3)	
	Averaging	Base Load		75% Load		50% Load		NPS	EPA
Pollutant	Time	35°F	95°F	35°F	95°F	35°F	95°F	Recommended	Proposed
Proposed CTs									
SO_2	Annual	0.0017	0.0016	0.0015	0.0013	0.0012	0.0011	0.03	0.1
	24-Hour	0.057	0.051	0.049	0.044	0.041	0.038	0.07	0.2
	3-Hour	0.25	0.22	0.21	0.19	0.18	0.16	0.48	1.0
NO_2	Annual	0.031	0.028	0.026	0.024	0.022	0.020	0.03	0.1
PM10	Annual	0.0034	0.0035	0.0036	0.0037	0.0038	0.0039	0.08	0.2
	24-Hour	0.11	0.12	0.12	0.12	0.13	0.13	0.27	0.3
Proposed CTs and Cooling Tower (2)									
PM10	Annual	--	--	--	--	--	0.006	0.08	0.2
	24-Hour	--	--	--	--	--	0.21	0.27	0.3

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

(2) Concentrations were predicted with cooling tower based on the operating load and ambient temperature that produced the maximum impact from the CTs alone.

Table 6-23. Maximum Pollutant Concentrations Predicted for the Proposed Boiler
(Stack height - 30 ft)

Pollutant	Maximum Emission Rate (lb/hr)	Averaging Time	Maximum Predicted Concentration (ug/m^3)(1) South (2) Boiler Location	North (3) Boiler Location	EPA Significant Impact Levels (ug/m^3)
Generic (10 g/s)	79.37	Annual	5.51	27.7	NA
		24-Hour	59.4	273.7	NA
		8-Hour	104.4	661.9	NA
		3-Hour	145.3	1,394	NA
		1-Hour	233.3	2,124	NA
SO_2	0.4	Annual	0.026	0.13	1
		24-Hour	0.28	1.27	5
		3-Hour	0.68	6.48	25
NO_x	13.2	Annual	0.92	4.61	1
PM10	0.8	Annual	0.056	0.28	1
		24-Hour	0.60	2.76	5
CO	19.8	8-Hour	26.0	165	500
		1-Hour	58.2	530	2,000

Note: NO_x = as NO_2

(1) Concentrations are based on highest predicted concentrations using 5 years (1987 to 1991) of surface and upper-air data from the Federal Aviation Administration and National Weather Service stations in Fort Myers and Ruskin, respectively.

Pollutant concentrations were based on a modeled or generic concentration predicted using a modeled emission rate of 79.37 lb/hr (10 g/s).
Specific pollutant concentrations were estimated by multiplying the modeled concentration (at 10 g/s) by the ratio of the specific emission rate to the modeled emission rate of 10 g/s.

(2) Proposed location is along the southern boundary of the plant, about 200 ft to the southwest of the proposed cooling tower.

(3) Proposed location is along the northern boundary of the plant, about 300 ft to the northwest of the proposed CTs.

Table 6-24. Summary of Maximum SO_2, NO_2, PM10, and CO Concentrations Predicted for the Project Only

		Maximum Concentration ($\mu g/m^3$) with CTs				
		Construction for Repowered Plant, CTs		Future Operations		Significant Impact Levels ($\mu g/m^3$)
Pollutant	Averaging Period	Simple-Cycle	Combined-Cycle	Simple-Cycle	Combined-Cycle	
SO_2	Annual	0.14	0.69	0.006	0.046	1
	24-Hour	2.6	7.8	0.09	0.99	5
	3-Hour	10	21	0.57	2.4	25
NO_2	Annual	2.5	12.2	0.10	0.82	1
PM10	Annual	1.1	2.6	0.28	0.43	1
	24-Hour	13.0	24.3	2.8	5.9	5
CO	8-Hour	53	120	2.4	15.4	500
	1-Hour	198	256	13	34	2,000

Table 6-25. Predicted Maximum Total Air Quality SO_2, NO_2, and PM10 Concentrations for Comparison to AAQS

Pollutant	Averaging Period	Maximum Concentration (µg/m³)				Florida AAQS (µg/m³)
			Construction for Repowered Plant, CTs			
		Existing Plant	Simple-Cycle	Combined-Cycle	Future Operations	
SO_2	Annual	20	11	10	8	60
	24-Hour	188	157	121	52	260
	3-Hour	731	652	474	212	1,300
NO_2	Annual	27	26	33	24	100
PM10	Annual	19	19	21	19	50
	24-Hour	40	43	52	37	150

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ATTACHMENT A

CEMS DATA, COMPLIANCE DATA, CO TEST DATA, AND EMISSION FACTORS

Table A-1. Potential and Actual (1996/97) Emissions for FPL Fort Myers Units 1 and 2

Data	Potential Emissions			Actual Emissions[a]		
	Unit 1	Unit 2	Total	Unit 1	Unit 2	Total
Maximum Heat Input (10^6 Btu/hr)	1,690	4,000		1,690	4,000	
Capacity Factor (percent)[b]	100.00%	100.00%		27%	48%	
Fuel Heat Content (Btu/lb)	18,300	18,300		18,300	18,300	
(Btu/gal)	152,381	152,381		152,381	152,381	
Fuel Sulfur Content, Maximum (percent)	2.5	2.5		2.0	2.0	
Maximum Fuel Flow (lb/hr)	92,350	218,579		92,350	218,579	
(gal/hr)	11,091	26,250		11,091	26,250	
Sulfur Dioxide						
Emissions Basis	Permit	Permit		CEM[c]	CEM[c]	
Uncontrolled EF (lb/10^6 Btu)	2.75	2.75		2.21	2.21	
Removal Efficiency	NA	NA		NA	NA	
Controlled EF (lb/10^6 Btu)	NA	NA		NA	NA	
Emission Rate (lb/hour)	4,648	11,000		3,732	8,833	
(TPY)	20,356	48,180	68,536	3,886	16,675	20,561
Particulate Matter						
Emissions Basis-Maximum	Permit	Permit		Stack Tests	Stack Tests	
Uncontrolled EF (lb/10^6 Btu)[d]	0.125	0.125		0.078	0.053	
Emission Rate (lb/hour)	211	500		131	214	
(TPY)	925	2,190	3,115	154	453	607
Nitrogen Oxides						
Emissions Basis	CEM	CEM		CEM	CEM	
Uncontrolled EF (lb/10^6 Btu)[e]	0.45	0.83		0.41	0.63	
Emission Rate (lb/hour)	754	3,308		698	2,526	
(TPY)	3,301	14,489	17,790	886	6,209	7,095
Carbon Monoxide						
Emissions Basis	Tests	Tests		Tests	Tests	
EF (lb/MMBtu)	0.1200	0.1500		0.1200	0.1500	
Emission Rate (lb/hour)	203	600		203	600	
(TPY)	888	2,628	3,516	241	1,266	1,507
Volatile Organic Compounds						
Emissions Basis	AP-42	AP-42		AOR	AOR	
Emission Factor (lb/1,000 gal)	0.76	0.76		0.76	0.76	
EF (lb/MMBtu)	0.0050	0.0050		0.0050	0.0050	
Emission Rate (lb/hour)	8.4	20		8.4	20	
(TPY)	37	87	124	9	37	46.7
Lead						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	7.00E-06	7.00E-06		7.00E-06	7.00E-06	
Emission Rate (lb/hour)	0.01	0.03		0.01	0.03	
(TPY)	0.05	0.12	0.17	0.01	0.03	0.05

Table A-1. Potential and Actual (1996/97) Emissions for FPL Fort Myers Units 1 and 2

Data	Potential Emissions			Actual Emissions[a]		
	Unit 1	Unit 2	Total	Unit 1	Unit 2	Total
Sulfuric Acid Mist						
Emissions Basis	AP-42	AP-42		AP-42	AP-42	
Emission Factor (lb/1,000 gal)	17.456	17.456		14.108	14.108	
EF (lb/MMBtu)	0.115	0.115		0.093	0.093	
Emission Rate (lb/hour)	194	458		156	370	
(TPY)	848	2,007	2,855	173	742	915
Total Fluorides						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
Emission Factor (lb/1,000 gal)	8.42E-01	8.42E-01		8.42E-01	8.42E-01	
EF (lb/MMBtu)	0.006	0.006		0.006	0.006	
Emission Rate (lb/hour)	9	22		9	22	
(TPY)	41	97	138	11	47	58
Mercury						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	1.00E-06	1.00E-06		1.00E-06	1.00E-06	
Emission Rate (lb/hour)	1.69E-03	4.00E-03		1.69E-03	4.00E-03	
(TPY)	7.40E-03	1.75E-02	2.49E-02	2.00E-03	8.44E-03	1.04E-02
Beryllium						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	2.00E-07	2.00E-07		2.00E-07	2.00E-07	
Emission Rate (lb/hour)	3.38E-04	8.00E-04		3.38E-04	8.00E-04	
(TPY)	1.48E-03	3.50E-03	4.98E-03	4.01E-04	1.69E-03	2.09E-03
Arsenic						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	5.50E-06	5.50E-06		5.50E-06	5.50E-06	
Emission Rate (lb/hour)	9.30E-03	2.20E-02		9.30E-03	2.20E-02	
(TPY)	4.07E-02	9.64E-02	1.37E-01	1.10E-02	4.64E-02	5.75E-02

Notes:

a - 1996 and 1997
b - actual calculated from heat input CEM data
c - lb/hr based on fuel sulfur content and TPY from CEM data
d - potential based on 21 hours steady-state at 0.1 lb/mmBtu and 3 hours soot blowing at 0.3 lb/mmBtu;
actual based on test data
e - potential based on maximum quarterly data from CEM and actual based on annual averages

Table A-1. Potential and Actual (1996/97) Emissions for FPL Fort Myers Units 1 and 2

Data	Potential Emissions			Actual Emissions[a]		
	Unit 1	Unit 2	Total	Unit 1	Unit 2	Total
Hazardous Air Pollutants						
Antimony						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	3.50E-05	3.50E-05		3.50E-05	3.50E-05	
Emission Rate (lb/hour)	5.92E-02	1.40E-01		5.92E-02	1.40E-01	
(TPY)	2.59E-01	6.13E-01	8.72E-01	7.01E-02	2.95E-01	3.66E-01
Benzene						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	1.10E-06	1.10E-06		1.10E-06	1.10E-06	
Emission Rate (lb/hour)	1.86E-03	4.40E-03		1.86E-03	4.40E-03	
(TPY)	8.14E-03	1.93E-02	2.74E-02	2.20E-03	9.29E-03	1.15E-02
Cadmium						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	1.30E-06	1.30E-06		1.30E-06	1.30E-06	
Emission Rate (lb/hour)	2.20E-03	5.20E-03		2.20E-03	5.20E-03	
(TPY)	9.62E-03	2.28E-02	3.24E-02	2.61E-03	1.10E-02	1.36E-02
Chromium						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	5.20E-06	5.20E-06		5.20E-06	5.20E-06	
Emission Rate (lb/hour)	8.79E-03	2.08E-02		8.79E-03	2.08E-02	
(TPY)	3.85E-02	9.11E-02	1.30E-01	1.04E-02	4.39E-02	5.43E-02
Colbalt						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	3.70E-05	3.70E-05		3.70E-05	3.70E-05	
Emission Rate (lb/hour)	6.25E-02	1.48E-01		6.25E-02	1.48E-01	
(TPY)	2.74E-01	6.48E-01	9.22E-01	7.42E-02	3.12E-01	3.86E-01
Formaldehyde						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	2.00E-05	2.00E-05		2.00E-05	2.00E-05	
Emission Rate (lb/hour)	3.38E-02	8.00E-02		3.38E-02	8.00E-02	
(TPY)	1.48E-01	3.50E-01	4.98E-01	4.01E-02	1.69E-01	2.09E-01
Maganese						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	1.30E-05	1.30E-05		1.30E-05	1.30E-05	
Emission Rate (lb/hour)	2.20E-02	5.20E-02		2.20E-02	5.20E-02	
(TPY)	9.62E-02	2.28E-01	3.24E-01	2.61E-02	1.10E-01	1.36E-01
Nickel						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	7.20E-04	7.20E-04		7.20E-04	7.20E-04	
Emission Rate (lb/hour)	1.22E+00	2.88E+00		1.22E+00	2.88E+00	
(TPY)	5.33E+00	1.26E+01	1.79E+01	1.44E+00	6.08E+00	7.52E+00
Selenium						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	2.00E-06	2.00E-06		2.00E-06	2.00E-06	
Emission Rate (lb/hour)	3.38E-03	8.00E-03		3.38E-03	8.00E-03	
(TPY)	1.48E-02	3.50E-02	4.98E-02	4.01E-03	1.69E-02	2.09E-02
Toluene						
Emissions Basis	KBN (1995)	KBN (1995)		KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	9.90E-06	9.90E-06		9.90E-06	9.90E-06	
Emission Rate (lb/hour)	1.67E-02	3.96E-02		1.67E-02	3.96E-02	
(TPY)	7.33E-02	1.73E-01	2.47E-01	1.98E-02	8.36E-02	1.03E-01

Table A-2. FPL Fort Myers Source Data for SO2, NOx and Heat Input Calculations

	SO2 Emissions (tons)		NOx Emissions (lb/MMBtu)		NOx Emissions (tons)	Heat Input (MMBtu)	
Period	Reported (301) (a)	Calculated (310) (b)	Reported (301) (a)	Calculated (320) (c)	Calculated (320) (d)	Reported (301) (a)	Calculated (300) (e)
Unit 1							
1/1/96 - 3/31/96	626.9	631.4	0.383	0.376	148.68	715,538	721,032
Annual cumulative	626.9		0.383		148.68	715,538	
4/1/96 - 6/30/96	748.2	757.6	0.364	0.357	165.01	812,649	823,419
Annual cumulative	1375.1		0.373		313.69	1,528,187	
7/1/96 - 9/30/96	1594.8	1600.1	0.416	0.415	358.66	1,661,123	1,666,898
Annual cumulative	2969.9		0.394		672.35	3,189,309	
10/1/96 - 12/31/96	1056.7	1070.2	0.410	0.404	238.62	1,064,286	1,078,726
Annual cumulative	4026.5		0.398		910.96	4,253,596	
1/1/97 - 3/30/97	811.3	818.8	0.379	0.375	169.69	821,240	829,527
Annual cumulative	811.3		0.379		169.69	821,240	
4/1/97 - 6/30/97	382.4	383.9	0.440	0.436	75.8	336,789	337,802
Annual cumulative	1,193.7		0.399		245.52	1,158,029	
7/1/97 - 9/30/97	1,254.6	1,277.5	0.437	0.433	297.5	1,290,310	1,313,484
Annual cumulative	2,448.3		0.419		543.03	2,448,339	
10/1/97 - 12/31/97	1,297.2	1,313	0.446	0.439	318	1,315,100	1,332,185
Annual cumulative	3,745.6		0.428		861.41	3,763,439	
Unit 2							
1/1/96 - 3/31/96	3,081.6	3,111.4	0.464	0.451	921.2	3,421,157	3,455,316
Annual cumulative	3,081.6		0.464		921.2	3,421,157	
4/1/96 - 6/30/96	3,822.4	3,841.2	0.522	0.517	1,190.0	3,985,230	4,005,963
Annual cumulative	6,904.0		0.492		2111.26	7,406,387	
7/1/96 - 9/30/96	6,314.3	6,323.9	0.575	0.575	2,046.9	6,270,145	6,279,754
Annual cumulative	13,218.3		0.526		4158.15	13,676,533	
10/1/96 - 12/31/96	547.0	566.9	0.524	0.502	164.2	510,562	520,356
Annual cumulative	13,765.3		0.526		4322.31	14,187,094	
1/1/97 - 3/31/97	4,442.1	4,469.2	0.628	0.623	1,524.5	4,330,450	4,358,560
Annual cumulative	4,442.1		0.628		1524.54	4,330,450	
4/1/97 - 6/30/97	4,734.0	4,758.9	0.689	0.684	1,870.4	4,797,008	4,823,259
Annual cumulative	9,176.0		0.660		3394.97	9,127,458	
7/1/97 - 9/30/97	6,304.6	6,319.4	0.779	0.778	2,815.8	6,418,332	6,433,369
Annual cumulative	15,480.6		0.707		6210.73	15,545,789	
10/1/97 - 12/31/97	4,103.4	4,128.8	0.827	0.818	1,884.8	4,032,464	4,059,092
Annual cumulative	19584.1		0.737		8095.54	19,578,253	

Table A-2. FPL Fort Myers Source Data for SO2, NOx and Heat Input Calculations

	SO2 Emissions (tons)		NOx Emissions (lb/MMBtu)		NOx Emissions (tons)	Heat Input (MMBtu)	
Period	Reported (301) (a)	Calculated (310) (b)	Reported (301) (a)	Calculated (320) (c)	Calculated (320) (d)	Reported (301) (a)	Calculated (300) (e)
TOTAL							
1/1/96 - 3/31/96	3,708.5	3,742.9	N/A	N/A	1,069.9	4,136,695	4,176,348
Annual cumulative	3,708.5		N/A		1,069.9	4,136,695	
4/1/96 - 6/30/96	4,570.6	4,598.8	N/A	N/A	1,355.0	4,797,879	4,829,382
Annual cumulative	8,279.1		N/A		2,424.9	8,934,574	
7/1/96 - 9/30/96	7,909.1	7,924.0	N/A	N/A	2,405.5	7,931,268	7,946,651
Annual cumulative	16,188.2		N/A		4,830.5	16,865,842	
10/1/96 - 12/31/96	1,603.7	1,637.1	N/A	N/A	402.8	1,574,848	1,599,081
Annual cumulative	17,791.8		N/A		5,233.3	18,440,690	
1/1/97 - 3/30/97	5,253.4	5,288.1	N/A	N/A	1,694.2	5,151,690	5,188,087
Annual cumulative	5,253.4		N/A		1,694.2	5,151,690	
4/1/97 - 6/30/97	5,116.4	5,142.8	N/A	N/A	1,946.3	5,133,797	5,161,061
Annual cumulative	10,369.7		N/A		3,640.5	10,285,487	
7/1/97 - 9/30/97	7,559.2	7,596.9	N/A	N/A	3,113.3	7,708,642	7,746,853
Annual cumulative	17,928.9		N/A		6,753.8	17,994,128	
10/1/97 - 12/31/97	5,400.6	5,442.0	N/A	N/A	2,203.2	5,347,564	5,391,277
Annual cumulative	23,329.7		N/A		8,956.9	23,341,692	

Note: CEM Report Type Codes (i.e., 301, 310) represent codes recorded on CEM logs.
Each code corresponds to specific parameter records (i.e., hourly SO2 emissions).
Codes are as follows:
300 Unit Operating Parameters
301 Quarterly Cummulative Emissions Data
310 SO2 Mass Emissions Data
320 NOx Emission Rate Data

FPL Plant/Units identified on CEM Quarterly reports as PFM1 and PFM2

Footnotes:
(a) From CEM Quarterly Cummulative Emissions Data (40 CFR 75.64(a)).
(b) Total based on CEM SO2 Mass Emissions Data (40 CFR 75.50(c)(3)) Start Column No. 25.
Total as calculated on an adjusted basis.
(c) Average based on CEM NOx Emissions Data (40 CFR 75.54(d)(2),(5)-(9)) Start Column No. 42.
Average NOx emissions as calculated adjusted for bias.
(d) Total Based on actual calculated NOx emission rate (lb/MMBtu) as adjusted for bias and
and heat input for CEM log entry.
(e) Total based on CEM Unit Operating Parameters (40 CFR 75.50(b)(1)-(6)) Start Column 36.

Table A-3. FPL Fort Myers Summary of Emisssions as Calculated from CEM Log Data

		Pollutant Emissions			
		SO2 (Tons) (a)	CO (Tons) (b)	PM (Tons) (c)	NOx (Tons) (a)
Unit 1-	1996	4,027	255	141	911
	1997	3,746	226	166	861
	Average	3,886	241	154	886
Unit 2-	1996	13,765	1,064	354	4,322
	1997	19,584	1,468	553	8,096
	Average	16,675	1,266	454	6,209
Total-	1996	17,792	1,319	495	5,233
	1997	23,330	1,694	720	8,957
	Average	20,561	1,507	607	7,095

Footnotes:
(a) Based on CEM log data.
(b) CO - Based on 96/97 CEM heat input rates and assuming emission rates for Units 1 &2 of 0.12 and 0.15 lb/MMBtu, respectively.
(c) PM - Based on 96/97 CEM heat input rates and 96/97 PM stack test data assuming 21 and 3 hours of steady state and soot blowing, respectively.

Heat Input Rates from Units 1 & 2 CEM Data

Unit 1 -	1996	4,253,596 MMBtu
	1997	3,763,439 MMBtu
Unit 2 -	1996	14,187,094 MMBtu
	1997	19,578,253 MMBtu

Heat Input Rates based on CEM emission data (Report Type Code 300).

Assumed CO Emission Rates Units 1 & 2

Unit 1	Unit 2
0.12 lb/MMBtu	
	0.15 lb/MMBtu

Particulate Matter Hours of Operation Assumed for:

Steady State	Soot Blowing	Steady State	Soot Blowing	
21	3	21	3	Hours

Table A-3. FPL Fort Myers Summary of Emisssions as Calculated from CEM Log Data

	Pollutant Emissions				
	SO2 (Tons) (a)	CO (Tons) (b)	PM (Tons) (c)	NOx (Tons) (a)	
Particulate Matter Stack Test Averages for:					
	Steady State	Soot Blowing	Steady State	Soot Blowing	
1996	0.063	0.090	0.048	0.066	lb/MMBtu
1997	0.084	0.116	0.052	0.088	lb/MMBtu
Particulate Matter Effective Emission Rate (based on a 24 hour period):					
	Steady State	Soot Blowing	Steady State	Soot Blowing	
1996	0.066		0.050		lb/MMBtu
1997	0.088		0.057		lb/MMBtu
Period:		24 hours			

FPL Fort Myers Source Data for PM Stack Tests

	PM Emissions (lb/MMBtu)			
	Steady State		**Soot Blowing**	
Unit	No. 1	No. 2	No. 1	No. 2
Date	4/9/96	4/29/96	4/9/96	4/29/96
	0.069	0.048	0.094	0.056
	0.062	0.048	0.087	0.078
	0.058	0.047	0.090	0.063
1996 Average	0.063	0.048	0.090	0.066
Date	3/25/97	3/31/97	3/25/97	3/31/97
	0.086	0.048	0.126	0.063
	0.102	0.058	0.083	0.050
	0.065	0.050	0.138	0.152
1997 Average	0.084	0.052	0.116	0.088
1996/1997 Average	0.074	0.050	0.103	0.077

FLORIDA POWER & LIGHT COMPANY
CONTINUOUS EMISSIONS MONITORING SYSTEM
1ST QUARTER 1996 EMISSION DATA
SOURCE: ELECTRONIC DATA REPORT - RECORD 301

8/01/96

REVISION 1

PLANTS/ UNITS	QUARTERLY SO2 EMITTED (tons)	CUMULATIVE ANNUAL SO2 EMITTED (tons)	QUARTERLY AVERAGE NOX EMISSION RATE (lb/mmBtu)	CUMULATIVE ANNUAL AVG. NOx EMIS. RATE (lb/mmBtu)	QUARTERLY CO2 EMITTED (tons)	CUMULATIVE ANNUAL CO2 EMITTED (tons)	QUARTERLY TOTAL HEAT INPUT (mmBtu)	CUMULATIVE ANNUAL TOTAL HI (mmBtu)
PCC 1	3,630.6	3,630.6	0.552	0.552	349,335.8	349,335.8	4,457,054	4,457,054
PCC 2	2,492.1	2,492.1	0.450	0.450	291,476.5	291,476.5	3,859,070	3,859,070
PCU 5	0.0	0.0	0.070	0.070	4,817.1	4,817.1	75,486	75,486
PCU 6	0.0	0.0	0.076	0.076	9,989.6	9,989.6	158,603	158,603
PRV 3	3,998.5	3,998.5	0.353	0.353	323,338.9	323,338.9	4,049,537	4,049,537
PRV 4	2,221.4	2,221.4	0.358	0.358	186,809.7	186,809.7	2,355,886	2,355,886
PPN 11	0.3	0.3	0.384	0.384	53,908.8	53,908.8	920,172	920,172
PPN 12	0.3	0.3	0.399	0.399	55,087.9	55,087.9	941,118	941,118
PPN 21	0.3	0.3	0.378	0.378	54,368.7	54,368.7	929,812	929,812
PPN 22	0.3	0.3	0.368	0.368	52,844.1	52,844.1	904,110	904,110
PSN 3	504.3	504.3	0.370	0.370	43,238.1	43,238.1	539,244	539,244
PSN 4	1,439.7	1,439.7	0.581	0.581	131,668.2	131,668.2	1,655,046	1,655,046
PSN 5	2,805.4	2,805.4	0.505	0.505	259,829.3	259,829.3	3,329,138	3,329,138
PFL 4GT1	0.8	0.8	0.112	0.112	157,288.9	157,288.9	2,616,645	2,616,645
PFL 4GT2	0.8	0.8	0.117	0.117	153,210.6	153,210.6	2,557,227	2,557,227
PFL 5GT1	0.9	0.9	0.122	0.122	185,444.5	185,444.5	3,114,127	3,114,127
PFL 5GT2	1.0	1.0	0.113	0.113	188,773.8	188,773.8	3,173,391	3,173,391
PFM 1	626.9	626.9	0.383	0.383	57,916.6	57,916.6	715,538	715,538
PFM 2	3,081.6	3,081.6	0.464	0.464	276,909.4	276,909.4	3,421,157	3,421,157
PEL 1	393.8	393.8	0.203	0.203	68,691.6	68,691.6	864,591	864,591
PEL 2	340.0	340.0	0.190	0.190	59,708.8	59,708.8	747,327	747,327
PEH 3	1,035.8	1,035.8	0.299	0.299	193,373.6	193,373.6	2,470,829	2,470,829
PEH 4	1,537.2	1,537.2	0.324	0.324	269,749.8	269,749.8	3,394,934	3,394,934
PMT 1	1,502.2	1,502.2	0.220	0.220	255,195.4	255,195.4	3,152,899	3,152,899
PMT 2	1,656.3	1,656.3	0.268	0.268	288,516.0	288,516.0	3,564,544	3,564,544
PMR 1	1,822.8	1,822.8	0.188	0.188	400,971.7	400,971.7	5,394,018	5,394,018
PMR 2	3,092.6	3,092.6	0.201	0.201	734,130.1	734,130.1	9,799,998	9,799,998
PMG 3A	0.9	0.9	0.069	0.069	171,900.7	171,900.7	2,927,680	2,927,680
PMG 3B	0.9	0.9	0.045	0.045	173,057.5	173,057.5	2,945,735	2,945,735
PMG 4A	1.0	1.0	0.061	0.061	188,081.2	188,081.2	3,204,564	3,204,564
PMG 4B	1.0	1.0	0.049	0.049	188,754.4	188,754.4	3,215,404	3,215,404
PTF 1	1,098.9	1,098.9	0.233	0.233	212,264.3	212,264.3	2,790,404	2,790,404
PTF 2	1,169.7	1,169.7	0.258	0.258	224,393.8	224,393.8	2,934,261	2,934,261
TOTAL	34,458	34,458	N/A	N/A	6,265,045	6,265,045	87,179,549	87,179,549

FLORIDA POWER & LIGHT COMPANY
CONTINUOUS EMISSIONS MONITORING SYSTEM
2ND QUARTER 1996 EMISSION DATA
SOURCE: ELECTRONIC DATA REPORT - RECORD 301

MJS - 8/01/96

PLANTS/ UNITS	QUARTERLY SO2 EMITTED (tons)	CUMULATIVE ANNUAL SO2 EMITTED (tons)	QUARTERLY AVERAGE NOx EMISSION RATE (lb/mmBtu)	CUMULATIVE ANNUAL AVG. NOx EMIS. RATE (lb/mmBtu)	QUARTERLY CO2 EMITTED (tons)	CUMULATIVE ANNUAL CO2 EMITTED (tons)	QUARTERLY TOTAL HEAT INPUT (mmBtu)	CUMULATIVE ANNUAL TOTAL HI (mmBtu)
PCC 1	2,007.1	5,637.6	0.430	0.489	268,069.6	617,405.3	3,818,075	8,275,129
PCC 2	2,480.5	4,972.6	0.402	0.424	353,007.0	644,483.6	5,042,591	8,901,661
PCU 5	0.0	0.1	0.086	0.079	7,714.4	12,531.5	120,890	196,375
PCU 6	0.1	0.2	0.082	0.080	27,998.1	37,987.7	452,021	610,624
PRV 3	3,250.4	7,248.9	0.342	0.347	336,276.1	659,615.0	4,444,441	8,493,978
PRV 4	2,956.1	5,177.5	0.385	0.375	329,581.1	516,390.8	4,423,336	6,779,222
PPN 11	0.6	0.9	0.375	0.378	121,732.8	175,641.6	2,046,474	2,966,646
PPN 12	0.6	0.9	0.368	0.379	119,433.8	174,521.7	2,009,629	2,950,748
PPN 21	0.6	0.9	0.362	0.367	119,340.5	173,709.2	2,007,517	2,937,329
PPN 22	0.6	0.9	0.376	0.373	121,615.1	174,459.2	2,043,540	2,947,650
PSN 3	444.4	948.7	0.332	0.350	45,309.9	88,548.0	609,443	1,148,687
PSN 4	1,912.8	3,352.6	0.471	0.514	209,423.6	341,091.7	2,838,023	4,493,069
PSN 5	2,630.0	5,435.4	0.459	0.478	302,949.2	562,778.5	4,187,562	7,516,699
PFL 4GT1	1.4	2.1	0.100	0.106	197,175.1	354,464.0	3,316,812	5,933,457
PFL 4GT2	1.3	2.1	0.110	0.113	189,989.2	343,199.8	3,195,493	5,752,720
PFL 5GT1	1.4	2.4	0.109	0.115	199,971.0	385,415.5	3,362,289	6,476,416
PFL 5GT2	1.4	2.3	0.103	0.108	201,535.1	390,308.9	3,390,614	6,564,005
PFM 1	748.2	1,375.1	0.364	0.373	65,776.7	123,693.3	812,649	1,528,187
PFM 2	3,822.4	6,904.0	0.522	0.492	322,564.3	599,473.7	3,985,230	7,406,387
PEL 1	185.5	579.3	0.163	0.179	89,625.1	158,316.7	1,365,915	2,230,506
PEL 2	357.9	697.9	0.170	0.178	70,820.8	130,529.6	1,081,744	1,829,071
PEH 3	378.2	1,414.0	0.259	0.284	121,453.2	314,826.9	1,766,942	4,237,772
PEH 4	428.7	1,966.0	0.266	0.293	255,682.1	525,431.9	3,994,891	7,389,825
PMT 1	2,445.4	3,947.6	0.191	0.202	405,435.5	660,630.9	5,009,089	8,161,988
PMT 2	3,659.8	5,316.1	0.242	0.251	614,698.5	903,214.5	7,594,478	11,159,022
PMR 1	937.8	2,760.6	0.124	0.153	376,656.2	777,627.9	5,633,850	11,027,868
PMR 2	2,192.5	5,285.1	0.162	0.183	680,698.0	1,414,828.1	9,751,984	19,551,981
PMG 3A	0.9	1.8	0.059	0.064	181,692.9	353,593.6	3,057,337	5,985,017
PMG 3B	1.0	1.9	0.041	0.043	189,486.6	362,544.1	3,188,478	6,134,213
PMG 4A	1.0	2.0	0.060	0.061	192,872.1	380,953.3	3,260,034	6,464,598
PMG 4B	1.0	2.0	0.053	0.051	202,450.0	391,204.4	3,402,570	6,617,973
PTF 1	718.3	1,817.2	0.231	0.232	345,604.5	557,868.8	5,442,678	8,233,081
PTF 2	668.1	1,837.8	0.301	0.282	306,541.8	530,935.6	4,823,056	7,757,316
TOTAL	32,236	66,695	N/A	N/A	7,573,180	13,838,225	111,479,675	198,659,220

EMISS962.XLS

FLORIDA POWER & LIGHT COMPANY
CONTINUOUS EMISSIONS MONITORING SYSTEM

MJS - 2/3/97

3RD QUARTER 1996 EMISSION DATA
SOURCE: ELECTRONIC DATA REPORT - RECORD 301

PLANTS/ UNITS	QUARTERLY SO2 EMITTED (tons)	CUMULATIVE ANNUAL SO2 EMITTED (tons)	QUARTERLY AVERAGE NOx EMISSION RATE (lb/mmBtu)	CUMULATIVE ANNUAL AVG. NOx EMIS. RATE (lb/mmBtu)	QUARTERLY CO2 EMITTED (tons)	CUMULATIVE ANNUAL CO2 EMITTED (tons)	QUARTERLY TOTAL HEAT INPUT (mmBtu)	CUMULATIVE ANNUAL TOTAL HI (mmBtu)
PCC 1	3,499.5	9,137.2	0.453	0.474	437,244.5	1,054,649.8	6,134,785	14,409,914
PCC 2	4,047.7	9,020.3	0.444	0.432	477,127.6	1,121,611.1	6,565,002	15,466,663
PCU 5	0.2	0.2	0.079	0.079	32,406.9	44,077.4	545,300	741,675
PCU 6	0.4	0.6	0.077	0.078	71,424.9	107,713.1	1,201,873	1,812,497
PRV 3	3,373.9	10,622.8	0.392	0.359	278,857.1	938,472.2	3,618,767	12,112,745
PRV 4	5,446.1	10,623.6	0.447	0.405	429,138.6	945,529.4	5,391,374	12,170,596
PPN 11	0.6	1.5	0.354	0.368	124,669.3	300,981.3	2,097,766	5,064,413
PPN 12	0.6	1.5	0.352	0.368	125,293.5	300,657.3	2,108,310	5,059,058
PPN 21	0.7	1.5	0.336	0.355	128,301.8	302,897.6	2,158,905	5,096,234
PPN 22	0.6	1.5	0.345	0.362	125,850.8	301,017.3	2,117,668	5,065,318
PSN 3	1,100.8	2,049.5	0.405	0.377	102,212.4	190,760.4	1,327,603	2,476,290
PSN 4	3,352.7	6,705.3	0.522	0.518	373,648.2	714,740.0	5,051,072	9,544,141
PSN 5	3,973.7	9,409.2	0.505	0.489	412,738.1	975,516.6	5,563,746	13,080,445
PFL 4GT1	1.0	3.2	0.102	0.104	200,603.0	471,826.9	3,375,544	9,309,001
PFL 4GT2	1.0	3.1	0.105	0.110	198,355.2	458,342.9	3,337,699	9,090,419
PFL 5GT1	1.0	3.4	0.106	0.112	197,587.1	468,785.5	3,324,775	9,801,191
PFL 5GT2	1.0	3.4	0.105	0.107	202,981.2	593,039.1	3,415,505	9,979,510
PFM 1	1,594.8	2,969.9	0.416	0.394	134,453.6	258,146.8	1,661,123	3,189,309
PFM 2	6,314.3	13,218.3	0.575	0.526	507,506.4	1,106,980.1	6,270,145	13,676,533
PEL 1	846.8	1,426.1	0.220	0.199	190,111.8	348,428.6	2,696,248	4,926,754
PEL 2	941.7	1,639.6	0.197	0.187	196,765.0	327,294.6	2,782,195	4,611,266
PEH 3	1,414.1	2,828.0	0.314	0.299	380,774.5	695,601.4	5,422,178	9,659,949
PEH 4	1,788.2	3,754.2	0.326	0.306	386,597.5	912,029.4	5,250,413	12,640,238
PMT 1	4,582.2	8,529.8	0.247	0.222	756,603.5	1,417,234.3	9,347,715	17,509,703
PMT 2	2,146.4	7,462.5	0.265	0.255	324,123.3	1,227,337.8	4,004,497	15,163,519
PMR 1	1,839.2	4,599.8	0.130	0.143	597,568.6	1,375,196.5	8,681,923	19,709,791
PMR 2	1,980.6	7,265.7	0.140	0.167	746,615.1	2,161,443.2	10,832,941	30,384,922
PMG 3A	1.0	2.8	0.061	0.063	198,806.3	554,488.3	3,368,100	9,353,117
PMG 3B	0.9	2.8	0.040	0.042	185,820.1	550,330.9	3,126,753	9,260,966
PMG 4A	1.0	3.0	0.054	0.059	196,063.1	579,757.9	3,299,160	9,763,758
PMG 4B	1.0	3.0	0.060	0.054	189,944.6	583,340.3	3,196,188	9,814,161
PTF 1	1,909.2	3,726.4	0.226	0.230	480,594.7	1,038,463.5	7,378,457	15,611,538
PTF 2	1,632.2	3,470.0	0.295	0.287	424,347.4	955,283.1	6,529,479	14,286,795
TOTAL	51,795	118,490	N/A	N/A	9,815,136	23,381,975	141,183,209	339,842,429

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FLORIDA POWER & LIGHT COMPANY
CONTINUOUS EMISSIONS MONITORING SYSTEM
4TH QUARTER 1996 EMISSION DATA
SOURCE: ELECTRONIC DATA REPORT - RECORD 301

MJS - 2/3/97

PLANTS/ UNITS	QUARTERLY SO2 EMITTED (tons)	CUMULATIVE ANNUAL SO2 EMITTED (tons)	QUARTERLY AVERAGE NOx EMISSION RATE (lb/mmBtu)	CUMULATIVE ANNUAL AVG. NOx EMIS. RATE (lb/mmBtu)	QUARTERLY CO2 EMITTED (tons)	CUMULATIVE ANNUAL CO2 EMITTED (tons)	QUARTERLY TOTAL HEAT INPUT (mmBtu)	CUMULATIVE ANNUAL TOTAL HI (mmBtu)
PCC 1	2,546.3	11,683.5	0.384	0.450	338,837.3	1,393,487.1	4,928,636	19,338,550
PCC 2	2,940.4	11,960.8	0.411	0.426	378,848.1	1,500,459.2	5,435,036	20,901,699
PCU 5	0.0	0.2	0.117	0.079	7.3	44,084.7	122	741,797
PCU6	0.0	0.6	0.094	0.079	3,847.3	111,560.4	64,733	1,877,230
PRV 3	2,693.5	13,316.2	0.324	0.351	232,255.6	1,170,727.7	3,035,642	15,148,388
PRV 4	1,737.2	12,360.7	0.350	0.395	167,364.3	1,112,893.7	2,180,990	14,351,586
PPN 11	0.2	1.7	0.382	0.369	36,891.0	337,872.3	620,743	5,685,156
PPN 12	0.4	1.9	0.391	0.372	69,303.1	369,960.4	1,166,151	6,225,209
PPN 21	0.4	1.9	0.371	0.358	73,266.1	376,163.7	1,232,848	6,329,083
PPN 22	0.4	1.9	0.377	0.365	72,866.6	373,883.9	1,226,084	6,291,402
PSN 3	215.6	2,265.1	0.339	0.373	19,757.7	210,518.1	263,748	2,740,038
PSN 4	1,507.8	8,213.1	0.530	0.520	136,537.2	851,277.1	1,836,768	11,380,909
PSN 5	1,535.2	10,944.4	0.399	0.471	165,456.4	1,140,973.0	2,300,016	15,380,461
PFL 4GT1	0.9	4.1	0.110	0.106	184,604.1	656,430.9	3,106,336	12,415,336
PFL 4GT2	0.9	4.0	0.116	0.112	184,605.7	642,948.5	3,106,310	12,196,729
PFL 5GT1	0.8	4.1	0.118	0.113	152,782.0	621,567.5	2,570,852	12,372,042
PFL 5GT2	0.8	4.2	0.117	0.109	164,300.1	757,339.2	2,764,700	12,744,210
PFM 1	1,056.7	4,026.5	0.410	0.398	86,144.1	344,291.0	1,064,286	4,253,596
PFM 2	547.0	13,765.3	0.524	0.526	41,325.4	1,148,305.4	510,562	14,187,094
PEL 1	98.7	1,524.8	0.166	0.196	30,717.8	379,146.3	452,053	5,378,806
PEL 2	134.9	1,774.5	0.158	0.184	35,240.0	362,534.6	503,139	5,114,405
PEH 3	206.9	2,935.8	0.203	0.279	168,608.1	864,209.5	2,600,927	12,260,876
PEH 4	613.6	4,367.7	0.221	0.294	165,464.2	1,077,493.6	2,452,379	15,092,617
PMT 1	749.9	9,279.7	0.233	0.223	129,973.1	1,547,207.4	1,605,785	19,115,489
PMT 2	1,741.8	9,204.2	0.242	0.252	282,820.5	1,510,158.3	3,494,192	18,657,711
PMR 1	443.6	5,043.4	0.116	0.140	182,884.2	1,558,080.7	2,734,374	22,444,165
PMR 2	383.9	7,649.6	0.129	0.163	147,613.2	2,309,056.3	2,144,191	32,529,113
PMG 3A	0.9	3.8	0.060	0.062	184,622.1	739,110.4	3,106,609	12,459,726
PMG 3B	1.0	3.8	0.053	0.045	188,521.6	738,852.5	3,172,271	12,433,237
PMG 4A	1.0	3.9	0.069	0.062	193,406.9	773,164.8	3,254,442	13,018,200
PMG 4B	0.9	3.8	0.060	0.055	171,177.2	754,517.5	2,880,383	12,694,545
PTF 1	637.3	4,363.7	0.165	0.215	226,068.2	1,264,531.6	3,494,086	19,105,625
PTF 2	664.0	4,134.0	0.251	0.279	242,831.8	1,198,114.9	3,799,062	18,085,857
TOTAL	20,463	138,853	N/A	N/A	4,858,948	28,240,922	73,108,456	412,950,887

FLORIDA POWER & LIGHT COMPANY
CONTINUOUS EMISSION MONITORING SYSTEM
1ST. QUARTER 1997 EMISSION DATA
SOURCE: ELECTRONIC DATA REPORT - RECORD 301

MJS - 5/6/97

PLANTS/ UNITS	QUARTERLY SO2 EMITTED (tons)	CUMULATIVE ANNUAL SO2 EMITTED (tons)	QUARTERLY AVERAGE NOx EMISSION RATE (lb/mmBtu)	CUMULATIVE ANNUAL AVG. NOx EMIS. RATE (lb/mmBtu)	QUARTERLY CO2 EMITTED (tons)	CUMULATIVE ANNUAL CO2 EMITTED (tons)	QUARTERLY TOTAL HEAT INPUT (mmBtu)	CUMULATIVE ANNUAL TOTAL HI (mmBtu)
PCC 1	2,011.2	2,011.2	0.362	0.362	281,723.6	281,723.6	4,144,540	4,144,540
PCC 2	2,713.6	2,713.6	0.373	0.373	353,278.2	353,278.2	5,104,164	5,104,164
PCU 5	0.0	0.0	0.118	0.118	672.2	672.2	11,313	11,313
PCU6	0.0	0.0	0.081	0.081	980.1	980.1	16,492	16,492
PRV 3	3,284.1	3,284.1	0.352	0.352	258,029.6	258,029.6	3,326,194	3,326,194
PRV 4	2,470.6	2,470.6	0.352	0.352	209,379.0	209,379.0	2,741,107	2,741,107
PPN 11	0.5	0.5	0.398	0.398	85,068.9	85,068.9	1,431,205	1,431,205
PPN 12	0.5	0.5	0.388	0.388	85,009.4	85,009.4	1,430,372	1,430,372
PPN 21	0.2	0.2	0.370	0.370	42,078.3	42,078.3	707,978	707,978
PPN 22	0.3	0.3	0.378	0.378	67,358.9	67,358.9	1,133,412	1,133,412
PSN 3	114.4	114.4	0.270	0.270	14,639.8	14,639.8	212,176	212,176
PSN 4	2,430.3	2,430.3	0.578	0.578	230,466.7	230,466.7	3,191,659	3,191,659
PSN 5	1,854.6	1,854.6	0.366	0.366	205,880.7	205,880.7	2,844,402	2,844,402
PFL 4GT1	1.0	1.0	0.112	0.112	189,364.5	189,364.5	3,186,452	3,186,452
PFL 4GT2	0.8	0.8	0.119	0.119	152,394.0	152,394.0	2,564,309	2,564,309
PFL 5GT1	0.9	0.9	0.120	0.120	179,071.6	179,071.6	3,013,216	3,013,216
PFL 5GT2	0.8	0.8	0.118	0.118	162,137.7	162,137.7	2,728,320	2,728,320
PFM 1	811.3	811.3	0.379	0.379	66,469.6	66,469.6	821,240	821,240
PFM 2	4,442.1	4,442.1	0.628	0.628	350,504.9	350,504.9	4,330,450	4,330,450
PEL 1	137.6	137.6	0.171	0.171	31,235.2	31,235.2	436,851	436,851
PEL 2	213.0	213.0	0.167	0.167	53,423.8	53,423.8	781,628	781,628
PEH 3	634.5	634.5	0.220	0.220	156,683.4	156,683.4	2,287,813	2,287,813
PEH 4	621.4	621.4	0.234	0.234	159,638.2	159,638.2	2,330,386	2,330,386
PMT 1	1,407.3	1,407.3	0.233	0.233	232,973.8	232,973.8	2,878,359	2,878,359
PMT 2	548.2	548.2	0.272	0.272	87,076.5	87,076.5	1,075,818	1,075,818
PMR 1	479.2	479.2	0.139	0.139	241,047.3	241,047.3	3,668,087	3,668,087
PMR 2	182.3	182.3	0.147	0.147	59,512.0	59,512.0	821,592	821,592
PMG 3A	0.8	0.8	0.062	0.062	165,970.7	165,970.7	2,792,791	2,792,791
PMG 3B	1.0	1.0	0.050	0.050	194,416.9	194,416.9	3,271,454	3,271,454
PMG 4A	1.0	1.0	0.058	0.058	188,656.9	188,656.9	3,174,537	3,174,537
PMG 4B	0.6	0.6	0.056	0.056	110,590.6	110,590.6	1,860,898	1,860,898
PTF 1	493.9	493.9	0.227	0.227	177,904.0	177,904.0	2,789,742	2,789,742
PTF 2	680.5	680.5	0.277	0.277	219,180.4	219,180.4	3,345,622	3,345,622
TOTAL	25,539	25,539	N/A	N/A	5,012,817	5,012,817	74,454,579	74,454,579

MJS - 7/31

FLORIDA POWER & LIGHT COMPANY
CONTINUOUS EMISSION MONITORING SYSTEM
2ND. QUARTER 1997 EMISSION DATA
SOURCE: ELECTRONIC DATA REPORT - RECORD 301

PLANTS/ UNITS	QUARTERLY SO2 EMITTED (tons)	CUMULATIVE ANNUAL SO2 EMITTED (tons)	QUARTERLY AVERAGE NOx EMISSION RATE (lb/mmBtu)	CUMULATIVE ANNUAL AVG. NOx EMIS. RATE (lb/mmBtu)	QUARTERLY CO2 EMITTED (tons)	CUMULATIVE ANNUAL CO2 EMITTED (tons)	QUARTERLY TOTAL HEAT INPUT (mmBtu)	CUMULATIVE ANNUAL TOTAL HI (mmBtu)
PCC 1	1,955.7	3,966.9	0.344	0.353	298,472.2	580,195.8	4,519,726	8,664,266
PCC 2	2,555.6	5,269.2	0.362	0.368	380,762.1	734,040.3	5,702,280	10,806,444
PCU 5	0.1	0.1	0.091	0.091	16,110.8	16,783.0	271,079	282,392
PCU6	0.2	0.2	0.086	0.086	56,373.0	57,353.0	654,001	670,493
PRV 3	1,933.6	5,217.7	0.379	0.362	162,060.8	420,090.4	2,121,450	5,447,644
PRV 4	2,191.6	4,662.2	0.322	0.336	245,210.1	454,589.1	3,383,958	6,125,065
PPN 11	0.6	1.1	0.383	0.389	115,955.5	201,024.4	1,951,141	3,382,346
PPN 12	0.6	1.0	0.359	0.372	110,520.3	195,529.7	1,859,752	3,290,124
PPN 21	0.6	0.8	0.379	0.376	126,414.6	168,492.9	2,127,196	2,835,174
PPN 22	0.6	0.9	0.377	0.377	120,320.7	187,679.6	2,024,648	3,158,060
PSN 3	432.1	546.6	0.315	0.305	72,242.0	86,881.9	1,071,068	1,283,244
PSN 4	1,397.5	3,827.7	0.510	0.550	156,765.4	387,232.0	2,297,820	5,489,480
PSN 5	2,370.3	4,224.8	0.341	0.353	265,900.5	471,781.2	3,804,889	6,649,291
PFL 4GT1	0.9	1.9	0.115	0.113	180,136.2	369,500.7	3,031,129	6,217,581
PFL 4GT2	0.9	1.7	0.119	0.119	178,752.4	331,146.4	3,007,857	5,572,166
PFL 5GT1	1.0	1.9	0.124	0.122	196,241.0	375,312.6	3,302,105	6,315,321
PFL 5GT2	1.0	1.8	0.121	0.119	187,484.1	349,621.7	3,154,767	5,883,087
PFM 1	382.4	1,193.7	0.440	0.399	27,260.8	93,730.4	336,789	1,158,029
PFM 2	4,734.0	9,176.0	0.689	0.660	388,269.8	738,774.7	4,797,008	9,127,458
PEL 1	411.4	549.1	0.175	0.174	146,878.8	178,114.0	2,251,500	2,688,352
PEL 2	513.2	726.1	0.175	0.173	161,157.0	214,580.8	2,445,293	3,226,921
PEH 3	1,034.7	1,669.3	0.280	0.259	270,222.2	426,905.6	4,066,996	6,354,809
PEH 4	1,118.7	1,740.1	0.230	0.232	334,369.7	494,007.9	5,030,367	7,360,753
PMT 1	2,776.3	4,183.6	0.216	0.222	438,511.8	671,485.6	5,417,726	8,296,085
PMT 2	3,211.2	3,759.4	0.230	0.238	477,881.9	564,958.4	5,904,151	6,979,969
PMR 1	1,616.3	2,095.5	0.134	0.135	692,161.0	933,208.4	10,456,415	14,124,503
PMR 2	710.0	892.3	0.137	0.140	229,827.2	289,339.1	3,308,721	4,130,313
PMG 3A	1.0	1.8	0.064	0.063	192,212.9	358,183.6	3,234,336	6,027,127
PMG 3B	1.0	2.0	0.053	0.051	197,100.7	391,517.6	3,316,593	6,588,047
PMG 4A	1.0	2.0	0.056	0.057	201,798.4	390,455.2	3,395,653	6,570,190
PMG 4B	1.0	1.6	0.049	0.052	201,344.8	311,935.4	3,388,010	5,248,908
PTF 1	917.4	1,411.3	0.216	0.221	337,765.6	515,669.6	5,278,698	8,068,440
PTF 2	1,023.3	1,703.8	0.310	0.297	378,284.7	597,465.1	5,972,280	9,317,902
TOTAL	31,296	56,834	N/A	N/A	7,544,769	12,557,586	112,885,402	187,339,984

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MJS - 11/3

FLORIDA POWER & LIGHT COMPANY
CONTINUOUS EMISSION MONITORING SYSTEM
3RD. QUARTER 1997 EMISSION DATA
SOURCE: ELECTRONIC DATA REPORT - RECORD 301

PLANTS/ UNITS	QUARTERLY SO2 EMITTED (tons)	CUMULATIVE ANNUAL SO2 EMITTED (tons)	QUARTERLY AVERAGE NOx EMISSION RATE (lb/mmBtu)	CUMULATIVE ANNUAL AVG. NOx EMIS. RATE (lb/mmBtu)	QUARTERLY CO2 EMITTED (tons)	CUMULATIVE ANNUAL CO2 EMITTED (tons)	QUARTERLY TOTAL HEAT INPUT (mmBtu)	CUMULATIVE ANNUAL TOTAL HI (mmBtu)
PCC 1	3,893.0	7,859.8	0.393	0.368	420,592.4	1,000,788.2	5,814,677	14,478,943
PCC 2	4,784.2	10,053.4	0.413	0.384	516,258.3	1,250,298.6	7,103,383	17,909,827
PCU 5	0.1	0.2	0.089	0.090	21,918.8	38,701.8	368,814	651,205
PCU 6	0.2	0.4	0.079	0.083	46,992.7	104,345.7	790,732	1,461,225
PRV 3	5,229.6	10,447.3	0.394	0.377	478,815.3	898,905.7	6,319,101	11,766,745
PRV 4	3,969.3	8,631.5	0.392	0.359	363,956.2	818,545.4	4,713,091	10,838,156
PPN 1-1	0.6	1.7	0.339	0.371	114,841.4	315,865.9	1,932,450	5,314,796
PPN 1-2	0.6	1.6	0.309	0.350	107,338.9	302,868.7	1,806,189	5,096,313
PPN 2-1	0.6	1.4	0.338	0.361	111,526.9	280,019.7	1,876,666	4,711,840
PPN 2-2	0.6	1.5	0.348	0.366	112,017.1	299,696.7	1,884,881	5,042,941
PSN 3	1,023.9	1,570.5	0.382	0.342	97,948.8	184,830.7	1,306,797	2,590,041
PSN 4	4,428.2	8,255.9	0.729	0.619	332,787.8	720,019.9	4,269,363	9,758,843
PSN 5	5,683.6	9,908.5	0.559	0.428	481,308.0	953,089.2	6,097,187	12,746,478
PFL 4GT1	1.1	3.0	0.115	0.114	204,280.2	573,780.9	3,437,451	9,655,032
PFL 4GT2	1.1	2.8	0.116	0.118	205,822.8	536,969.2	3,463,372	9,035,538
PFL 5GT1	1.0	2.9	0.121	0.122	200,988.0	576,300.6	3,382,022	9,697,343
PFL 5GT2	1.0	2.8	0.120	0.119	202,799.5	552,421.3	3,412,505	9,295,592
PFM 1	1,254.6	2,448.3	0.437	0.419	104,436.3	198,166.8	1,290,310	2,448,339
PFM 2	6,304.6	15,480.6	0.779	0.707	519,499.0	1,258,273.7	6,418,332	15,545,789
PEL 1	678.9	1,227.9	0.184	0.178	137,715.8	315,829.9	1,854,277	4,542,628
PEL 2	849.6	1,575.7	0.192	0.180	167,390.5	381,971.3	2,241,000	5,467,921
PEH 3	2,007.8	3,677.1	0.311	0.281	388,023.2	814,928.8	5,277,398	11,632,207
PEH 4	2,368.9	4,109.1	0.273	0.251	448,796.4	942,804.3	6,080,254	13,441,007
PMT 1	4,498.8	8,682.3	0.223	0.223	710,110.8	1,381,596.4	8,773,313	17,069,398
PMT 2	5,522.9	9,282.4	0.253	0.246	837,482.4	1,402,440.8	10,346,952	17,326,921
PMR 1	2,454.3	4,549.8	0.147	0.140	744,211.8	1,677,420.2	10,687,451	24,811,954
PMR 2	2,414.2	3,306.5	0.138	0.138	774,622.3	1,063,961.5	11,098,905	15,229,218
PMG 3A	1.0	2.9	0.041	0.055	204,509.5	562,693.2	3,441,288	9,468,415
PMG 3B	1.0	3.0	0.061	0.055	201,832.0	593,349.6	3,396,239	9,984,286
PMG 4A	1.0	3.0	0.052	0.055	203,863.0	594,318.2	3,430,401	10,000,591
PMG 4B	1.0	2.6	0.049	0.051	203,379.1	515,314.5	3,422,222	8,671,130
PTF 1	2,124.3	3,535.6	0.231	0.225	428,058.4	943,728.0	6,136,121	14,204,562
PTF 2	2,568.3	4,272.0	0.315	0.304	529,019.6	1,126,484.7	7,612,664	16,930,566
TOTAL	62,070	118,904	N/A	N/A	10,623,143	23,180,730	149,485,808	336,825,790

EMISS973.XLS

Revised 1/29/98
MJS - 1/27/98
Emiss974.xls

FLORIDA POWER & LIGHT COMPANY
CONTINUOUS EMISSIONS MONITORING SYSTEM
4TH QUARTER 1997 EMISSION DATA
SOURCE: ELECTRONIC DATA REPORT - RECORD 301

PLANTS/ UNITS	QUARTERLY SO2 EMITTED (tons)	CUMULATIVE ANNUAL SO2 EMITTED (tons)	QUARTERLY AVERAGE NOx EMISSION RATE (lb/mmBtu)	CUMULATIVE ANNUAL AVG. NOx EMIS. RATE (lb/mmBtu)	QUARTERLY CO2 EMITTED (tons)	CUMULATIVE ANNUAL CO2 EMITTED (tons)	QUARTERLY TOTAL HEAT INPUT (mmBtu)	CUMULATIVE ANNUAL TOTAL HI (mmBtu)
PCC 1	1,613.0	9,472.8	0.294	0.352	220,078.7	1,220,866.9	3,119,697	17,598,639
PCC 2	1,667.0	11,720.4	0.338	0.377	198,666.9	1,448,965.5	2,719,461	20,629,288
PCU 5	0.0	0.2	0.000	0.090	0.0	38,701.8	0	651,205
PCU6	0.0	0.4	0.090	0.083	20.6	104,366.3	347	1,461,572
PRV 3	2,599.8	13,047.1	0.338	0.367	261,099.9	1,160,005.6	3,474,478	15,241,223
PRV 4	1,959.3	10,590.8	0.397	0.367	207,714.1	1,026,259.5	2,779,045	13,617,201
PPN 11	0.3	2.0	0.386	0.371	67,435.1	383,301.0	1,134,737	6,449,533
PPN 12	0.6	2.2	0.372	0.351	65,913.3	368,782.0	1,108,432	6,204,745
PPN 21	0.3	1.7	0.386	0.362	60,804.7	340,824.4	1,023,144	5,734,984
PPN 22	0.8	2.3	0.379	0.364	45,728.2	345,424.9	768,196	5,811,137
PSN 3	60.4	1,630.9	0.285	0.328	7,235.9	192,066.6	100,006	2,690,046
PSN 4	3,574.6	11,830.6	0.579	0.609	326,115.1	1,046,135.0	4,368,218	14,127,061
PSN 5	2,829.2	12,737.7	0.484	0.443	264,264.2	1,217,353.5	3,389,764	16,136,242
PFL 4GT1	1.0	4.0	0.119	0.115	197,531.5	771,312.4	3,323,889	12,978,921
PFL 4GT2	1.0	3.7	0.120	0.119	195,144.6	732,113.8	3,283,696	12,319,233
PFL 5GT1	0.9	3.9	0.126	0.123	183,582.2	759,882.8	3,089,106	12,786,449
PFL 5GT2	0.9	3.7	0.127	0.121	181,083.3	733,504.6	3,047,077	12,342,668
PFM 1	1,297.2	3,745.6	0.446	0.428	106,444.3	304,611.0	1,315,100	3,763,439
PFM 2	4,103.4	19,584.1	0.827	0.737	326,388.8	1,584,662.5	4,032,464	19,578,253
PEL 1	199.8	1,427.8	0.176	0.178	44,244.9	360,074.8	592,491	5,135,120
PEL 2	301.9	1,877.6	0.189	0.182	66,590.8	448,562.1	895,484	6,363,404
PEH 3	1,481.3	5,158.4	0.271	0.276	325,549.2	1,140,478.0	4,465,243	16,097,450
PEH 4	932.6	5,041.7	0.237	0.246	169,637.5	1,112,441.7	2,257,465	15,698,472
PMT 1	2,273.4	10,955.8	0.192	0.215	377,543.4	1,759,139.7	4,664,489	21,733,888
PMT 2	2,326.7	11,609.0	0.231	0.243	343,458.9	1,745,899.7	4,243,386	21,570,307
PMR 1	1,410.7	5,960.5	0.141	0.141	461,221.6	2,138,641.8	6,691,431	31,503,384
PMR 2	564.2	3,870.6	0.125	0.135	212,754.4	1,276,715.9	3,112,370	18,341,588
PMG 3A	1.0	3.8	0.044	0.052	194,449.4	757,142.6	3,271,986	12,740,401
PMG 3B	1.0	4.0	0.064	0.057	191,930.9	785,280.5	3,229,588	13,213,874
PMG 4A	0.8	3.8	0.057	0.056	166,330.7	760,648.9	2,798,866	12,799,457
PMG 4B	1.0	3.6	0.048	0.050	194,746.0	710,060.5	3,276,964	11,948,094
PTF 1	1,705.8	5,241.4	0.242	0.229	358,692.0	1,302,420.0	4,894,278	19,098,840
PTF 2	682.0	4,954.0	0.293	0.302	155,394.9	1,281,879.7	2,226,375	19,156,941
TOTAL	31,592	150,496	N/A	N/A	6,177,796	29,358,526	88,697,273	425,523,059

Calculation of CO Emission Rates for Units Identical to Fort Myers Units 1 and 2

Plant	Unit	ppm	$\%O_2$	lb/mmBtu
Sanford	3	133	5.8	0.12
Turkey Point	1	197	3.15	0.15

Equation: E (lb/mmBtu) - C_d F_d [20.9/(20.9-%O_2)]

Where: F_d = 9190 for oil
$C_d = 0.727 \times 10^{-7} \times$ ppm CO

PSN 3 NOx TEST DATA

UNIT #: 3 TEST #: 8 DATE: 7/2/91

TEST CONDITIONS: 100% OIL 90% LOAD NORMAL O_2

OPERATING PARAMETERS

FUEL OIL MW GROSS 136 NET 129

NUMBER OF BURNERS IN SERVICE 16 THROTTLE PRESSURE 1450 PSIG

F.O. (GAS) SUPPLY PRESSURE 730 PSIG F.O. RETURN PRESSURE 450 PSIG

F.O. ΔP 280 PSIG GAS BURNER PRESSURE N/A PSIG

F.O. TEMP 230 °F FUEL FLOW 69 % AIR FLOW 83 %

EXCESS O_2 A 1.2 % B 1.1 %

WINDBOX PRESSURE EAST 4.0 " H_2O

FURNACE PRESSURE -0.05 " H_2O

FURNACE/WINDBOX PRESSURE Δ P 4.05 " H_2O

S.H. TEMP R 1000 /L 1000 °F STEAM FLOW 920 lbs/Hr x 1000

REHEAT TEMP R 1010 /L 1000 °F F.W. FLOW 960 lbs/Hr x 1000

F.D. FAN AMPS A 75 B 75

I.D. FAN AMPS A 180 B 180

AIR FROM APH A 548 °F B 530 °F

GAS TO APH A 693 °F B 711 °F

OPACITY 7 %

NO_X EAST OR WEST 350 PPM 0.53 #/BTU ^{6}

S.H. SPRAY FLOW 31 % VALVE POSITION 20 % VALVE POSITION

R.H. SPRAY FLOW 15 % VALVE POSITION

TEST VAN DATA: CO 133 PPM; CO_2 11.9 % O_2 5.8 %

COMMENTS: GAS RECIRC DAMPER POSITION 0 %

OP3/KTW6/PSN3NX08.DRW
UPDATED: 7/17/91

PTF 1 NO_X TEST DATA

UNIT #: 1 TEST #: 5 DATE: 4/22/92

TEST CONDITIONS: 100% OIL ~ 90% LOAD LOW O_2

PARTICULATE RUN

SOUTH DUCT

OPERATING PARAMETERS

FUEL OIL MW GROSS 390 NET 371

NUMBER OF BURNERS IN SERVICE 18 THROTTLE PRESSURE 2406 PSIG

F.O. (GAS) SUPPLY PRESSURE 720 PSIG F.O. RETURN PRESSURE 420 PSIG

F.O. ΔP 300 PSIG GAS BURNER PRESSURE — PSIG

F.O. TEMP 280 °F FUEL FLOW 78 % AIR FLOW 89 %

EXCESS O_2 NORTH 1.0 % SOUTH 0.6 %

WINDBOX PRESSURE EAST 25.0 " H_2O

FURNACE PRESSURE 17.6 " H_2O

FURNACE/WINDBOX PRESSURE Δ P 7.4 " H_2O

S.H. TEMP 1000 °F STEAM FLOW 2440 lbs/Hr x 1000

REHEAT TEMP 1000 °F F.W. FLOW 2480 lbs/Hr x 1000

F.D. FAN SPEED A 1075 RPM B 1058 RPM

F.D. FAN AMPS A 340 B 340

AIR FROM APH A 576 °F B 576 °F

GAS TO APH A 718 °F B 714 °F

OPACITY 11 %

NO_X NORTH OR SOUTH 520 PPM 0.662 $\#/BTU^6$

LOWER SPRAY FLOW 81.2 lbs/HR x 1000 UPPER SPRAY FLOW 67.1 lbs/HR x 1000

R.H. SPRAY FLOW 0.84 lbs/HR x 1000

TEST VAN DATA: CO 345 PPM; CO_2 14.4 % O_2 2.9 %

COMMENTS: F.O. FAN DISCHARGE PRES 32 A 34 B

BURNER OIL FLOW = 10,400 #/HR.

NORTH & SOUTH AVERAGE PART. = 0.79 $\#/BTU^6$

JPS\OS3\KTW\PTF1TS5.DRW
UPDATED: 5/13/92

PTF 1 NO_X TEST DATA

UNIT #: 1 TEST #: 6 DATE: 4/22/92

TEST CONDITIONS: 100% OIL ~ 90% LOAD LOW O_2

PARTICULATE RUN

NORTH DUCT

OPERATING PARAMETERS

FUEL OIL MW GROSS 390 NET 371

NUMBER OF BURNERS IN SERVICE 18 THROTTLE PRESSURE 2400 PSIG

F.O. (GAS) SUPPLY PRESSURE 710 PSIG F.O. RETURN PRESSURE 410 PSIG

F.O. ΔP 290 PSIG GAS BURNER PRESSURE — PSIG

F.O. TEMP 180 °F FUEL FLOW 78 % AIR FLOW 89 %

EXCESS O_2 NORTH 0.8 % SOUTH 0.5 %

WINDBOX PRESSURE EAST 27.5 " H_2O

FURNACE PRESSURE 19.3 " H_2O

FURNACE/WINDBOX PRESSURE Δ P 8.2 " H_2O

S.H. TEMP 1000 °F STEAM FLOW 2440 lbs/Hr x 1000

REHEAT TEMP 1000 °F F.W. FLOW 2460 lbs/Hr x 1000

F.D. FAN SPEED A 1102 RPM B 1026 RPM

F.D. FAN AMPS A 360 B 340

AIR FROM APH A 583 °F B 585 °F

GAS TO APH A 728 °F B 724 °F

OPACITY 6 %

NO_X NORTH OR SOUTH 600 PPM 0.785 #/BTU 6

LOWER SPRAY FLOW 94.4 lbs/HR x 1000 UPPER SPRAY FLOW 65.4 lbs/HR x 1000

R.H. SPRAY FLOW 1.04 lbs/HR x 1000

TEST VAN DATA: CO 49 PPM; CO_2 13.9 % O_2 3.4 %

COMMENTS: F.O. FAN DISCHARGE PRES 33.5 · A 34.0 B

BURNER OIL FLOW = 10,533 #/HR.

NORTH & SOUTH AVERAGE PART. = 0.79 #/BTU6

JPS\OS3\KTWAPTF1TS6.DRW
UPDATED: 5/13/92

Best Available Copy

KBN

April 28, 1995

Mr. Howard L. Rhodes, Director
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road, M.S. 5505
Tallahassee, FL 32399-2400

RE: Florida Electric Power Coordinating Group (FCG)
Emission Factors for Title Permit Applications

Dear Howard:

This correspondence is being submitted on behalf of the FCG to obtain FDEP concurrence with proposed emission factors that would be used in the preparation of Title V permit applications. This submittal is consistent with your letter dated September 27, 1993, in which the division has agreed to consider industry proposals for industry-specific emission factors in the absence of EPA-approved factors and encourages facilities to submit new or updated air pollutant emission information that become available. The emission factors in this correspondence were developed based on the latest information available for the various types of air emission sources at electric generating utilities. It is the intent that the proposed emission factors and referenced material be used in determining emissions for Item 5. of Section E. Pollutant Information in FDEP Form No.62.62-210.900(1). The exception will be if the utility has more direct information on emissions or there is an applicable air construction or operating permit requirement.

EPA emission factors from AP-42 are proposed for many of the criteria pollutants where permit limits are not in the specific conditions of the air construction or operating permit. Many of the emission factors for trace emissions were based on the Electric Power Research Institute's (EPRI) Electric Utility Trace Substances Synthesis Report, November, 1994. This report which was submitted to EPA at the end of last year will be used in EPA's report to Congress later this year on estimated toxic air emissions from electric utility units. Where information is not available from AP-42 or EPRI, other utility data or EPA information were used.

The emission factors and/or references are in the form of tables which list the type of emission sources, the pollutants, the emission factor units, the proposed emission factor and the basis for the emission factor or present the reference to existing emission factors. The tables presented in this correspondence include emission factors for utility and industrial boilers which fire coal, natural gas, or oil (see Tables SUM-1 through SUM-4). References for emission factors are also presented for combustion turbines as well as particulate and volatile organic compound emissions from sources which are generally considered as fugitive. A general summary of recommended emission factors for these emission sources is presented in Table SUM-5.

KBN ENGINEERING AND APPLIED SCIENCES, INC.

6241 Northwest 23rd Street, Suite 500, Gainesville, Florida 32653-1500, 904-336-5600 FAX 904-336-6603

5405 West Cypress Street, Suite 215, Tampa, Florida 33607, 813-287-1717 FAX 813-287-1716

1801 Clint Moore Road, Suite 105, Boca Raton, Florida 33487, 407-994-9910 FAX 407-994-9393

7785 Baymeadows Way, Suite 105, Jacksonville, Florida 32256, 904-739-5600 FAX 904-739-7777

1616 P Street N.W., Suite 450, Washington, D.C. 20036, 202-462-1100 FAX 202-462-2270

I have provided a general certification regarding the overall use of these emissions factors. If there are any questions, Dwain Waters and I can meet with your staff or have a conference call to address any comments. Mr. Dwain Waters of Gulf Power Company is the FCG representative on this issue.

Your consideration in this matter is appreciated.

Sincerely,

Kennard F. Kosky

Kennard F. Kosky, P.E.
President

cc: Dwain Waters, FCG
Bob McCann, KBN
Clair Fancy, FDEP
John Brown, FDEP

PROFESSIONAL ENGINEER STATEMENT

I, the undersigned, hereby certify that:

To the best of my knowledge, the emission factors presented herein are true, accurate, and complete and are based upon available techniques and information for calculating reasonable estimates of emissions from electric utility emission units.

Kennard F. Kosky, P.E.

4/27/95
Date

Table SUM-1. Coal Combustion for Utility Boilers- Summary of Recommended Emission Factors, Uncontrolled and Controlled

Pollutant	Units	PC/ DB-WF Value	PC/ DB-WF Equation a	PC/ DB-WF Equation b	PC/ DB-TF Value	PC/ DB-TF Equation a	PC/ DB-TF Equation b	PC/ WB Value	PC/ WB Equation a	PC/ WB Equation b	Basis
Criteria And Precursor Pollutants											
Sulfur Dioxide	lb/ton	38(S%).95			38(S%).95			38(S%).95			AP-42
Particulate Matter	lb/ton	10(A%)			10(A%)			7(A%)			AP-42
Particulate Matter (PM10)	lb/ton	2.3(A%)			2.3(A%)			2.6(A%)			AP-42
Nitrogen Oxides	lb/ton	21.7			14.4			34			AP-42
Carbon Monoxide	lb/ton	0.5			0.5			0.5			AP-42
Volatile Organic Compounds	lb/ton	0.06			0.06			0.04			AP-42
Lead	lb/10^12 Btu	EQN	3.4	0.8	EQN	3.4	0.8	EQN	3.4	0.8	EPRI
NSPS/NESHAP Pollutants											
Arsenic	lb/10^12 Btu	EQN	3.1	0.85	EQN	3.1	0.85	EQN	3.1	0.85	EPRI
Beryllium	lb/10^12 Btu	EQN	1.2	1.1	EQN	1.2	1.1	EQN	1.2	1.1	EPRI
Fluorides (as HF)	lb/10^12 Btu	CON			CON			CON			EPRI
Hydrogen Chloride	lb/10^12 Btu	CON			CON			CON			EPRI
Mercury	lb/10^12 Btu	8.33			8.33			8.33			FCG (1)
Radionuclides	pCi/gram PM	52.75			52.75			52.75			EPRI
Sulfuric Acid Mist	lb/ton	38(S%)x.00858			38(S%)x.00858			38(S%)x.00858			AP-42 (2)
2,3,7,8-TCDD equiv. (dioxin/furan)	lb/10^12 Btu	2.00E-06			2.00E-06			2.00E-06			EPRI
Other Regulated Air Pollutants											
Acetaldehyde	lb/10^12 Btu	--			--			--			--
Acrolein	lb/10^12 Btu	--			--			--			--
Antimony	lb/10^12 Btu	EQN	0.92	0.63	EQN	0.92	0.63	EQN	0.92	0.63	EPRI
Benzene	lb/10^12 Btu	3.8			3.8			3.8			EPRI
Cadmium	lb/10^12 Btu	EQN	3.3	0.5	EQN	3.3	0.5	EQN	3.3	0.5	EPRI
Chromium	lb/10^12 Btu	EQN	3.7	0.58	EQN	3.7	0.58	EQN	3.7	0.58	EPRI
Cobalt	lb/10^12 Btu	EQN	1.7	0.69	EQN	1.7	0.69	EQN	1.7	0.69	EPRI
Formadehyde	lb/10^12 Btu	3			3			3			EPRI
Manganese	lb/10^12 Btu	EQN	3.8	0.6	EQN	3.8	0.6	EQN	3.8	0.6	EPRI
Methane	lb/ton	0.04			0.04			0.05			AP-42
Nickel	lb/10^12 Btu	EQN	4.4	0.48	EQN	4.4	0.48	EQN	4.4	0.48	EPRI
Phosphorous	lb/10^12 Btu	--			--			--			--
Polycyclic Organic Matter	lb/10^12 Btu	2.08			2.4			2.4			AP-42
Selenium	lb/10^12 Btu	CON			CON			CON			--
Toluene	lb/10^12 Btu	1.4			1.4			1.4			EPRI

Table SUM-1. Coal Combustion for Utility Boilers- Summary of Recommended Emission Factors, Uncontrolled and Controlled

Pollutant	Units	PC/ DB-WF Value	PC/ DB-WF Equation a	PC/ DB-WF Equation b	PC/ DB-TF Value	PC/ DB-TF Equation a	PC/ DB-TF Equation b	PC/ WB Value	PC/ WB Equation a	PC/ WB Equation b	Basis
Xylene	lb/10^12 Btu	- -			- -			- -			- -
Non-regulated Pollutants											
Carbon Dioxide	lb/ton	73.3(C%)			73.3(C%)			73.3(C%)			
Controlled Emission Factors (3)											

Note: PC= pulverized coal; DB-WF= dry bottom- wall-fired; DB-TF= dry bottom, tangentially-fired; WB= wet bottom.
EQN means equation used to calculate factor- a (X) ^b where X= (coal ppm/ash fraction) x PM emissions (lb/10^12 Btu)
CON means concentration in coal input (e.g., mg/kg)
S= sulfur content (%)
C= carbon content (%)

(1) Based on mercury concentration of 0.10 ppm and coal heat content of 12,000 Btu/lb.
(2) Based on SO3 emission factor and adjusting for molecular weight of H2SO4/ SO3 (98/80).
(3) Controlled factors can be obtained by multiplying the following fractions for emission controls (representative of control efficiencies) by the uncontrolled emission factors:

Pollutant	ESP	Baghouse	Scrubber	
SO2/SO3	1	1	0.1	
PM	0.008	0.002	0.06	
PM10	0.02174	0.008696	0.1826	
As, Be, Cd, Co, Cr, Mn, Ni, Pb, Sb	0.1	0.1	0.1	(multiply by X in EQN, see note above)
Mercury	0.70	0.70	0.55	
Selenium	0.55	0.55	0.12	
HCl, HF	1.00	1.00	0.03	
Formaldehyde	0.10	0.10	0.10	

		LNB	LNB+OFA	LNB(LNC3)	SCR
NOx	DB-WF	0.625	0.45	1.00	0.25
	WB	0.625	0.45	1.00	0.25
	DB-TF	0.775	0.65	0.55	0.25

Table SUM-2. Natural Gas Combustion for Utility Boilers- Summary of Emission Factors, Uncontrolled and Controlled

Pollutant		Units	FCG- Recommendation Heat Input Rate (MMBtu/hr) > 100	10-100	Basis
Criteria And Precursor Pollutants					
Sulfur Dioxide		lb/Mmcf	6.00E-01	6.00E-01	AP-42 (1)
Particulate Matter		lb/Mmcf	3.00E+00	1.37E+01	AP-42
Particulate Matter (PM10)		lb/Mmcf	3.00E+00	1.37E+01	AP-42
Nitrogen Oxides		lb/Mmcf	5.50E+02	1.40E+02	AP-42
Nitrogen Oxides (tangentially-fired)		lb/Mmcf	2.75E+00		AP-42
Carbon Monoxide		lb/Mmcf	4.00E+01	3.50E+01	AP-42
Volatile Organic Compounds		lb/Mmcf	1.41E+00	2.78E+00	AP-42
Lead		lb/10^12 Btu	NA	NA	EPRI
NSPS/NESHAP Pollutants					
Arsenic		lb/10^12 Btu	NA	NA	EPRI
Beryllium		lb/10^12 Btu	NA	NA	EPRI
Fluorides (as HF)		lb/10^12 Btu	NA	NA	NA
Hydrogen Chloride		lb/10^12 Btu	NA	NA	NA
Mercury		lb/10^12 Btu	7.80E-04	7.80E-04	FCG
Radionuclides		pCi/gram	NA	NA	NA
Sulfuric Acid Mist		lb/10^12 Btu	??	??	??
2,3,7,8-TCDD equiv. (dioxin/furans)		lb/10^12 Btu	1.20E-06	1.20E-06	EPRI
Other Regulated Air Pollutants					
Acetaldehyde		lb/10^12 Btu	NA	NA	NA
Acrolein		lb/10^12 Btu	NA	NA	NA
Antimony		lb/10^12 Btu	NA	NA	NA
Benzene		lb/10^12 Btu	8.00E-01	8.00E-01	EPRI
Cadmium		lb/10^12 Btu	NA	NA	EPRI
Chromium		lb/10^12 Btu	NA	NA	EPRI
Cobalt		lb/10^12 Btu	NA	NA	EPRI
Formadehyde		lb/10^12 Btu	3.40E+01	3.40E+01	EPRI
Manganese		lb/10^12 Btu	NA	NA	EPRI
Methane		lb/10^12 Btu	2.90E-01	2.90E-01	AP-42
Nickel		lb/10^12 Btu	NA	NA	EPRI
Phosphorous		lb/10^12 Btu	NA	NA	NA
Polycyclic Organic Matter		lb/10^12 Btu	NA	NA	NA
Selenium		lb/10^12 Btu	NA	NA	EPRI
Toluene		lb/10^12 Btu	1.00E+01	1.00E+01	EPRI
Xylene		lb/10^12 Btu	NA	NA	NA
Non-regulated Pollutants					
Carbon dioxide		lb/10^12 Btu	1.20E+05	1.20E+05	AP-42
Controlled Emission Factors					
Nitrogen Oxides	LNB	lb/Mmcf	8.10E+01	8.10E+01	AP-42
	FGR	lb/Mmcf	5.30E+01	3.00E+01	AP-42
	SCR	lb/Mmcf	1.21E+02	1.21E+02	AP-42
Carbon Monoxide	LNB	lb/Mmcf	NA	6.10E+01	AP-42
	FGR	lb/Mmcf	NA	3.70E+01	AP-42

Note: LNB= low NOx burner; FGR= flue gas recirculation; SCR- selective catalytic reduction.

(1) Based on 0.2 grain sulfur/ 100 cf; sulfur content may be higher if delivered by pipeline (2.86 lb/MMBtu; assuming 1.0 gr/100 cf).

Table SUM-3. Oil Combustion for Utility Boilers- Summary of Recommended Emission Factors, Uncontrolled and Controlled

		FCG- Recommendation				
Pollutant	Units	No. 6	No. 5	No. 4	No. 2	Basis
Criteria And Precursor Pollutants						
Sulfur Dioxide	lb/10^3 gal	157(S%)	157(S%)	150(S%)	142(S%)	AP-42
Particulate Matter	lb/10^3 gal	9.19(S%)+3.22	10	7	2	AP-42
Particulate Matter (PM10)	lb/10^3 gal	[9.19(S%)+3.22] 0.7	7.1	4.97	1	AP-42
Nitrogen Oxides	lb/10^3 gal	67	67	67	20	AP-42
Nitrogen Oxides (tangential-firing)	lb/10^3 gal	42	42	42	20	AP-42
Carbon Monoxide	lb/10^3 gal	5	5	5	5	AP-42
Volatile Organic Compounds	lb/10^3 gal	0.76	0.76	0.76	0.2	AP-42
Lead	lb/10^12 Btu	7	7	7	8.9	EPRI/Radian (No. 2
NSPS/NESHAP Pollutants						
Arsenic	lb/10^12 Btu	5.5	5.5	5.5	4.2	EPRI/Radian (No. 2
Beryllium	lb/10^12 Btu	0.2	0.2	0.2	0.2	EPRI
Fluorides (as HF) (1)	lb/10^3 gal	0.842	0.842	0.842	0.842	FCG
Hydrogen Chloride (2)	lb/10^3 gal	0.998	0.998	0.998	0.998	FCG
Mercury	lb/10^12 Btu	1	1	1	1	FCG
Radionuclides	pCi/gram	1.9	1.9	1.9	1.9	EPRI
Sulfuric Acid Mist (3)	lb/10^3 gal	6.983(S%)	6.983(S%)	6.983(S%)	2.45(S%)	AP-42
2,3,7,8-TCDD equiv. (dioxins/furans)	lb/10^12 Btu	8.300E-06	8.3E-06	8.3E-06	8.3E-06	EPRI
Other Regulated Air Pollutants						
Acetaldehyde	lb/10^12 Btu	NA	NA	NA	NA	NA
Acrolein	lb/10^12 Btu	NA	NA	NA	NA	NA
Antimony	lb/10^12 Btu	35	35	35	35	AP-42
Benzene	lb/10^12 Btu	1.1	1.1	1.1	1.1	EPRI
Cadmium	lb/10^12 Btu	1.3	1.3	1.3	1.3	EPRI
Chromium	lb/10^12 Btu	5.2	4	4	4	EPRI
Cobalt	lb/10^12 Btu	37	37	37	37	EPRI
Formadehyde	lb/10^12 Btu	20	20	20	20	EPRI
Manganese	lb/10^12 Btu	13	13	13	13	EPRI
Methane	lb/10^3 gal	0.28	0.28	0.28	0.052	AP-42
Nickel	lb/10^12 Btu	720	370	370	170	EPRI
Phosphorous	lb/10^12 Btu	NA	NA	NA	NA	NA
Polycyclic Organic Matter	lb/10^12 Btu	4.1	4.1	4.1	22.5	Radian
Selenium	lb/10^12 Btu	2	2	2	2	EPRI
Toluene	lb/10^12 Btu	9.9	9.9	9.9	9.9	EPRI
Xylene	lb/10^12 Btu	NA	NA	NA	NA	NA
Non-regulated Pollutants						
Carbon dioxide	lb/10^3 gal	288 (C%)	288 (C%)	288 (C%)	259 (C%)	AP-42
PCB Used Oil Only (4)	lb/10^3 gal	NA	NA	NA	NA	FCG- 0.4 lb/10^3 g
Vanadium	lb/10^3 gal	0.2656	0.2656	0.2656	0.2656	FCEM
Controlled Emission Factors (5)						

(1) Based on 100 ppm fluorine content and oil density of 8.0 lb/gal.
(2) Based on 121.3 ppm chlorine content and oil density of 8.0 lb/gal.
(3) Based on SO3 emission factor and adjusting for molecular weight ratio (MW H2SO4/MW SO3= 98/80)
(4) Based on PCB concentration of 50 ppm.
(5) Controlled factors can be obtained by multiplying the following fractions for emission controls (representative of control efficiencies) by the uncontrolled emission factors:

Pollutant	ESP	Baghouse	Scrubber
SO2/SO3	1.0	1.0	0.1
PM	0.008	--	0.06
PM10	0.007119	--	0.008475

	LNB	LNB+OFA	LNB(LNC3)	SCR
NOx- Normal firing	0.625	0.45	--	0.25
NOx- Tangential firing	0.775	0.65	--	0.25

Table SUM-4. Oil Combustion for Industrial Boilers- Summary of Recommended Emission Factors, Uncontrolled and Controlled

		FCG- Recommendation				
Pollutant	**Units**	**No. 6**	**No. 5**	**No. 4**	**No. 2**	**Basis**
Criteria And Precursor Pollutants						
Sulfur Dioxide	lb/10^3 gal	157(S%)	157(S%)	150(S%)	142(S%)	AP-42
Particulate Matter	lb/10^3 gal	9.19(S%)+3.22	10	7	2	AP-42
Particulate Matter (PM10)	lb/10^3 gal	[9.19(S%)+3.22] 0.7	7.1	4.97	1	AP-42
Nitrogen Oxides	lb/10^3 gal	67	67	67	20	AP-42
Nitrogen Oxides (tangential-firing)	lb/10^3 gal	55	55	20	20	AP-42
Carbon Monoxide	lb/10^3 gal	5	5	5	5	AP-42
Volatile Organic Compounds	lb/10^3 gal	0.28	0.28	0.28	0.2	AP-42
Lead	lb/10^12 Btu	7	7	7	8.9	EPRI/Radian (No. 2
NSPS/NESHAP Pollutants						
Arsenic	lb/10^12 Btu	5.5	5.5	5.5	4.2	EPRI/Radian (No. 2
Beryllium	lb/10^12 Btu	0.2	0.2	0.2	0.2	EPRI
Fluorides (as HF) (1)	lb/10^3 gal	0.842	0.842	0.842	0.842	FCG
Hydrogen Chloride (2)	lb/10^3 gal	0.998	0.998	0.998	0.998	FCG
Mercury	lb/10^12 Btu	1	1	1	1	FCG
Radionuclides	pCi/gram	1.9	1.9	1.9	1.9	EPRI
Sulfuric Acid Mist (3)	lb/10^3 gal	6.983(S%)	6.983(S%)	6.983(S%)	2.45(S%)	AP-42
2,3,7,8-TCDD equiv. (dioxins/furans)	lb/10^12 Btu	8.300E-06	8.3E-06	8.3E-06	8.3E-06	EPRI
Other Regulated Air Pollutants						
Acetaldehyde	lb/10^12 Btu	NA	NA	NA	NA	NA
Acrolein	lb/10^12 Btu	NA	NA	NA	NA	NA
Antimony	lb/10^12 Btu	35	35	35	35	AP-42
Benzene	lb/10^12 Btu	1.1	1.1	1.1	1.1	EPRI
Cadmium	lb/10^12 Btu	1.3	1.3	1.3	1.3	EPRI
Chromium	lb/10^12 Btu	5.2	4	4	4	EPRI
obalt	lb/10^12 Btu	37	37	37	37	EPRI
ormadehyde	lb/10^12 Btu	20	20	20	20	EPRI
Manganese	lb/10^12 Btu	13	13	13	13	EPRI
Methane	lb/10^3 gal	1	1	0.052	0.052	AP-42
Nickel	lb/10^12 Btu	720	370	370	170	EPRI
Phosphorous	lb/10^12 Btu	NA	NA	NA	NA	NA
Polycyclic Organic Matter	lb/10^12 Btu	4.1	4.1	4.1	22.5	Radian
Selenium	lb/10^12 Btu	2	2	2	2	EPRI
Toluene	lb/10^12 Btu	9.9	9.9	9.9	9.9	EPRI
Xylene	lb/10^12 Btu	NA	NA	NA	NA	NA
Non-regulated Pollutants						
Carbon dioxide	lb/10^3 gal	288 (C%)	288 (C%)	288 (C%)	259 (C%)	AP-42
PCB Used Oil Only (4)	lb/10^3 gal	NA	NA	NA	NA	FCG- 0.4 lb/10^3 g
Vanadium	lb/10^3 gal	0.2656	0.2656	0.2656	0.2656	FCEM
Controlled Emission Factors (5)						

(1) Based on 100 ppm fluorine content and oil density of 8.0 lb/gal.
(2) Based on 121.3 ppm chlorine content and oil density of 8.0 lb/gal.
(3) Based on SO3 emission factor and adjusting for molecular weight ratio (MW H2SO4/MW SO3= 98/80)
(4) Based on PCB concentration of 50 ppm.
(5) Controlled factors can be obtained by multiplying the following fractions for emission controls (representative of control efficiencies) by the uncontrolled emission factors:

Pollutant	ESP	Baghouse	Scrubber
SO2/SO3	1	1	0.1
PM	0.008	--	0.06
PM10	0.007119	--	0.008475

	LNB	LNB+OFA	LNB(LNC3)	SCR
IOx- Normal firing	0.625	0.45	--	0.25
- Tangential firing	0.775	0.65	--	0.25

Table SUM-5. General Summary of Recommended Emission Factors

Fuel/ Pollutant	Emission Type	Size	References	Comments
1. Boilers				
Coal- Bituminous Sub-bituminous	Utility Dry bottom wall-fired Dry bottom tangentially fired Wet bottom		AP-42, EPRI, FCG	See Table SUM-1
Coal/Petroleum coke (50-50 blend)			Same as Coal	Default to Coal
Coal/ Tire derived fuel (90-10 blend)			Same as Coal	Default to Coal, except additional margin for NOx, CO, Mn, Co
Coal/ Wood (90-10 blend)			Same as Coal	Default to Coal
Natural Gas	Utility	> 100 MMBtu/hr	AP-42, EPRI, FCG	See Table SUM-2
		10 - 100 MMBtu/hr	AP-42, EPRI, FCG	See Table SUM-2
	Industrial	> 100 MMBtu/hr	Same as Utility Gas	See Table SUM-2
		10 - 100 MMBtu/hr	Same as Utility Gas	See Table SUM-2
Propane	Industrial		AP-42	
Butane	Industrial		AP-42	
Fuel Oil- Residual (No. 6,5, Distillate (No. 2)	Utility Normal- fired Tangentially- fired		AP-42, EPRI, Radian, FCG, FCEM	See Table SUM-3
	Industrial		AP-42, EPRI, Radian, FCG, FCEM	See Table SUM-4
Used oil	All Boilers		FCG- default to residual or distillate with exceptions	See Tables SUM-3 and4 (in part); Exceptions for: On-spec- PCB Off-spec- As, Cd, Cr, Pb, HCl, P
2. Combustion Turbines				
Natural Gas	Utility, Industrial		AP-42, FCG	FCG- mercury
Fuel Oil	Utility, Industrial		AP-42, see Utility Boilers	For factors not in AP-42, use factors for utility fuel oil; Controls for NOx, CO for SCR, water and steam injection

Table SUM-5. General Summary of Recommended Emission Factors

Fuel/ Pollutant	Emission Type	Size	References	Comments
3. Fugitive Emission Sources				
Particulate Matter	Continuous Drop Batch Drop Wind Erosion- Active Storage Pile Unpaved and Paved Roads Abrasive Blasting		AP-42	Based on permit reference; use of site characterisic data
Particulate Matter	Wet Cooling Tower		AP-42	
Volatile Organic Compounds	Painting Operations		Manufacturer	Normal- 6 lb/gal; Low VOC- 3.5 lb/gal
	Petroleum Industry Cooling towers; Pipeline valves, flanges, etc.		Fire/ AP-42	
	Storage tanks		AP-42	Calculate breathing, working losses, etc. with EPA's TANKS Program
As, Be, Cd, Cr, Pb, Hg, Se, Ag	Boiler Cleaning Waste Evaporation		TCLP limits	

References:

AP-42- EPA document, "Air Pollutant Emission Factors for Stationary Point Sources"
EPRI- Synthesis Report, November, 1994.
Radian- "Estimating Air Toxics Emissions from Coal and Oil Combustion Sources, April, 1989.
FCG- Based on specific information from available fuel data.
FCEM- EPRI's Field Chemical Emission Monitoring Program.
Fire- EPA's Factor Information Retrieval System

ATTACHMENT B

VENDOR INFORMATION ON COMBUSTION TURBINE

Table B-1. Design Information and Stack Parameters for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, Base Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Combustion Turbine Performance				
Net power output (MW)	181.7	172.3	163.1	149.4
Net heat rate (Btu/kWh, LHV)	9,205	9,284	9,408	9,687
(Btu/kWh, HHV)	10,217	10,305	10,443	10,753
Heat Input (MMBtu/hr, LHV)	1,673	1,600	1,534	1,447
(MMBtu/hr, HHV)	1,857	1,776	1,703	1,607
Fuel heating value (Btu/lb, LHV)	20,751	20,751	20,751	20,751
(Btu/lb, HHV)	23,006	23,006	23,006	23,006
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow				
Mass Flow (lb/hr)- with margin of 11%	4,118,100	3,929,400	3,796,200	3,618,600
- provided	3,710,000	3,540,000	3,420,000	3,260,000
Temperature (°F)	1,096	1,118	1,130	1,147
Moisture (% Vol.)	7.6	8.42	9.07	9.95
Oxygen (% Vol.)	12.61	12.45	12.37	12.28
Molecular Weight	28.48	28.39	28.31	28.21
Fuel Usage				
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))				
Heat input (MMBtu/hr, LHV)	1,673	1,600	1,534	1,447
Heat content (Btu/lb, LHV)	20,751	20,751	20,751	20,751
Fuel usage (lb/hr)- calculated	80,600	77,087	73,944	69,746
CT/HRSG Stack				
CT- Stack height (ft)	98	98	98	98
Diameter (ft)	22	22	22	22
HRSG- Stack height (ft)	125	125	125	125
Diameter (ft)	19	19	19	19
Turbine Flow Conditions				
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545 x (Temp. (°F)+ 460°F)] / [Molecular weight x 2116.8] / 60 min/hr				
Mass flow (lb/hr)	4,118,100	3,929,400	3,796,200	3,618,600
Temperature (°F)	1,096	1,118	1,130	1,147
Molecular weight	28.48	28.39	28.31	28.21
Volume flow (acfm)- calculated	2,737,101	2,656,962	2,593,227	2,507,258
(ft3/s)- calculated	45,618	44,283	43,220	41,788
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
CT Temperature (°F)	1,096	1,118	1,130	1,147
CT volume flow (acfm)	2,737,101	2,656,962	2,593,227	2,507,258
Diameter (ft)	22	22	22	22
Velocity (ft/sec)- calculated	120.0	116.5	113.7	109.9
HRSG Temperature (°F)	220	220	220	220
HRSG volume flow (acfm)	1,196,162	1,144,952	1,109,053	1,060,943
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	70.3	67.3	65.2	62.4

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft³

Source: GE, 1998.

Table B-2. Maximum Emissions for Criteria Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, Base Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Hours of Operation	8,760	8,760	8,760	8,760
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer				
Basis (excludes H_2SO_4), lb/hr	10	10	10	10
Emission rate (lb/hr)- provided	10.0	10.0	10.0	10.0
(TPY)	43.8	43.8	43.8	43.8
Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 cf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100				
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448
Fuel use (cf/hr)	1,799,746	1,721,319	1,651,132	1,557,388
Sulfur content (grains/ 100 cf)	1	1	1	1
lb SO_2 /lb S (64/32)	2	2	2	2
Emission rate (lb/hr)	5.1	4.9	4.7	4.4
(TPY)	22.52	21.54	20.66	19.49
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/100)] - Oxygen(%)} x 2116.8 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (adj. for ppm)]				
Basis, ppmvd @15% O_2	9	9	9	9
Moisture (%)	7.6	8.42	9.07	9.95
Oxygen (%)	12.61	12.45	12.37	12.28
Turbine Flow (acfm)	2,737,101	2,656,962	2,593,227	2,507,258
Turbine Exhaust Temperature (°F)	1,096	1,118	1,130	1,147
Emission rate (lb/hr)	68.0	65.0	62.4	58.9
(TPY)	297.8	284.6	273.4	257.8
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvd	12	12	12	12
Moisture (%)	7.6	8.42	9.07	9.95
Turbine Flow (acfm)	2,737,101	2,656,962	2,593,227	2,507,258
Turbine Exhaust Temperature (°F)	1,096	1,118	1,130	1,147
Emission rate (lb/hr)	44.9	42.6	41.0	38.8
(TPY)	196.6	186.5	179.4	170.0

Table B-2. Maximum Emissions for Criteria Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, Base Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvd	1.4	1.4	1.4	1.4
Moisture (%)	7.6	8.42	9.07	9.95
Turbine Flow (acfm)	2,737,101	2,656,962	2,593,227	2,507,258
Turbine Exhaust Temperature (°F)	1,096	1,118	1,130	1,147
Emission rate (lb/hr)	2.99	2.84	2.73	2.59
(TPY)	13.1	12.4	12.0	11.3
Lead (lb/hr)= NA				
Emission Rate Basis	NA	NA	NA	NA
Emission rate (lb/hr)	NA	NA	NA	NA
(TPY)	NA	NA	NA	NA

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996

Table B-3. Maximum Emissions for Other Regulated PSD Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, Base Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Hours of Operation	8,760	8,760	8,760	8,760
2,3,7,8 TCDD Equivalents (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	1.20E-06	1.20E-06	1.20E-06	1.20E-06
Heat Input Rate (MMBtu/hr)	1.86E+03	1.78E+03	1.70E+03	1.61E+03
Emission Rate (lb/hr)	2.23E-09	2.13E-09	2.04E-09	1.93E-09
(TPY)	9.76E-09	9.33E-09	8.95E-09	8.44E-09
Beryllium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Fluoride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (b) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Mercury (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	7.48E-04	7.48E-04	7.48E-04	7.48E-04
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	1.39E-06	1.33E-06	1.27E-06	1.20E-06
(TPY)	6.08E-06	5.82E-06	5.58E-06	5.26E-06
Sulfuric Acid Mist = Fuel Use (lb/hr) x sulfur (S) content (fraction) x conversion of S to H_2SO_4 (%) x MW H_2SO_4 /MW S (98/32)				
Fuel Usage (cf/hr)	1,799,746	1,721,319	1,651,132	1,557,388
Sulfur (lb/hr)	2.57	2.46	2.36	2.22
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (c)	10	10	10	10
Emission Rate (lb/hr)	0.79	0.75	0.72	0.68
(TPY)	3.45	3.30	3.16	2.98

Sources: (a) Golder Associates, 1998; (b) EPA, 1981; (c) Assumed.

Note: No Emission Factors for Hydrogen chloride (HCl) from natural gas firing.

Table B-4. Maximum Emissions for Hazardous Air Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, Base Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Hours of Operation	8,760	8,760	8,760	8,760
Antimony (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Benzene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0.8	0.8	0.8	0.8
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	1.49E-03	1.42E-03	1.36E-03	1.29E-03
(TPY)	6.51E-03	6.22E-03	5.97E-03	5.63E-03
Cadmium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Formaldehyde (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	34	34	34	34
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	6.31E-02	6.04E-02	5.79E-02	5.46E-02
(TPY)	2.76E-01	2.64E-01	2.54E-01	2.39E-01
Cobalt (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1.86E+03	1.78E+03	1.70E+03	1.61E+03
Emission Rate (lb/hr)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(TPY)	0	0	0	0
Manganese (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	0	0	0	0

Table B-4. Maximum Emissions for Hazardous Air Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, Base Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
(TPY)	0	0	0	0
Nickel (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Phosphorous (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (b) , lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Selenium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Toluene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	10	10	10	10
Heat Input Rate (MMBtu/hr)	1,857	1,776	1,703	1,607
Emission Rate (lb/hr)	1.86E-02	1.78E-02	1.70E-02	1.61E-02
(TPY)	8.13E-02	7.78E-02	7.46E-02	7.04E-02

Sources: (a) Golder Associates, 1998; (b) EPA,1996 (AP-42,Table 3.1-4)

Table B-5. Design Information and Stack Parameters for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 75% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Combustion Turbine Performance				
Net power output (MW)	136.2	129.1	121.9	112
Net heat rate (Btu/kWh, LHV)	9,805	9,957	10,156	10,514
(Btu/kWh, HHV)	10,883	11,053	11,273	11,671
Heat Input (MMBtu/hr, LHV)	1,335	1,285	1,238	1,178
(MMBtu/hr, HHV)	1,482	1,427	1,374	1,307
Fuel heating value (Btu/lb, LHV)	20,751	20,751	20,751	20,751
(Btu/lb, HHV)	23,006	23,006	23,006	23,006
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow				
Mass Flow (lb/hr)- with margin of 11%	3,318,900	3,219,000	3,119,100	2,997,000
- provided	2,990,000	2,900,000	2,810,000	2,700,000
Temperature (°F)	1,124	1,142	1,155	1,172
Moisture (% Vol.)	7.53	8.3	8.96	9.83
Oxygen (% Vol.)	12.68	12.58	12.50	12.42
Molecular Weight	28.48	28.40	28.31	28.20
Fuel Usage				
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))				
Heat input (MMBtu/hr, LHV)	1,335	1,285	1,238	1,178
Heat content (Btu/lb, LHV)	20,751	20,751	20,751	20,751
Fuel usage (lb/hr)- calculated	64,354	61,949	59,661	56,748
CT/HRSG Stack				
CT- Stack height (ft)	98	98	98	98
Diameter (ft)	22	22	22	22
HRSG- Stack height (ft)	125	125	125	125
Diameter (ft)	19	19	19	19
Turbine Flow Conditions				
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545 x (Temp. (°F)+ 460°F)] / [Molecular weight x 2116.8] / 60 min/hr				
Mass flow (lb/hr)	3,318,900	3,219,000	3,119,100	2,997,000
Temperature (°F)	1,124	1,142	1,155	1,172
Molecular weight	28.48	28.40	28.31	28.20
Volume flow (acfm)- calculated	2,245,213	2,209,153	2,164,786	2,109,641
(ft3/s)- calculated	37,420	36,819	36,080	35,161
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
CT Temperature (°F)	1,124	1,142	1,155	1,172
CT volume flow (acfm)	2,245,213	2,209,153	2,164,786	2,109,641
Diameter (ft)	22	22	22	22
Velocity (ft/sec)- calculated	98.4	96.9	94.9	92.5
HRSG Temperature (°F)	220	220	220	220
HRSG volume flow (acfm)	963,854	937,718	911,489	879,017
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	56.7	55.1	53.6	51.7

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft^3

Source: GE, 1998.

Table B-6. Maximum Emissions for Criteria Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 75% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Hours of Operation	8,760	8,760	8,760	8,760
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer				
Basis (excludes H_2SO_4), lb/hr	10	10	10	10
Emission rate (lb/hr)- provided	10.0	10.0	10.0	10.0
(TPY)	43.8	43.8	43.8	43.8
Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 cf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100				
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448
Fuel use (cf/hr)	1,436,985	1,383,279	1,332,190	1,267,141
Sulfur content (grains/ 100 cf)	1	1	1	1
lb SO_2 /lb S (64/32)	2	2	2	2
Emission rate (lb/hr)	4.1	4.0	3.8	3.6
(TPY)	17.98	17.31	16.67	15.86
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x {1 - Moisture(%)/100)] - Oxygen(%)} x 2116.8 x Volume flow {acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (adj. for ppm)]				
Basis, ppmvd @15% O_2	9	9	9	9
Moisture (%)	7.53	8.3	8.96	9.83
Oxygen (%)	12.68	12.58	12.5	12.42
Turbine Flow (acfm)	2,245,213	2,209,153	2,164,786	2,109,641
Turbine Exhaust Temperature (°F)	1,124	1,142	1,155	1,172
Emission rate (lb/hr)	54.3	52.4	50.5	47.9
(TPY)	238.0	229.4	221.1	209.9
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvd	12	12	12	12
Moisture (%)	7.53	8.3	8.96	9.83
Turbine Flow (acfm)	2,245,213	2,209,153	2,164,786	2,109,641
Turbine Exhaust Temperature (°F)	1,124	1,142	1,155	1,172
Emission rate (lb/hr)	36.2	34.9	33.7	32.2
(TPY)	158.6	153.0	147.6	141.0
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvd	1.4	1.4	1.4	1.4
Moisture (%)	7.53	8.3	8.96	9.83
Turbine Flow (acfm)	2,245,213	2,209,153	2,164,786	2,109,641
Turbine Exhaust Temperature (°F)	1,124	1,142	1,155	1,172
Emission rate (lb/hr)	2.41	2.33	2.25	2.15
(TPY)	10.6	10.2	9.8	9.4
Lead (lb/hr)= NA				
Emission Rate Basis	NA	NA	NA	NA
Emission rate (lb/hr)	NA	NA	NA	NA
(TPY)	NA	NA	NA	NA

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996

Table B-7. Maximum Emissions for Other Regulated PSD Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 75% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Hours of Operation	8,760	8,760	8,760	8,760
2,3,7,8-TCDD Equivalents (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	1.20E-06	1.20E-06	1.20E-06	1.20E-06
Heat Input Rate (MMBtu/hr)	1.48E+03	1.43E+03	1.37E+03	1.31E+03
Emission Rate (lb/hr)	1.78E-09	1.71E-09	1.65E-09	1.57E-09
(TPY)	7.79E-09	7.50E-09	7.22E-09	6.87E-09
Beryllium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Fluoride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (b) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Mercury (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	7.48E-04	7.48E-04	7.48E-04	7.48E-04
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	1.11E-06	1.07E-06	1.03E-06	9.78E-07
(TPY)	4.86E-06	4.67E-06	4.50E-06	4.28E-06
Sulfuric Acid Mist = Fuel Use (lb/hr) x sulfur (S) content (fraction) x conversion of S to H_2SO_4 (%) x MW H_2SO_4 /MW S (98/32)				
Fuel Usage (cf/hr)	1,436,985	1,383,279	1,332,190	1,267,141
Sulfur (lb/hr)	2.05	1.98	1.90	1.81
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (c)	10	10	10	10
Emission Rate (lb/hr)	0.63	0.61	0.58	0.55
(TPY)	2.75	2.65	2.55	2.43

Sources: (a) Golder Associates, 1998; (b) EPA, 1981; (c) Assumed.

Table B-8. Maximum Emissions for Hazardous Air Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 75% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Hours of Operation	8,760	8,760	8,760	8,760
Antimony (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Benzene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0.8	0.8	0.8	0.8
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	1.19E-03	1.14E-03	1.10E-03	1.05E-03
(TPY)	5.19E-03	5.00E-03	4.82E-03	4.58E-03
Cadmium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Formaldehyde (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	34	34	34	34
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	5.04E-02	4.85E-02	4.67E-02	4.44E-02
(TPY)	2.21E-01	2.12E-01	2.05E-01	1.95E-01
Cobalt (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1.48E+03	1.43E+03	1.37E+03	1.31E+03
Emission Rate (lb/hr)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(TPY)	0	0	0	0
Manganese (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0

Table B-8. Maximum Emissions for Hazardous Air Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 75% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Nickel (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Phosphorous (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (b) , lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Selenium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Toluene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	10	10	10	10
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,374	1,307
Emission Rate (lb/hr)	1.48E-02	1.43E-02	1.37E-02	1.31E-02
(TPY)	6.49E-02	6.25E-02	6.02E-02	5.73E-02

Sources: (a) Golder Associates, 1998; (b) EPA,1996 (AP-42,Table 3.1-4)

Table B-9. Design Information and Stack Parameters for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Combustion Turbine Performance				
Net power output (MW)	90.7	86	81.1	37.1
Net heat rate (Btu/kWh, LHV)	11,653	11,882	12,187	25,332
(Btu/kWh, HHV)	12,935	13,190	13,528	28,118
Heat Input (MMBtu/hr, LHV)	1,057	1,022	988	940
(MMBtu/hr, HHV)	1,173	1,134	1,097	1,043
Fuel heating value (Btu/lb, LHV)	20,751	20,751	20,751	20,751
(Btu/lb, HHV)	23,006	23,006	23,006	23,006
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow				
Mass Flow (lb/hr)- with margin of 11%	2,730,600	2,664,000	2,597,400	2,519,700
- provided	2,460,000	2,400,000	2,340,000	2,270,000
Temperature (°F)	1,171	1,186	1,198	1,200
Moisture (% Vol.)	7.25	8.01	8.66	9.47
Oxygen (% Vol.)	12.99	12.91	12.83	12.82
Molecular Weight	28.50	28.41	28.26	28.17
Fuel Usage				
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))				
Heat input (MMBtu/hr, LHV)	1,057	1,022	988	940
Heat content (Btu/lb, LHV)	20,751	20,751	20,751	20,751
Fuel usage (lb/hr)- calculated	50,934	49,245	47,631	45,289
CT/HRSG Stack				
CT- Stack height (ft)	98	98	98	98
Diameter (ft)	22	22	22	22
HRSG- Stack height (ft)	125	125	125	125
Diameter (ft)	19	19	19	19
Turbine Flow Conditions				
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545 x (Temp. (°F)+ 460°F)] / [Molecular weight x 2116.8] / 60 min/hr				
Mass flow (lb/hr)	2,730,600	2,664,000	2,597,400	2,519,700
Temperature (°F)	1,171	1,186	1,198	1,200
Molecular weight	28.50	28.41	28.26	28.17
Volume flow (acfm)- calculated	1,900,872	1,877,279	1,853,590	1,806,125
(ft3/s)- calculated	31,681	31,288	30,893	30,102
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
CT Temperature (°F)	1,171	1,186	1,198	1,200
CT volume flow (acfm)	1,900,872	1,877,279	1,853,590	1,806,125
Diameter (ft)	22	22	22	22
Velocity (ft/sec)- calculated	83.3	82.3	81.3	79.2
HRSG Temperature (°F)	220	220	220	220
HRSG volume flow (acfm)	792,516	775,547	760,218	739,859
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	46.6	45.6	44.7	43.5

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft³

Source: GE, 1998.

Table B-10. Maximum Emissions for Criteria Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Hours of Operation	8,760	8,760	8,760	8,760
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer				
Basis (excludes H_2SO_4), lb/hr	10	10	10	10
Emission rate (lb/hr)- provided	10.0	10.0	10.0	10.0
(TPY)	43.8	43.8	43.8	43.8
Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 cf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100				
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448
Fuel use (cf/hr)	1,137,335	1,099,624	1,063,584	1,011,287
Sulfur content (grains/ 100 cf)	1	1	1	1
lb SO_2 /lb S (64/32)	2	2	2	2
Emission rate (lb/hr)	3.2	3.1	3.0	2.9
(TPY)	14.23	13.76	13.31	12.66
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/100)] - Oxygen(%)} x 2116.8 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (adj. for ppm)]				
Basis, ppmvd @15% O_2	9	9	9	9
Moisture (%)	7.25	8.01	8.66	9.47
Oxygen (%)	12.99	12.91	12.83	12.82
Turbine Flow (acfm)	1,900,872	1,877,279	1,853,590	1,806,125
Turbine Exhaust Temperature (°F)	1,171	1,186	1,198	1,200
Emission rate (lb/hr)	43.0	41.6	40.4	38.3
(TPY)	188.3	182.0	176.8	167.7
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvd	12	12	12	12
Moisture (%)	7.25	8.01	8.66	9.47
Turbine Flow (acfm)	1,900,872	1,877,279	1,853,590	1,806,125
Turbine Exhaust Temperature (°F)	1,171	1,186	1,198	1,200
Emission rate (lb/hr)	29.9	29.0	28.2	27.2
(TPY)	130.8	126.9	123.5	119.2

Table B-10. Maximum Emissions for Criteria Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvd	1.4	1.4	1.4	1.4
Moisture (%)	7.25	8.01	8.66	9.47
Turbine Flow (acfm)	1,900,872	1,877,279	1,853,590	1,806,125
Turbine Exhaust Temperature (°F)	1,171	1,186	1,198	1,200
Emission rate (lb/hr)	1.99	1.93	1.88	1.81
(TPY)	8.7	8.5	8.2	7.9
Lead (lb/hr)= NA				
Emission Rate Basis	NA	NA	NA	NA
Emission rate (lb/hr)	NA	NA	NA	NA
(TPY)	NA	NA	NA	NA

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996

Table B-11. Maximum Emissions for Other Regulated PSD Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Hours of Operation	8,760	8,760	8,760	8,760
2,3,7,8-TCDD Equivalents (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	1.20E-06	1.20E-06	1.20E-06	1.20E-06
Heat Input Rate (MMBtu/hr)	1.17E+03	1.13E+03	1.10E+03	1.04E+03
Emission Rate (lb/hr)	1.41E-09	1.36E-09	1.32E-09	1.25E-09
(TPY)	6.17E-09	5.96E-09	5.77E-09	5.48E-09
Beryllium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Fluoride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (b) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Mercury (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	7.48E-04	7.48E-04	7.48E-04	7.48E-04
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	8.78E-07	8.48E-07	8.21E-07	7.80E-07
(TPY)	3.84E-06	3.72E-06	3.59E-06	3.42E-06
Sulfuric Acid Mist = Fuel Use (lb/hr) x sulfur (S) content (fraction) x conversion of S to H_2SO_4 (%) x MW H_2SO_4 /MW S (98/32)				
Fuel Usage (cf/hr)	1,137,335	1,099,624	1,063,584	1,011,287
Sulfur (lb/hr)	1.62	1.57	1.52	1.44
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (c)	10	10	10	10
Emission Rate (lb/hr)	0.50	0.48	0.47	0.44
(TPY)	2.18	2.11	2.04	1.94

Sources: (a) Golder Associates, 1998; (b) EPA, 1981; (c) Assumed.

Table B-12. Maximum Emissions for Hazardous Air Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Hours of Operation	8,760	8,760	8,760	8,760
Antimony (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Benzene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0.8	0.8	0.8	0.8
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	9.39E-04	9.07E-04	8.78E-04	8.35E-04
(TPY)	4.11E-03	3.97E-03	3.84E-03	3.66E-03
Cadmium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Formaldehyde (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	34	34	34	34
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	3.99E-02	3.86E-02	3.73E-02	3.55E-02
(TPY)	1.75E-01	1.69E-01	1.63E-01	1.55E-01
Cobalt (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1.17E+03	1.13E+03	1.10E+03	1.04E+03
Emission Rate (lb/hr)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(TPY)	0	0	0	0
Manganese (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0

Table B-12. Maximum Emissions for Hazardous Air Pollutants for FPL Fort Myers Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 35 °F	59 °F	75 °F	95 °F
Nickel (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Phosphorous (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (b) , lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Selenium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	0	0	0	0
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	0	0	0	0
(TPY)	0	0	0	0
Toluene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Basis (a) , lb/10^{12} Btu	10	10	10	10
Heat Input Rate (MMBtu/hr)	1,173	1,134	1,097	1,043
Emission Rate (lb/hr)	1.17E-02	1.13E-02	1.10E-02	1.04E-02
(TPY)	5.14E-02	4.97E-02	4.81E-02	4.57E-02

Sources: (a) Golder Associates, 1998; (b) EPA,1996 (AP-42,Table 3.1-4)

FLORIDA POWER & LIGHT

SITE 1

COMBUSTION TURBINE PERFORMANCE DATA SHEET

GAS FUEL

GENERATOR NET LOAD = 100%

DESCRIPTION	UNITS	SITE AMBIENT CONDITIONS				
Ambient Air Pressure	psia	14.7	14.7	14.7	14.7	14.7
Ambient Air Temperature	°F	20	35	59(ISO)	**75	95
Ambient Air Relative Humidity	%	0	20	60	60	50
Compressor Inlet Temperature	°F	20	35	59	**75	95
Compressor Inlet Pressure	psia	14.7	14.7	14.7	14.7	14.7
Gross Output @P.F. = .90	kW	186300	182100	172700	163500	149800
Generator Losses	kW	proprietary	proprietary	proprietary	proprietary	proprietary
Auxiliary Load	KW	400	400	400	400	400
Net Output	KW	185900	181700	172300	163100	149400
Combustor Outlet Temperature	°F	proprietary	proprietary	proprietary	proprietary	proprietary
Firing Temperature(4)	°F	2387	2404	2420	2420	2420
Exhaust Gas Temperature	°F	1082	1096	1118	1130	1147
Heat Input	Btu/hr-HHV	1.8988E+09	1.8565E+09	1.7756E+09	1.7032E+09	1.6065E+09
Fuel Flow	lb/hr	82269	80441	76933	73796	69608
Heat Rate - (NET)	Btu/hr-HHV	1.0214E+04	1.0217E+04	1.0305E+04	1.0443E+04	1.0753E+04
Exhaust Gas Flow	ACFM					
Exhaust Gas Mass Flow	lb/hr	3.806E+06	3.71E+06	3.54E+06	3.42E+06	3.26E+06
Exhaust Pressure Loss	In. wg	10	10	10	10	10
Pressure Ratio (Compressor)		16.45	16.1	15.4	14.9	14.3
Pressure Ratio (Turbine)		proprietary	proprietary	proprietary	proprietary	proprietary
Compressor Discharge Temperature	°F	694	712	741	763	790
Compressor Discharge Pressure	psia	240	235	225	218	208
Air Flow	lb/sec	1022	997	952	920	877
Steam Injection for Power Augmentation	lb/hr	N/A	N/A	N/A	N/A	N/A
Exhaust Gas Analysis:						
O_2	% Vol	12.65	12.61	12.45	12.37	12.28
CO**	ppmvd	9	9	9	9	9
CO**	lb/hr	31	30	29	28	26
CO_2	% Vol	3.84	3.85	3.85	3.81	3.76
SO_X (As SO_2)**	lb/hr	N/A	N/A	N/A	N/A	N/A
SO_X**	ppmvd	N/A	N/A	N/A	N/A	N/A
CO_2	lb/hr	N/A	N/A	N/A	N/A	N/A
NO_X (uncorrected)	ppmvw					
NO_X @15% O_2 **	ppmvd	9	9	9	9	9
NO_X ($NO + NO_2$)**	lb/hr	63	61	59	56	53
H_2O	% Vol	7.45	7.6	8.42	9.07	9.95
N_2	% Vol	75.16	75.05	74.4	73.87	73.14
Voc**	ppmvd	1.4	1.4	1.4	1.4	1.4
Particulate	lb/hr	9	9	9	9	9

NOTES:
1. Generator Net Load (%)
2. IGV Angle (°)
3. All calculations should be based on fuel specification provided
4. Firing temperature is defined as first rotor blade/bucket inlet temperature
5. All calculations should be based on a natural gas inlet temperature of 365°F

**Guarantee Condition

HHV/LHV=1.11

Aux load is for GE supplied equipment only

FLORIDA POWER & LIGHT

SITE 1

COMBUSTION TURBINE PERFORMANCE DATA SHEET

GAS FUEL

GENERATOR NET LOAD = 75%

DESCRIPTION	UNITS	SITE AMBIENT CONDITIONS				
Ambient Air Pressure	psia	14.7	14.7	14.7	14.7	14.7
Ambient Air Temperature	°F	20	35	59(ISO)	75	95
Ambient Air Relative Humidity	%	0	20	60	60	50
Compressor Inlet Temperature	°F	20	35	59	75	95
Compressor Inlet Pressure	psia	14.7	14.7	14.7	14.7	14.7
Gross Output @P.F. = .90	kW	139700	136600	129500	122300	112400
Generator Losses	kW	proprietary	proprietary	proprietary	proprietary	proprietary
Auxiliary Load	KW	400	400	400	400	400
Net Output	KW	139300	136200	129100	121900	112000
Combustor Outlet Temperature	°F	proprietary	proprietary	proprietary	proprietary	proprietary
Firing Temperature(4)	°F	2337	2343	2349	2348	2341
Exhaust Gas Temperature	°F	1114	1124	1142	1155	1172
Heat Input	Btu/hr-HHV	1.5106E+09	1.4823E+09	1.4269E+09	1.3742E+09	1.3071E+09
Fuel Flow	lb/hr	65453.3	64224.3	61823.6	59543.1	56636.7
Heat Rate - (NET)	Btu/hr-HHV	1.0844E+04	1.0883E+04	1.1053E+04	1.1273E+04	1.1671E+04
Exhaust Gas Flow	ACFM					
Exhaust Gas Mass Flow	lb/hr	3.04E+06	2.99E+06	2.90E+06	2.81E+06	2.70E+06
Exhaust Pressure Loss	In. wg	10	10	10	10	10
Pressure Ratio (Compressor)		13	12.82	12.46	12.1	11.68
Pressure Ratio (Turbine)		proprietary	proprietary	proprietary	proprietary	proprietary
Compressor Discharge Temperature	°F	639.1	654.8	681.9	701.2	726
Compressor Discharge Pressure	psia	189.78	187.19	181.86	176.62	170.41
Air Flow	lb/sec	815.7	803.3	777.9	754.1	726.4
Steam Injection for Power Augmentation	lb/hr	N/A	N/A	N/A	N/A	N/A
Exhaust Gas Analysis:						
O_2	% Vol	12.68	12.68	12.58	12.5	12.42
CO**	ppmvd	9	9	9	9	9
CO**	lb/hr	25	24	24	23	22
CO_2	% Vol	3.83	3.82	3.78	3.75	3.69
SO_X (As SO_2)**	lb/hr	N/A	N/A	N/A	N/A	N/A
SO_X**	ppmvd	N/A	N/A	N/A	N/A	N/A
CO_2	lb/hr	N/A	N/A	N/A	N/A	N/A
NO_X (uncorrected)	ppmvw					
NO_X @15% O_2 **	ppmvd	9	9	9	9	9
NO_X (NO + NO_2)**	lb/hr	50	49	47	45	43
H_2O	% Vol	7.43	7.53	8.3	8.96	9.83
N_2	% Vol	75.17	75.08	74.45	74.03	73.33
Voc**	ppmvd	1.4	1.4	1.4	1.4	1.4
Particulate	lb/hr	9	9	9	9	9

NOTES:

1. Generator Net Load (%)					
2. IGV Angle (°)					

3. All calculations should be based on fuel specification provided — HHV/LHV=1.11
4. Firing temperature is defined as first rotor blade/bucket inlet temperature
5. All calculations should be based on a natural gas inlet temperature of 365°F — Aux load is for GE supplied equipment only

**Guarantee Condition

FLORIDA POWER & LIGHT

SITE 1

COMBUSTION TURBINE PERFORMANCE DATA SHEET

GAS FUEL

GENERATOR NET LOAD = 50%

DESCRIPTION	UNITS	SITE AMBIENT CONDITIONS				
Ambient Air Pressure	psia	14.7	14.7	14.7	14.7	14.7
Ambient Air Temperature	°F	20	35	59(ISO)	75	95
Ambient Air Relative Humidity	%	0	20	60	60	50
Compressor Inlet Temperature	°F	20	35	59	75	95
Compressor Inlet Pressure	psia	14.7	14.7	14.7	14.7	14.7
Gross Output @P.F. = .90	kW	93100	91100	86400	81500	37500
Generator Losses	kW	proprietary	proprietary	proprietary	proprietary	proprietary
Auxiliary Load	KW	400	400	400	400	400
Net Output	KW	92700	90700	86000	81100	37100
Combustor Outlet Temperature	°F	proprietary	proprietary	proprietary	proprietary	proprietary
Firing Temperature[4]	°F	2266.1	2270.8	2274.5	2273.1	2250.6
Exhaust Gas Temperature	°F	1162	1171	1186	1198	1200
Heat Input	Btu/hr-HHV	1.1936E+09	1.1732E+09	1.1343E+09	1097124000	1043178000
Fuel Flow	lb/hr	51716.1	50833	49150	47538	45200
Heat Rate - (NET)	Btu/hr-HHV	1.288E+04	1.293E+04	1.319E+04	1.353E+04	2.812E+04
Exhaust Gas Flow	ACFM					
Exhaust Gas Mass Flow	lb/hr	2.49E+06	2.46E+06	2.40E+06	2.34E+06	2.27E+06
Exhaust Pressure Loss	In. wg	10	10	10	10	10
Pressure Ratio (Compressor)		10.52	10.41	10.18	9.94	9.66
Pressure Ratio (Turbine)		proprietary	proprietary	proprietary	proprietary	proprietary
Compressor Discharge Temperature	°F	617	633.6	662.2	680.9	703.6
Compressor Discharge Pressure	psia	240.1	187.1	148.6	145	141
Air Flow	lb/sec	690.3	681.2	663.2	646.4	628.6
Steam Injection for Power Augmentation	lb/hr	N/A	N/A	N/A	N/A	N/A
Exhaust Gas Analysis:						
O_2	% Vol	12.98	12.99	12.91	12.83	12.82
CO**	ppmvd	9	9	9	9	9
CO**	lb/hr	20	20	20	19	18
CO_2	% Vol	3.69	3.67	3.63	3.6	3.51
SO_x (As SO_2)**	lb/hr	N/A	N/A	N/A	N/A	N/A
SO_x**	ppmvd	N/A	N/A	N/A	N/A	N/A
CO_2	lb/hr	N/A	N/A	N/A	N/A	N/A
NO_x (uncorrected)	ppmvw					
NO_x @15% O_2 **	ppmvd	9	9	9	9	9
NO_x ($NO + NO_2$)**	lb/hr	39	39	37	36	34
H_2O	% Vol	7.16	7.25	8.01	8.66	9.47
N_2	% Vol	75.27	75.19	74.56	74.68	73.93
Voc**	ppmvd	1.4	1.4	1.4	1.4	1.4
Particulate	lb/hr	9	9	9	9	9

NOTES:

1. Generator Net Load (%)
2. IGV Angle (°)
3. All calculations should be based on fuel specification provided
4. Firing temperature is defined as first rotor blade/bucket inlet temperature
5. All calculations should be based on a natural gas inlet temperature of 365°F

**Guarantee Condition

HHV/LHV=1.11

Aux load is for GE supplied equipment only

FLORIDA POWER & LIGHT
SITE 1
COMBUSTION TURBINE PERFORMANCE DATA SHEET
GAS FUEL
GENERATOR NET LOAD = Minimum % in Full Emission Compliance

DESCRIPTION	UNITS	SITE AMBIENT CONDITIONS				
Ambient Air Pressure	psia	14.7	14.7	14.7	14.7	14.7
Ambient Air Temperature	°F	20	35	59(ISO)	**75	95
Ambient Air Relative Humidity	%	0	20	60	60	50
Compressor Inlet Temperature	°F	20	35	59	75	95
Compressor Inlet Pressure	psia	14.7	14.7	14.7	14.7	14.7
Gross Output @P.F. = .90	kW	93100	91100	86400	81500	37500
Generator Losses	kW	proprietary	proprietary	proprietary	proprietary	proprietary
Auxiliary Load	KW	400	400	400	400	400
Net Output	KW	92700	90700	86000	81100	37100
Combustor Outlet Temperature	°F	proprietary	proprietary	proprietary	proprietary	proprietary
Firing Temperature(4)	°F	2266.1	2270.8	2274.5	2273.1	2250.6
Exhaust Gas Temperature	°F	1162	1171	1186	1198	1200
Heat Input	Btu/hr-HHV	1.1936E+09	1.1732E+09	1.1343E+09	1097124000	1043178000
Fuel Flow	lb/hr	51716.1	50833	49150	47538	45200
Heat Rate - (NET)	Btu/hr-HHV	1.288E+04	1.293E+04	1.319E+04	1.353E+04	2.812E+04
Exhaust Gas Flow	ACFM					
Exhaust Gas Mass Flow	lb/hr	2.49E+06	2.46E+06	2.40E+06	2.34E+06	2.27E+06
Exhaust Pressure Loss	In. wg	10	10	10	10	10
Pressure Ratio (Compressor)		10.52	10.41	10.18	9.94	9.66
Pressure Ratio (Turbine)		proprietary	proprietary	proprietary	proprietary	proprietary
Compressor Discharge Temperature	°F	617	633.6	662.2	680.9	703.6
Compressor Discharge Pressure	psia	240.1	187.1	148.6	145	141
Air Flow	lb/sec	690.3	681.2	663.2	646.4	628.6
Steam Injection for Power Augmentation	lb/hr	N/A	N/A	N/A	N/A	N/A
Exhaust Gas Analysis:						
O_2	% Vol	12.98	12.99	12.91	12.83	12.82
CO**	ppmvd	9	9	9	9	9
CO**	lb/hr	20	20	20	19	18
CO_2	% Vol	3.69	3.67	3.63	3.6	3.51
SO_X (As SO_2)**	lb/hr	N/A	N/A	N/A	N/A	N/A
SO_X**	ppmvd	N/A	N/A	N/A	N/A	N/A
CO_2	lb/hr	N/A	N/A	N/A	N/A	N/A
NO_X (uncorrected)	ppmvw					
NO_X @15% O_2 **	ppmvd	9	9	9	9	9
NO_X ($NO + NO_2$)**	lb/hr	39	39	37	36	34
H_2O	% Vol	7.16	7.25	8.01	8.66	9.47
N_2	% Vol	75.27	75.19	74.56	74.68	73.93
Voc**	ppmvd	1.4	1.4	1.4	1.4	1.4
Particulate	lb/hr	9	9	9	9	9

NOTES:

1. Generator Net Load (%)					
2. IGV Angle (°)					

3. All calculations should be based on fuel specification provided

HHV/LHV=1.11

4. Firing temperature is defined as first rotor blade/bucket inlet temperature
5. All calculations should be based on a natural gas inlet temperature of 365°F

Aux load is for GE supplied equipment only

**Guarantee Condition

FLORIDA POWER & LIGHT

SITE 1 - 95% RH

COMBUSTION TURBINE PERFORMANCE DATA SHEET

GAS FUEL

GENERATOR NET LOAD = 100%

DESCRIPTION	UNITS	SITE AMBIENT CONDITIONS				
Ambient Air Pressure	psia	14.7	14.7	14.7	14.7	14.7
Ambient Air Temperature	°F	50	60	70	80	90
Ambient Air Relative Humidity	%	95	95	95	95	95
Compressor Inlet Temperature	°F	50	60	70	80	90
Compressor Inlet Pressure	psia	14.7	14.7	14.7	14.7	14.7
Gross Output @P.F. = .90	kW	177000	172100	166200	159700	153000
Generator Losses	kW	proprietary	proprietary	proprietary	proprietary	proprietary
Auxiliary Load	KW	400	400	400	400	400
Net Output	KW	176600	171700	165800	159300	152600
Combustor Outlet Temperature	°F	proprietary	proprietary	proprietary	proprietary	proprietary
Firing Temperature(4)	°F	2418.6	2421	2420.8	2418.5	2414.6
Exhaust Gas Temperature	°F	1112	1119	1127	1136	1144
Heat Input	Btu/hr-HHV	1.8132E+09	1.7729E+09	1.7287E+09	1.6826E+09	1.6360E+09
Fuel Flow	lb/hr	78565	76819	74904	72907	70887
Heat Rate - (NET)	Btu/hr-HHV	1.027E+04	1.033E+04	1.043E+04	1.056E+04	1.072E+04
Exhaust Gas Flow	ACFM					
Exhaust Gas Mass Flow	lb/hr	3.60E+06	3.53E+06	3.45E+06	3.37E+06	3.28E+06
Exhaust Pressure Loss	In. wg	10	10	10	10	10
Pressure Ratio (Compressor)		15.7	15.4	15.1	14.8	14.4
Pressure Ratio (Turbine)		proprietary	proprietary	proprietary	proprietary	proprietary
Compressor Discharge Temperature	°F	728.9	741.1	926.9	904.6	880.7
Compressor Discharge Pressure	psia	229	224.7	220.1	215.2.	215.2
Air Flow	lb/sec	967.4	947.7	926.9	904.6	880.7
Steam Injection for Power Augmentation	lb/hr	N/A	N/A	N/A	N/A	N/A
Exhaust Gas Analysis:						
O_2	% Vol	12.38	12.31	12.22	12.08	11.88
CO**	ppmvd	9	9	9	9	9
CO**	lb/hr	29	29	28	27	26
CO_2	% Vol	3.86	3.85	3.83	3.8	3.78
SO_x (As SO_2)**	lb/hr	N/A	N/A	N/A	N/A	N/A
SO_x	ppmvd	N/A	N/A	N/A	N/A	N/A
CO_2	lb/hr	N/A	N/A	N/A	N/A	N/A
NO_x (uncorrected)	ppmvw					
NO_x @15% O_2**	ppmvd	9	9	9	9	9
NO_x ($NO + NO_2$)**	lb/hr	60	59	57	56	54
H_2O	% Vol	8.59	9.05	9.67	10.52	11.67
N_2	% Vol	74.28	73.91	73.41	72.73	71.81
Voc**	ppmvd	1.4	1.4	1.4	1.4	1.4
Particulate (PM total)**	lb/hr	9	9	9	9	9

NOTES:

1. Generator Net Load (%)					
2. IGV Angle (°)					

3. All calculations should be based on fuel specification provided

HHV/LHV=1.11

4. Firing temperature is defined as first rotor blade/bucket inlet temperature
5. All calculations should be based on a natural gas inlet temperature of 365°F

Aux load is for GE supplied equipment only

**Guarantee Condition

GE Power Generation

Dry Low NO_x Combustion Systems for GE Heavy-Duty Gas Turbines

L. Berkley Davis
GE Power Systems
Schenectady, NY

8

L. Berkley Davis

L. Berkley Davis has worked on gas turbine combustion systems since his graduation from the University of Kentucky in 1972. Until 1980, developed a number of different combustors, including the original lo.. smoke combustors for the MS7000 machines, created nearly 20 new combustion design practices and holds 10 patents on combustion systems. Since 1980, he has been responsible for directing the development and field deployment of combustion systems for GE's advanced MS7001F/9001F machines and of Dry Low NO_x combustors for the entire heavy-duty gas turbine product line. He is currently the head of Combustion Engineering for GE's Gas Turbine Design and Development Engineering.

A list of figures appears at the end of this paper

DRY LOW NO_x COMBUSTION SYSTEMS FOR GE HEAVY-DUTY GAS TURBINES

L.B. Davis
GE Power Systems
Schenectady, NY

ABSTRACT

State-of-the-art emissions control technology for heavy-duty gas turbines is reviewed with emphasis on the operating characteristics and field experience of Dry Low NO_x (DLN) combustors for E- and F- technology machines. The lean premixed DLN systems for gas fuel have demonstrated their ability to meet the ever-lower emission levels required today. Lean premixed technology has also been demonstrated on oil fuel and is also discussed.

INTRODUCTION

The regulatory requirements for low emissions from gas turbine power plants have increased during the past 10 years. Environmental agencies throughout the world are now requiring even lower rates of emissions of NO_x and other pullutants from both new and existing gas turbines. Traditional methods of reducing NO_x emissions from combustion turbines (water and steam injection) are limited in their ability to reach the extremely low levels required in many localities. GE's involvement in the development of both the traditional methods (References 1 through6) and the newer Dry Low NO_x (DLN) technology (References 7 and 8) has been well-documented. This paper focuses on DLN.

Since the commercial introduction of GE's DLN combustion systems for natural-gas-fired heavy-duty gas turbines in 1991, systems have been installed in more than 145 machines, from the most modern F technology (firing temperature class of 2400 F/1316 C) to field retrofits of older machines. As of August 1996, these machines have operated more than one million hours with DLN; more than 290,000 hours have been in the F technology. To meet marketplace demands, GE has developed DLN products broadly classified as either DLN-1, which was developed for E-technology (2000 F/1093 C firing temperature class) machines, or DLN-2, which was developed specifically for the F technology machines and is also being applied to the EC, G and H machines.

Development of these products has required an intensive engineering effort involving both GE Power Systems and GE Corporate Research and Development. This collaboration will continue as DLN is applied to the G and H machines and combustor development for Dry Low NO_x on oil ("dry oil") continues.

This paper presents the current status of DLN-1 technology and experience, including dry oil, and of DLN-2 technology and experience. Background information about gas turbine emissions and emissions control is contained in the Appendix.

DRY LOW NO_X SYSTEMS

Dry Low NO_x Product Plan

Figure 1 shows GE's Dry Low NO_X product offerings for its new and existing machines in three major groupings. The first group includes the MS3000, MS5000 and MS6001B products. The 6B DLN-1 is the technology flagship product for this group and, as can be noted, is available to meet 9 ppm NO_X requirements. Such low NO_X emissions are generally not attainable on lower firing temperature machines such as the MS3000s and MS5000s because carbon monoxide (CO) would be excessive.

The second major group includes the MS7000B/E, MS7001EA and MS9001E machines with the 9 ppm 7EA DLN-1 as the flagship product. The dry oil program focuses initially on this group.

The third group combines all of the DLN-2 products and includes the FA, EC, G and H machines, with the 7FA product as the flagship.

As shown in Figures 2 and 3, most of these products are capable of power augmentation and of peak firing with increased NO_X emissions. With gas fuel, power augmentation with steam is in the premixed mode for both DLN-1 and DLN-2 systems. Power augmentation with water is in the lean-lean mode for DLN-1 and in the premixed mode for DLN-2.

The GE DLN systems integrate a staged pre-

Turbine Model	Gas NO$_x$ (ppmvd)	Gas CO (ppmvd)	Gas Diluent	Distillate NO$_x$ (ppmvd)	Distillate CO (ppmvd)	Distillate Diluent
MS3002 (J) - RC	33	25	Dry	Not Available		
MS3002 (J) - SC	42	50	Dry			
MS5001P	42	50	Dry	65	20	Water
MS5001R	42	50	Dry	65	20	Water
MS5002C	42	50	Dry	65	20	Water
MS6001 B	25	15	Dry	42	20	Water
	9	25	Dry	42	30	Water/Steam
MS6001 FA	25	15	Dry	42/65	20	Water/Steam
MS7001 B/E Conv	25	25	Dry	42	30	Water
MS7001 EA	25	15	Dry	42	20	Water
	15	25	Dry	42	30	Water/Steam
	9	25	Dry	42	30	Water/Steam
MS7001 EC	25	15	Dry	42/65	20	Water/Steam
MS7001 FA	25	15	Dry	42/65	20	Water/Steam
	9	9	Dry	42/65	30	Water/Steam
MS9001 E	35	15	Dry	42	20	Water
	25	25	Dry	42	20	Water
	25	25	Dry	90	20	Dry
MS7001 H	25	15	Dry	42/65	20	Water/Steam
	9	9	Dry	42/65	30	Water/Steam
MS9001 EC	25	15	Dry	42/65	20	Water/Steam
MS9001 FA	25	15	Dry	42/65	20	Water/Steam
MS9001 H	25	15	Dry	42/65	20	Water/Steam

Notes: 1. NO$_x$ levels are at 15% oxygen. Ambient range 30 F/-1 C to 100 F/38 C

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Figure 1. Dry Low NO$_x$ product plan

mixed combustor, the gas turbine's SPEEDTRONIC™ controls and the fuel and associated systems. There are two principal measures of performance. The first is meeting the emission levels required at base load on both gas and oil fuel and controlling the variation of these levels across the load range of the gas turbine.

The second measure is system operability, with emphasis placed on the smoothness and reliability of combustor mode changes, ability to load and unload the machine without restriction, capability to switch from one fuel to another and back again, and system response to rapid transients (e.g., generator breaker open events or rapid swings in load). GE's design goal is to make the DLN system operate so the gas turbine operator does not know whether a DLN or conventional combustion system is installed (i.e., its operation is "transparent to the user"). As August 1996, a significant portion of the DLN design and development effort has focused on system operability.

Design of a successful DLN combustor for a heavy-duty gas turbine also requires the designer to develop hardware features and operational

Turbine Model	NOx @15% O$_2$ (ppmvd)	Operating Mode	Diluent	Maximum Diluent/Fuel	NO$_x$ at Max D/F (ppmvd)	CO Max D/F (ppmvd)
MS6001(B)	9	Premix	Steam	2.5/1	9	25
		Lean-Lean	Steam	2.5/1	25	15
	25	Premix	Steam	2.5/1	25	15
		Lean-Lean	Water	1.5/1	25	15
		Lean-Lean	Steam	2.5/1	25	15
MS7001(EA)	9	Premix	Steam	2.5/1	9	25
		Lean-Lean	Water	1.5/1	25	15
		Lean-Lean	Steam	2.5/1	25	15
	25	Premix	Steam	2.5/1	25	15
		Lean-Lean	Water	1.5/1	25	15
		Lean-Lean	Steam	2.5/1	25	15
MS7001(FA)	25	Premix	Steam	2.1/1	25	15

GT24556

Figure 2. DLN power augmentation summary — gas fuel

	NO_x-Base (ppmvd)	NO_x-Peak (ppmvd)	CO-Base (ppmvd)	CO-Peak (ppmvd)
MS6001(B)	9 25	18 50	25 15	6 4
MS7001(EA)	9 25	18 50	25 15	6 4
MS7001(FA)	25	35	15	6
MS9001(E)	25	40	15	6

GT24557

Figure 3. DLN peak firing summary — gas fuel

methods that simultaneously allow the equivalence ratio and residence time in the flame zone to be low enough to achieve low NO_x, but with acceptable levels of combustion noise (dynamics), stability at part load operation and sufficient residence time for CO burn-out, hence the designation of DLN combustion design as "four-sided box" (Figure 4).

A scientific and engineering development program by GE's Corporate Research and Development Center, Power Systems business and Aircraft Engine business has focused on understanding and controlling dynamics in lean premixed flows. The objectives have been to:

- Gather and analyze machine and laboratory data to create a comprehensive dynamics data base
- Create analytical models of gas turbine combustion systems that can be used to understand dynamics behavior
- Use the analytical models and experimental methods to develop methods to control dynamics

As of August 1996, these efforts have resulted in a large number of hardware and control features that limit dynamics, plus analytical tools that are used to predict system behavior. The latter are particularly useful in correlating laboratory test data from full scale combustors with actual gas turbine data.

DLN-1 System

DLN-1 development began in the 1970s with the goal of producing a dry oil system to meet the United States Environmental Protection Agency's New Source Performance Standards of 75 ppmvd NO_x at 15% O_2. As noted in Reference 7, this system was tested on both oil and gas fuel at Houston Lighting & Power in

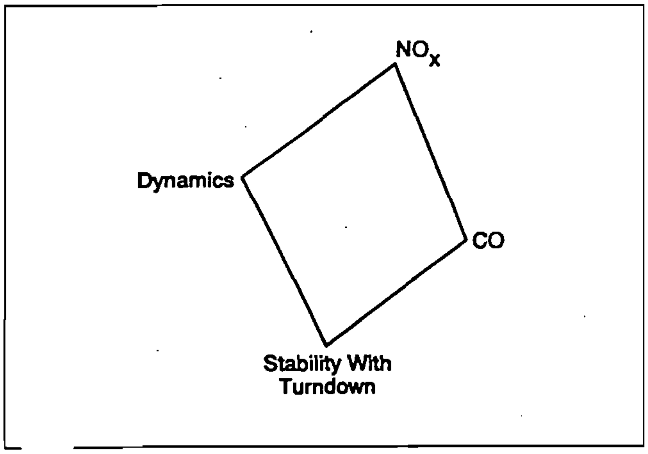

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Figure 4. DLN technology — a four-sided box

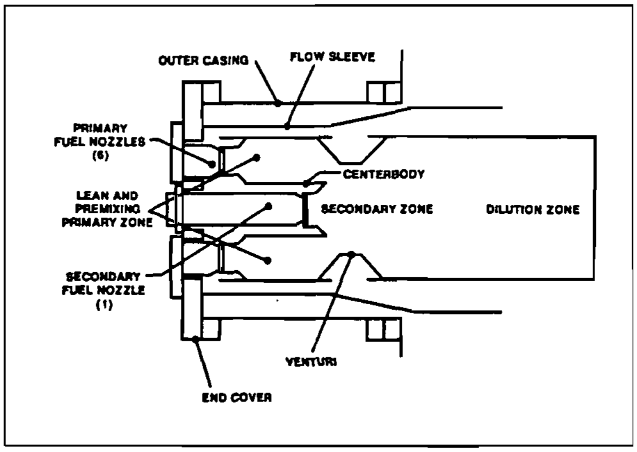

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Figure 5. DLN-1 combustor schematic

1980 and met its emission goals. Subsequent to this, DLN program goals changed in response to stricter environmental regulations and the pace of the program accelerated in the late 1980s.

DLN-1 Combustor

The GE DLN-1 combustor (shown in cross section in Figure 5 and described in Reference 8) is a two-stage premixed combustor designed for use with natural gas fuel and capable of operation on liquid fuel. As shown, the combustion system includes four major components: fuel injection system, liner, venturi and cap/centerbody assembly.

These components form two stages in the combustor. In the premixed mode, the first stage thoroughly mixes the fuel and air and delivers a uniform, lean, unburned fuel-air mixture to the second stage.

The GE DLN-1 combustion system operates in four distinct modes, illustrated in Figure 6, during pre-mixed natural gas or oil fuel operation:

Mode	Operating Range
Primary	Fuel only to the primary nozzles. Flame is in the primary stage only. This mode of operation is used to ignite, accelerate and operate the machine over low- to mid-loads, up to a preselected combustion reference temperature.
Lean-Lean	Fuel to both the primary and secondary nozzles. Flame is in both the primary and secondary stages. This mode of operation is used for intermediate loads between two pre-selected combustion reference temperatures.
Secondary	Fuel to the secondary no: only. Flame is in the secondary zone only. This mode is a transition state between lean-lean and premix modes. This mode is necessary to extinguish the flame in the primary zone, before fuel is reintroduced into what becomes the primary premixing zone.
Premix	Fuel to both primary and secondary nozzles. Flame is in the secondary stage only. This mode of operation is achieved at and near the combustion reference temperature design point. Optimum emissions are generated in premix mode.

The load range associated with these modes varies with the degree of inlet guide vane modulation and, to a smaller extent, with the ambient temperature. At ISO ambient, the premix operating range is 50% to 100% load with IGV modulation down to 42°, and 75% to 100% load with IGV modulation down to 57°. The 42° IGV minimum requires an inlet bleed heat system.

If required, both the primary and second--y fuel nozzles can be dual-fuel nozzles, thus a. -ing automatic transfer from gas to oil throughout the load range. When burning either natural gas or distillate oil, the system can operate to full load in the lean-lean mode (Figure 6) and in the pre-mixed. Power augmentation with water is the most common reason.

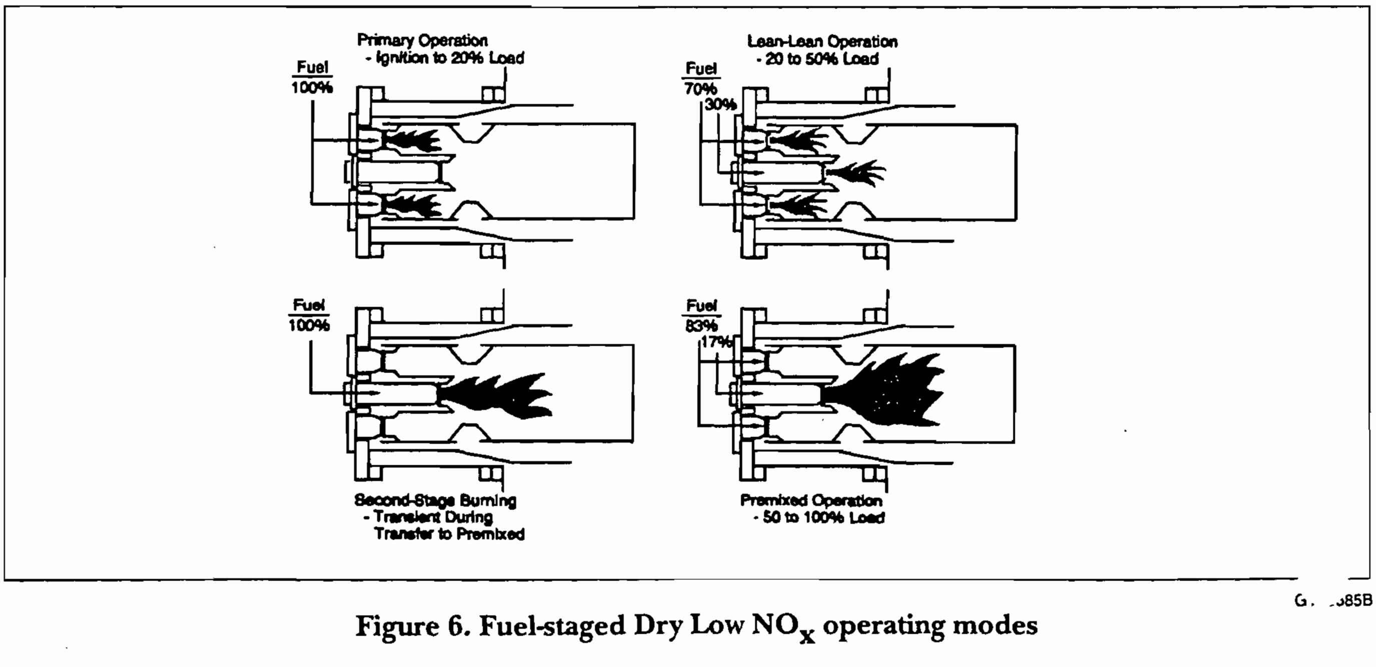

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Figure 6. Fuel-staged Dry Low NO_x operating modes

The spark plug and flame detector arrangements in a DLN-1 combustor are different from those used in a conventional combustor. Since first stage must be re-ignited at high load in order to transfer from the premixed mode back to lean-lean operation, the spark plugs do not retract. One plug is mounted in a primary zone cup in each of two combustors. The system uses flame detectors to view the primary stage of selected chambers (similar to conventional systems), and secondary flame detectors that look through the centerbody and into the second stage.

The primary fuel injection system is used during ignition and part load operation. The system also injects most of the fuel during premixed operation and must be capable of stabilizing the flame. For this reason, the DLN-1 primary fuel nozzle is similar to GE's MS7001EA multi-nozzle combustor with multiple swirl-stabilized fuel injectors. The GE DLN-1 system uses five primary fuel nozzles for the MS6001B and smaller machines and six primary fuel nozzles for the larger machines. This design is capable of providing a well-stabilized diffusion flame that burns efficiently at ignition and during part load operation.

In addition, the multi-nozzle fuel injection system provides a satisfactory spatial distribution of fuel flow entering the first-stage mixer. The primary fuel-air mixing section is bound by the combustor first-stage wall, the cap/centerbody and the forward cone of the venturi. This volume serves as a combustion zone when the combustor operates in the primary and lean-lean modes. Since ignition occurs in this stage, crossfire tubes are installed to propagate flame and to balance pressures between adjacent chambers. Film slots on the liner walls provide cooling, as they do in a standard combustor.

In order to achieve good emissions performance in premixed operation, the fuel-air equivalence ratio of the mixture exiting the first-stage mixer must be very lean. Efficient and stable burning in the second stage is achieved by providing continuous ignition sources at both the inner and outer surfaces of this flow. The three elements of this stage comprise a piloting flame, an associated aerodynamic device to force interaction between the pilot flame and the inner surface of the main stage flow, and an aerodynamic device to create a stable flame zone on the outer surface of the main stage flow exiting the first stage.

The piloting flame is generated by the secondary fuel nozzle, which premixes a portion of the natural gas fuel and air (nominally, 17% at full-load operation) and injects the mixture through a swirler into a cup where it is burned. This flame is stabilized by burning an even smaller amount of fuel (less than 2% of the total fuel flow) as a diffusion flame in the cup. The secondary nozzle, which is mounted in the cap centerbody, is simple and highly effective for creating a stable flame.

A swirler mounted on the downstream end of the cap/centerbody surrounds the secondary nozzle. This creates a swirling flow that stirs the interface region between the piloting flame and the main-stage flow and ensures that the flame is continuously propagated from the pilot to the inner surface of the fuel-air mixture exiting the first stage. Operation on oil fuel is similar except that all of the secondary oil is burned in a diffusion flame in the current dry oil design.

The sudden expansion at the throat of the venturi creates a toroidal recirculation zone over the downstream conical surface of the venturi. This zone, which entrains a portion of the venturi cooling air, is a stable burning zone that acts as an ignition source for the main stage fuel-air mixture. The cone angle and axial location of the venturi cooling air dump have significant effects on the efficacy of this ignition source. Finally, the dilution zone (the region of the combustor immediately downstream from the flame zone in the secondary) provides a region for CO burnout and for shaping the gas temperature profile exiting the combustion system.

DLN-1 Controls and Accessories

The gas turbine accessories and control systems are configured so that operation on a DLN-equipped turbine is essentially identical to that of a turbine equipped with a conventional combustor. This is accomplished by controlling the turbines in identical fashions, with the exhaust temperature, speed and compressor discharge pressure establishing the fuel flow and compressor inlet guide vane position.

A turbine with a conventional diffusion combustor that uses diluent injection for NO_x control will use an underlying algorithm to control steam or water injection. This algorithm will use top level control variables (exhaust temperature, speed, etc.) to establish a steam-to-fuel or water-to-fuel ratio to control NO_x.

In a similar fashion, the same variables are used to divide the total turbine fuel flow between the primary and secondary stages of a DLN combustor. The fuel division is accom-

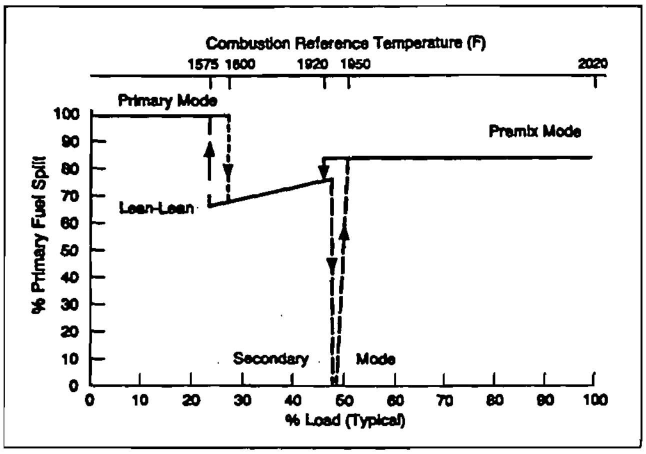

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Figure 7. Typical Dry Low NO_x fuel gas split schedule

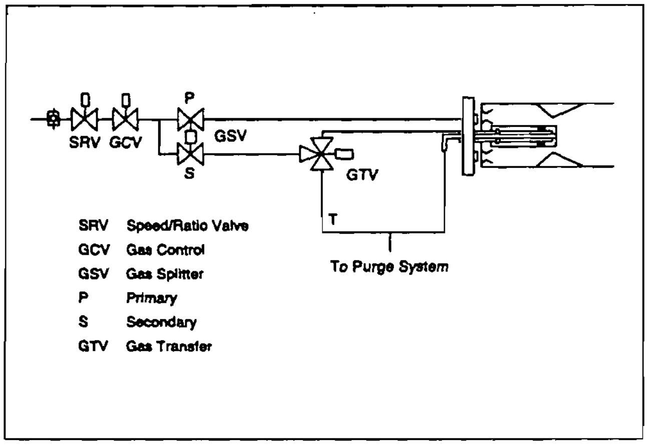

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Figure 8. DLN-1 gas fuel system

plished by commanding a calibrated splitter valve to move to a set position based on the calculated combustion reference temperature (Figure 7). Figure 8 shows aschematic of the gas fuel system for a DLN-equipped turbine.

The only special control sequences required are concerned protection of the turbine during a generator breaker-open trip, or flashback, from the second stage to the first stage during premixed operation. When either the breaker opens at load or flashback is sensed by ultraviolet flame detectors looking into the first stage, the splitter valve is commanded to move to a pre-determined position. In the case of a flashback, the control system can execute an automatic sequence to return to premixed, full-load operation.

DLN-1 Emissions

The emissions performance of the GE DLN system can be illustrated as a function of load for a given ambient temperature and turbine configuration. Figures 9 and 10 show the NO_x and CO emissions from typical MS7001EA and MS6001B DLN systems designed for 9 ppm NO_x and 25 ppm CO when operated on natural gas fuel. Note that in premixed operation, NO_x is generally highest at higher loads and CO only approaches 25 ppm at lower premixed loads.

Figures 11 and 12 show NO_x and CO emissions for the same systems operated on oil fuel with water injection for NO_x control, rather than premixed oil. These figures are for units equipped with inlet bleed heat and extended IGV modulation. NO_x and CO emissions from the DLN combustor at loads less than 20% of base load are similar to those from standard combustion systems. This result is expected because both systems are operating as diffusion flame combustors in this range. Between 20% and 50% load, the DLN system is operated in the lean-lean mode, and the flow split between the primary fuel nozzles and secondary nozzle is varied to give the decreasing NO_x characteristic shown.

From 50% to 100% load, the DLN system operates as a lean premixed combustor. As shown in

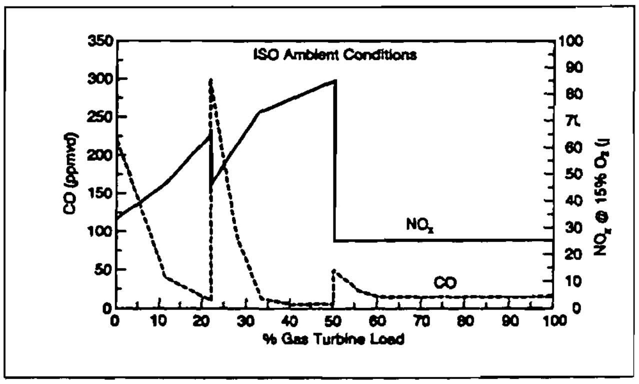

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Figure 9. MS7001EA/MS9001E DLN-1 combustion system performance on natural gas fuel

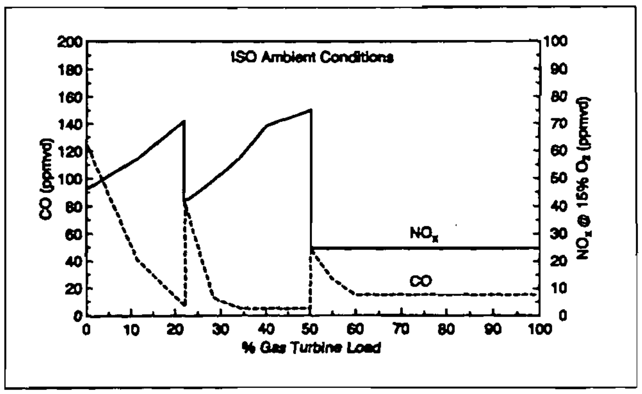

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Figure 10. MS6001B DLN-1 emissions performance on natural gas fuel

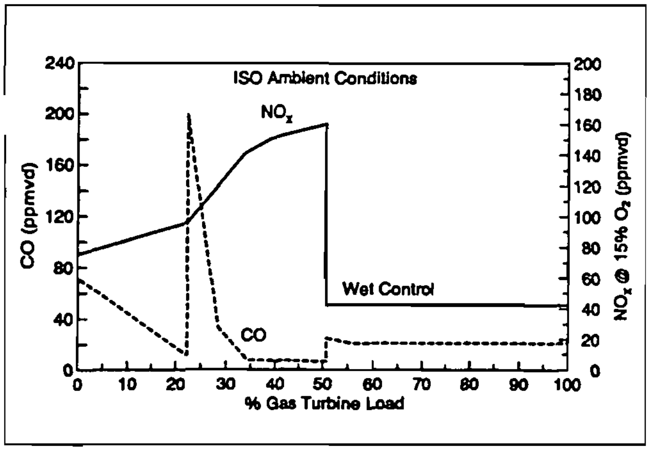

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Figure 11. MS7001EA/MS9001E DLN-1 combustion system performance on distillate oil

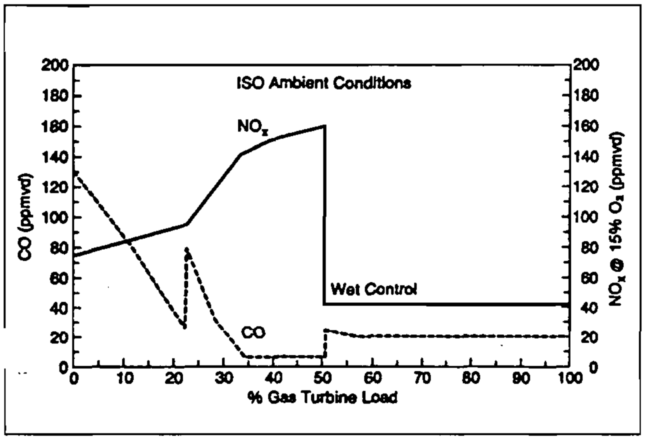

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Figure 12. MS6001B DLN-1 emissions performance on distillate oil fuel

Figures 9 through 12, NO_x emissions are significantly reduced, while CO emissions are comparable to those from the standard system.

DLN-1 Experience

GE's first DLN-1 system was tested at Houston Lighting & Power in 1980 (Reference 7). A prototype DLN system using the combustor design discussed above was tested on an MS9001E at the Electricity Supply Board's (ESB) Northwall Station in Dublin, Ireland, between October 1989 and July 1990. A comprehensive engineering test of the prototype DLN combustor, controls and associated systems was conducted with NO_x levels of 32 ppmvd (at 15% O_2) obtained at base load. The results were incorporated into the design of prototype systems for the MS7001E and MS6001B.

The 7E DLN-1 prototype was tested at Anchorage Municipal Light and Power (AMLP) in early 1991 and entered commercial service shortly afterward. Since then, development of advanced combustor configurations have been carried out at AMLP. These results have been incorporated into production hardware.

The MS6001B prototype system was first operated at Jersey Central Power & Light's Forked River Station in early 1991. A series of additional tests culminated in the demonstration of a 9 ppm combustor at Jersey Central in November 1993.

As of August 1996, 28 MS6001B machines are equipped with DLN-1 systems. In total, they have accumulated more than 370,000 hours of operation. There are, in addition, four MS7001E, eight MS7001B-E, 26 MS7001EA, 18 MS9001E, one MS5001P and three MS3002J DLN-1 machines that have collectively operated for more than 350,000 hours. Excellent emission results have been obtained in all cases, with single-digit NO_x and CO achieved on several MS7001EAs. Several MS7001E/EA machines have the capability to power augment with either massive water or steam injection.

Starting in early 1992, eight MS7001F machines equipped with GE DLN systems were placed in service at Korea Electric Power Company's Seoinchon site. These F technology machines have achieved better than 55% (gross) efficiency in combined-cycle operation, and the DLN systems are currently operating between 30 and 40 ppmvd NO_x on gas fuel (the guarantee level is 50 ppmvd). These units have operated for more than 150,000 hours. Four additional F technology DLN-1 systems have been commissioned at Scottish Hydro's Keadby site and at National Power's Little Barford site. These 9F machines have operated more than 20,000 hours at less than 60 ppm NO_x.

The combustion laboratory testing and field operation have shown that the DLN-1 system can achieve single digit NO_x and CO levels on E technology machines operating on gas fuel. Current DLN-1 development activity focuses on four goals:

- Application of single-digit technology to the MS6001B, MS7001EA and MS9001E
- Application of DLN-1 technology for retrofitting existing field machines (including MS3002s and MS5000s, some of which will require upgrade before DLN retrofit)
- Completing the development of steam and water power augmentation as needed by the market
- Completing the development of dry oil DLN-1 products.

DLN-2 SYSTEM

As F-technology gas turbines became available in the late 1980s, studies were conducted to establish what type of DLN combustor would be needed for these new higher firing temperature machines. Studies concluded that that air usage in the combustor (e.g., for cooling) other than for mixing with fuel would have to be strictly limited. A team of engineers from GE Power Generation, GE Corporate Research and Development and GE Aircraft Engine proposed a design that repackaged DLN-1 premixing technology but eliminated the venturi and centerbody assemblies that require cooling air.

The resulting combustor is called DLN-2, which is the standard system for the 6FA, 7FA, 9FA, 9EC, 7G, 7H, 9G and 9H machines. Fourteen combustors are installed in the 7FA and 9EC, 18 in the 9FA, and six in the 6FA. These combustors, for all but the 7FA, are not scaled, but are full-size 9FA combustors; the 7FA is slightly smaller.

DLN-2 Combustion System

The DLN-2 combustion system shown in Figure 13 is a single-stage dual-mode combustor that can operate on both gaseous and liquid fuel. On gas, the combustor operates in a diffusion mode at low loads (< 50% load), and a premixed mode at high loads (> 50% load). While the combustor can operate in the diffusion mode across the load range, diluent injection would be required for NO_X abatement. Oil operation on this combustor is in the diffusion mode across the entire load range, with diluent injection used for NO_X control.

Each DLN-2 combustor system has a single burning zone formed by the combustor liner and the face of the cap. In low emissions operation, 90% of the gas fuel is injected through radial gas injection spokes in the premixer, and combustion air is mixed with the fuel in tubes surrounding each of the five fuel nozzles. The premixer tubes are part of the cap assembly. The fuel and air are thoroughly mixed, flow out of the five tubes at high velocity and enter the burning zone where lean, low-NO_X combustion occurs. The vortex breakdown from the swirling flow exiting the premixers, along with the sudden expansion in the liner, are mechanisms for flame stabilization. The DLN-2 fuel nozzle/premixer tube arrangement is similar in design and technology to the secondary nozzle/centerbody of a DLN-1. Five nozzle/premixer tube assem-

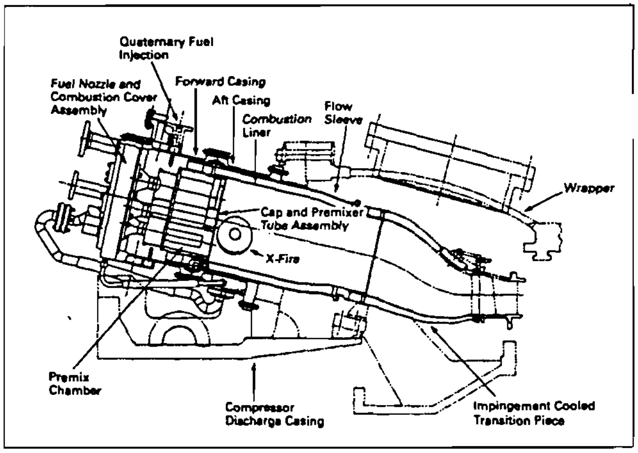

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Figure 13. DLN-2 combustion system

blies are located on the head end of the combustor. A quaternary fuel manifold is located on the circumference of the combustion casing to bring the remaining fuel flow to casing injection pegs located radially around the casing.

Figure 14 shows a cross-section of a DLN-2 fuel nozzle. As noted, the nozzle has passages for diffusion gas, premixed gas, oil and water. When mounted on the end cover, as shown in Figure 15, the diffusion passages of four of the fuel nozzles is fed from a common manifold, called the primary, that is built into the e cover. The premixed passage of the same fo... nozzles are fed from another internal manifold called the secondary. The premixed passages of the remaining nozzle are supplied by the tertiary fuel system; the diffusion passage of that nozzle is always purged with compressor discharge air and passes no fuel.

Figure 15 shows the fuel nozzles installed on the combustion chamber end cover and the

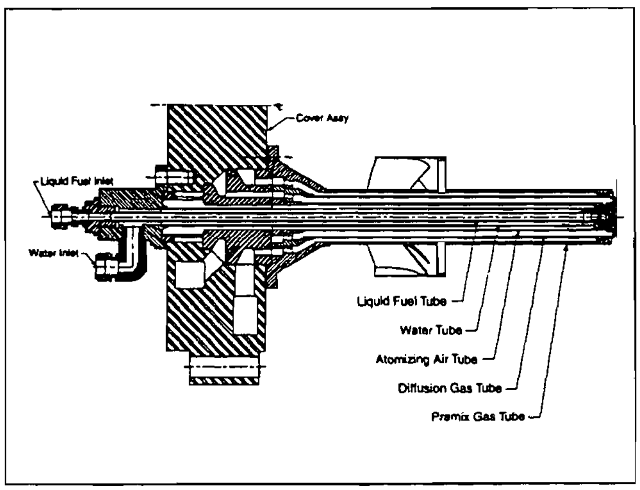

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Figure 14. Cross-section of a DLN-2 fuel no

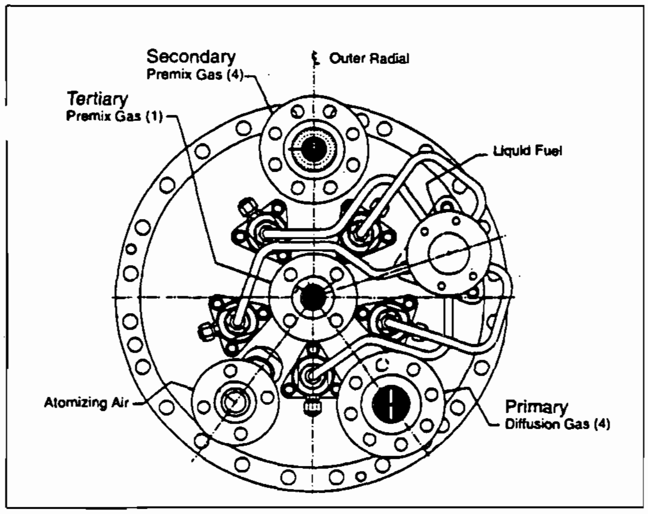

Figure 15. External view of DLN-2 fuel nozzles mounted

connections for the primary, secondary and tertiary fuel systems. DLN-2 fuel streams are:

- Primary fuel — fuel gas entering through the diffusion gas holes in the swirler assembly of each of the outboard four fuel nozzles
- Secondary fuel — premix fuel gas entering through the gas metering holes in the fuel gas injector spokes of each of the outboard four fuel nozzles
- Tertiary fuel — premix fuel gas delivered by the metering holes in the fuel gas injector spokes of the inboard fuel nozzle
- The quaternary system — injects a small amount of fuel into the airstream just upstream from the fuel nozzle swirlers

The DLN-2 combustion system can operate in several different modes.

Primary

Fuel only to the primary side of the four fuel nozzles; diffusion flame. Primary mode is used from ignition to 81% corrected speed.

Lean-Lean

Fuel to the primary (diffusion) fuel nozzles and single tertiary (premixing) fuel nozzle. This mode is used from 81% corrected speed to a preselected combustion reference temperature. The percentage of primary fuel flow is modulated throughout the range of operation as a function of combustion reference temperature. If necessary, lean-lean mode can be operated throughout the entire load range of the turbine. Selecting "lean-lean base on" locks out premix operation and enables the machine to be taken base load in lean-lean.

Premix Transfer

Transition state between lean-lean and premix modes. Throughout this mode, the primary and secondary gas control valves modulate to their final position for the next mode. The premix splitter valve is also modulated to hold a constant tertiary flow split.

Piloted Premix

Fuel is directed to the primary, secondary and tertiary fuel nozzles. This mode exists while operating with temperature control off as an intermediate mode between lean-lean and premix mode. This mode also exists as a default mode out of premix mode and, in the event that premix operating is not desired, piloted premix can be selected and operated to base load. Primary, secondary and tertiary fuel split are constant during this mode of operation.

Premix

Fuel is directed to the secondary, tertiary and quaternary fuel passages and premixed flame exists in the combustor. The minimum load for premixed operation is set by the combustion reference temperature and IGV position. It typically ranges from 50% with inlet bleed heat on to 65% with inlet bleed heat off. Mode transition from premix to piloted premix or piloted premix to premix, can occur whenever the combustion reference temperature is greater than 2200 F/1204 C. Optimum emissions are generated in premix mode.

Tertiary Full Speed No Load (FSNL)

Initiated upon a breaker open event from any load greater than 12.5%. Fuel is directed to the tertiary nozzle only and the unit operates in secondary FSNL mode for a minimum of 20 seconds, then transfers to lean-lean mode.

Figure 16 illustrates the fuel flow scheduling associated with DLN-2 operation. Fuel staging depends on combustion reference temperature and IGV temperature control operation mode.

DLN-2 Controls and Accessories

The DLN-2 control system regulates the fuel distribution to the primary, secondary, tertiary and quaternary fuel system. The fuel flow distribution to each combustion fuel system is a function of combustion reference temperature and IGV temperature control mode. Diffusion, piloted premix and premix flame are established by changing the distribution of fuel flow in the combustor. The gas fuel system (Figure 17) consists of the gas fuel stop/ratio valve, primary gas

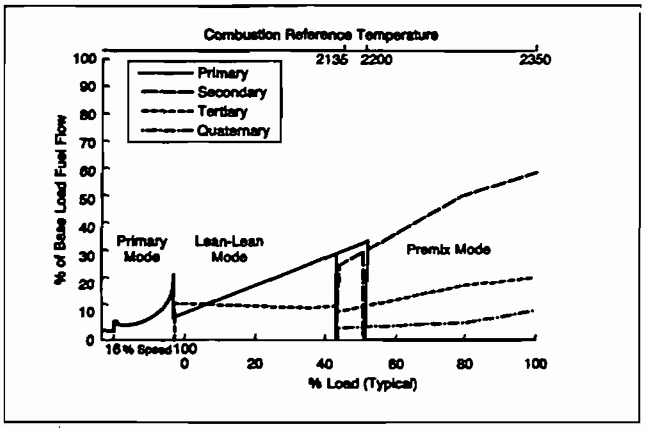

Figure 16. Fuel flow scheduling associated with DLN-2 operation

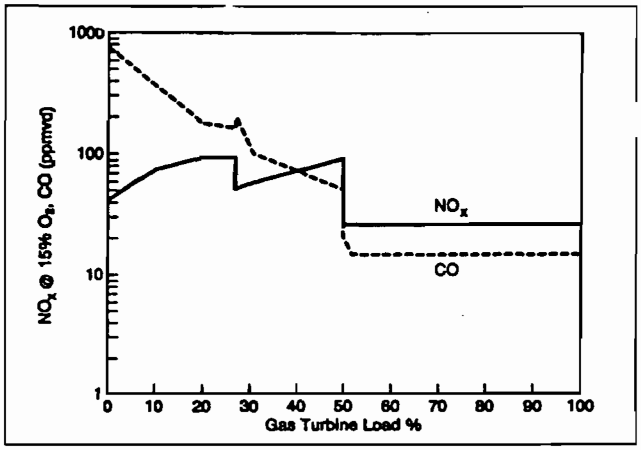

Figure 18. Emissions performance for DLN-2-equipped 7FA/9FA for gas fuel

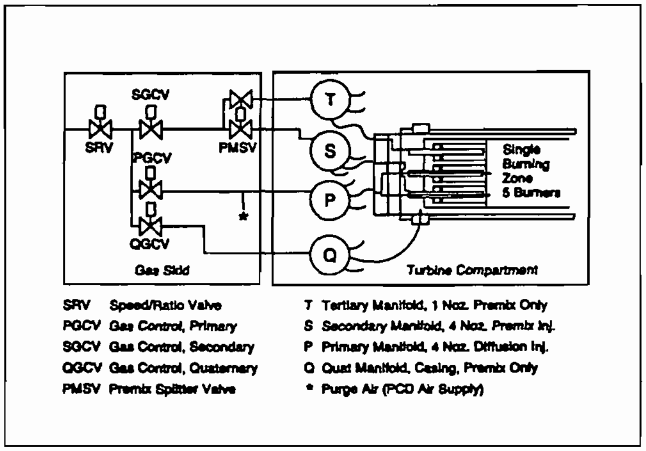

Figure 17. DLN-2 gas fuel system

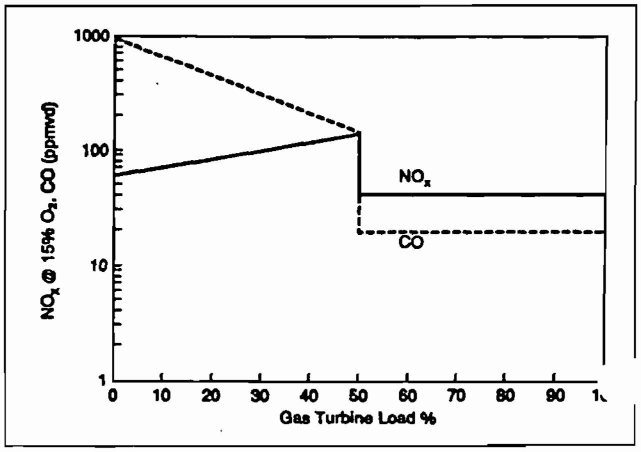

Figure 19. Emissions performance for DLN-2-equipped 7FA/9FA for oil fuel with water injection

control valve, secondary gas control valve premix splitter valve and quaternary gas control valve. The stop/ratio valve is designed to maintain a predetermined pressure at the control valve inlet.

The primary, secondary and quaternary gas control valves regulate the desired gas fuel flow delivered to the turbine in response to the fuel command from the SPEEDTRONIC™ controls.

The premix splitter valve controls the fuel flow split between the secondary and tertiary fuel system.

DLN-2 Emissions Performance

Figures 18 and 19 show the emissions performance for a DLN-2 equipped 7FA/9FA for gas fuel and for oil fuel with water injection.

DLN-2 Experience

The first DLN-2 systems were placed in service at Florida Power and Light's Martin Station with commissioning beginning in September 1993, and the first two (of four) 7FA units entering commercial service in February 1994. During commissioning, quaternary fuel was added and other combustor modifications were made to control dynamic pressure oscillations in the combustor.

As of August 1996, 23 DLN-2 7FA and 17 9FA units are in commercial service. They have accumulated more than 150,000 hours of operation. Of these units, 11 are dual-fuel units, and the remainder are gas-only.

CONCLUSION

GE's Dry Low NO_x Program continues to focus on the development of systems capable the extremely low NO_x levels required to me...

today's regulations and to prepare for more stringent requirements in the future. New unit production needs and the requirements of existing machines, are being addressed. GE DLN systems are operating on more than 145 machines and have accumulated more than one million service hours. More than 200 DLN systems have been either put into service, shipped or placed on order. GE is the only manufacturer with F technology machines operating below 25 ppmvd.

APPENDIX

Gas Turbine Combustion Systems

A gas turbine combustor mixes large quantities of fuel and air and burns the resulting mixture. In concept the combustor is comprised of a fuel injector and a wall to contain the flame. There are three fundamental factors and practical concerns that complicate the design of the combustor: equivalence ratio, flame stability, and ability to operate from ignition through full load.

Equivalence ratio

A flame burns best when there is just enough fuel to react with the available oxygen. With this stoichiometric mixture (equivalence ratio of 1.0) the flame temperature is the highest and the chemical reactions are the fastest, compared to cases where there is either more oxygen ("fuel lean," < 1.0) or less oxygen ("fuel rich," > 1.0) for the amount of fuel present.

In a gas turbine, the maximum temperature of the hot gases exiting the combustor is limited by the tolerance of the turbine nozzles and buckets. This temperature corresponds to an equivalence ratio of 0.4 to 0.5 (40 to 50% of the stoichiometric fuel flow). In the combustors used on modern gas turbines, this fuel-air mixture would be too lean for stable and efficient burning. Therefore, only a portion of the compressor discharge air is introduced directly into the combustor reaction zone (flame zone) to be mixed with the fuel and burned. The balance of the airflow either quenches the flame prior to the combustor discharge entering the turbine or to cool the wall of the combustor.

Flame stability

Even with only part of the air being introduced into the reaction zone, flow velocities in the zone are higher than the turbulent flame speed at which a flame propagates through the fuel-air mixture. Special mechanical or aerodynamic devices must be used to stabilize the flame by providing a low velocity region. Modern combustors employ a combination of swirlers and jets to achieve a good mix and to stabilize the flame.

Operational Stability

The combustor must be able to ignite and to support acceleration and operation of the gas turbine over the entire load range of the machine. For a single-shaft generator-drive machine, speed is constant under load and, therefore, so is the airflow for a fixed ambient temperature. There will be a five- or six-to-one turndown in fuel flow over the load range, and a combustor whose reaction zone equivalence ratio is optimized for full load operation will be very lean at the lower loads. Nevertheless, the flame must be stable and the combustion process must be efficient at all loads.

GE uses multiple-combustion chamber assemblies in its heavy-duty gas turbines to achieve reliable and efficient turbine operation. As shown in Figure A-1, each combustion chamber assembly comprises a cylindrical combustor, a fuel injection system and a transition piece that guides the flow of the hot gas from the combustor to the inlet of the turbine. Figure A-2 illustrates the multiple-combustor concept.

There are several reasons for using the multiple-chamber arrangement instead of large silo-type combustors:

- The configuration permits the entire turbine to be factory assembled, tested and shipped without interim disassembly
- The turbine inlet temperature can be better controlled, thus providing for longer turbine life with reduced turbine cooling air requirements
- Smaller parts can be handled more easily during routine maintenance
- Smaller transition pieces are less susceptible to damage from dynamic forces generated in the combustor; furthermore, the shorter combustion system length ensures that acoustic natural frequencies are higher and less likely to couple with the pressure oscillations in the flame
- Smaller combustors generate less NO_x because of much better mixing and shorter residence time
- As turbine inlet temperatures have increased to improve efficiency, the size of the combustors has decreased to minimize cooling

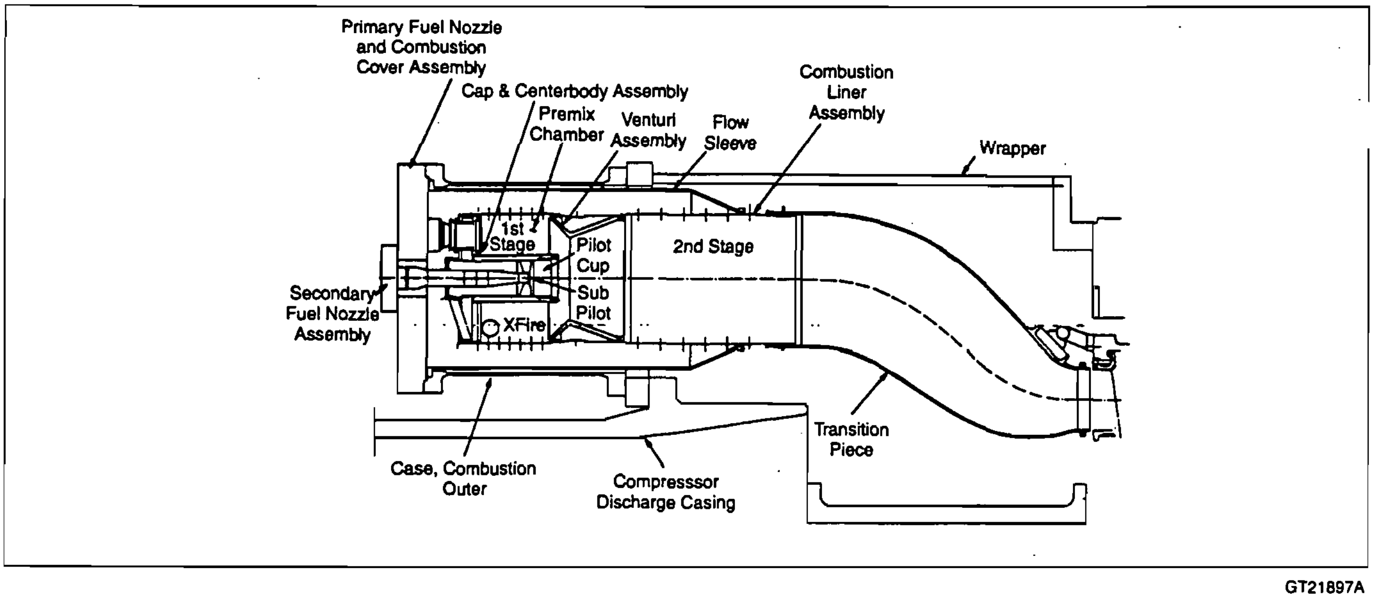

Figure A1. MS7001EA Dry Low NO_x combustion chamber

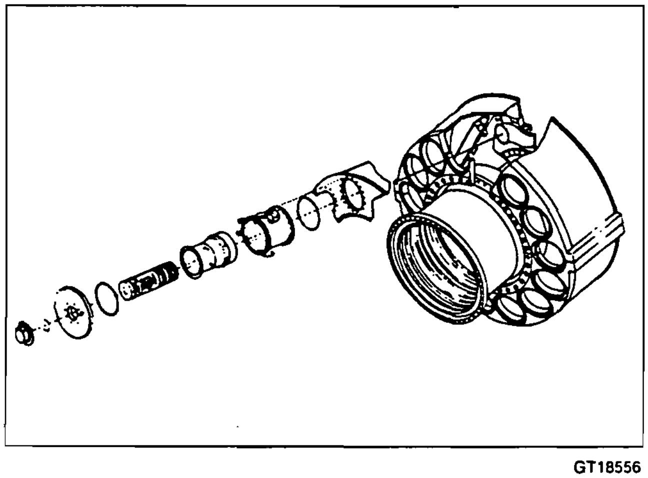

Figure A2. Exploded view of combustion chamber

requirements, as in aircraft gas turbine combustors

- Small can-type combustors can be completely developed in the laboratory through a combination of both atmospheric and full-pressure, full-flow tests. Therefore, there is a higher degree of confidence that a combustor will perform as designed across all load ranges before it is installed and tested in a machine.

Gas Turbine Emissions

The significant products of combustion in gas turbine emissions are:

- Oxides of nitrogen (NO and NO_2, collectively called NO_x)
- Carbon monoxide (CO)
- Unburned hydrocarbons or UHCs (usually expressed as equivalent methane (CH_4) particles and arise from incomplete combustion)
- Oxides of sulfur (SO_2 and SO_3) particulates.

Unburned hydrocarbons include both volatile organic compounds (VOCs), which contribut^ to the formation of atmospheric ozone, a1. compounds, such as methane, that do not.

There are two sources of NO_x emissions in the exhaust of a gas turbine. Most of the NO_x is generated by the fixation of atmospheric nitrogen in the flame, which is called thermal NO_x. Nitrogen oxides are also generated by the conversion of a fraction of any nitrogen chemically bound in the fuel (called fuel-bound nitrogen or FBN). Lower-quality distillates and low-Btu coal gases from gasifiers with hot gas cleanup carry various amounts of fuel-bound nitrogen that must be taken into account when emissions calculations are made. The methods described below to control thermal NO_x emissions are ineffective in controlling the conversion of FBN to NO_x.

Thermal NO_x is generated by a chemical reaction sequence called the Zeldovich Mechanism (Reference 6). This set of well-verified chemical reactions postulates that the rate of generation of thermal NO_x is an exponential function of the temperature of the flame. The amount of NO_x generated is a function of the flame temperature and of the time the hot { mixture is at flame temperature. This turns ouc to be a linear function of time. Thus, temperature and residence time determine thermal NO_X emissions levels and are the principal variles that a gas turbine designer can adjust to control emission levels.

For a given fuel, since the flame temperature is a unique function of the equivalence ratio, the rate of NO_X generation can be cast as a function of the equivalence ratio. Figure A-3, shows that the highest rate of NO_X production occurs at an equivalence ratio of 1.0, when the temperature is equal to the stoichiometric, adiabatic flame temperature.

To the left of the maximum temperature point (Figure A-3), more oxygen is available (the equivalence ratio is less than 1.0) and the resulting flame temperature is lower. This is a fuel-lean operation. Since the rate of NO_X formation is a function of temperature and time, it follows that some difference in NO_X emissions can be expected when different fuels are burned in a given combustion system. Since distillate oil and natural gas have approximately a 100 F/38 C flame temperature difference, a significant difference in NO_X emissions can be expected if reaction zone equivalence ratio, water injection rate, etc. are equal.

As shown in Figure A-3, the rate of NO_X production dramatically decreases as flame temperature decreases (i.e., the flame becomes fuel lean). This is because of the exponential effect of temperature in the Zeldovich Mechanism and is the reason why diluent injection (usually water or steam) into a gas turbine combustor flame zone reduces NO_X emissions. For the same reason, very lean dry combustors can be used to control emissions. This is desirable for reaching the lower NO_X levels now required in many applications.

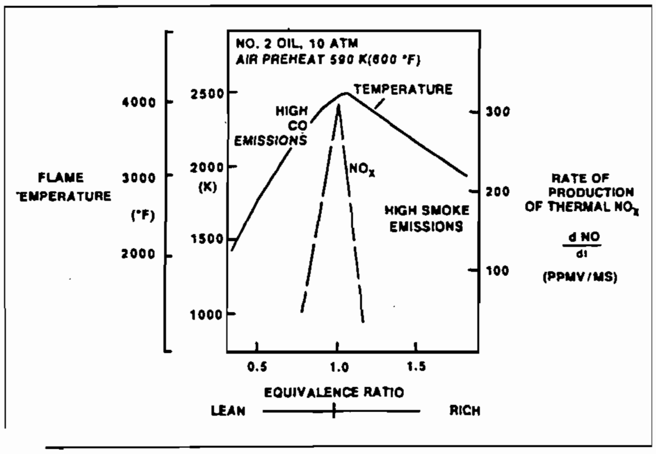

Figure A3. Rate of thermal NO_X production

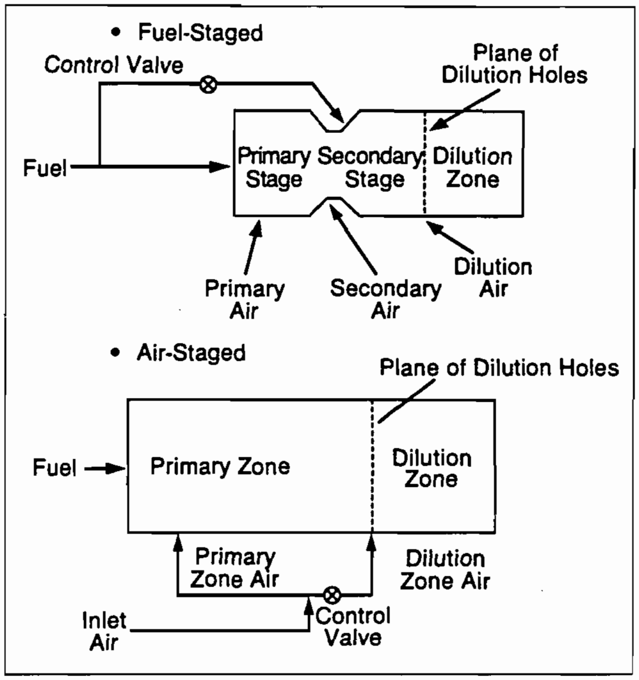

Figure A4. Staged combustors

There are two design challenges associated with very lean combustors. First, care must be taken to ensure that the flame is stable at the design operating point. Secondly, a turndown capability is necessary since a gas turbine must ignite, accelerate, and operate over the load range. At lower loads, as fuel flow to the combustors decreases, the flame will be very lean and will not burn well, or it can become unstable and blow out.

In response to these challenges, combustion system designers use staged combustors so a portion of the flame zone air can mix with the fuel at lower loads or during startup. The two types of staged combustors are fuel-staged and air-staged (Figure A-4). In its simplest and most common configuration, a fuel-staged combustor has two flame zones; each receives a constant fraction of the combustor airflow. Fuel flow is divided between the two zones so that at each machine operating condition, the amount of fuel fed to a stage matches the amount of air available.

An air-staged combustor uses a mechanism for diverting a fraction of the airflow from the flame zone to the dilution zone at low load to increase turndown. These methods can be combined.

Emissions Control Methods

There are three principal methods for controlling gas turbine emissions:

- Injection of a diluent such as water or steam into the burning zone of a conventional (diffusion flame) combustor
- Catalytic clean-up of NO_x and CO from the gas turbine exhaust (usually used in conjunction with the other two methods)
- Design of the combustor to limit the formation of pollutants in the burning zone by utilizing "lean-premixed" combustion technology.

The last method includes both DLN combustors and catalytic combustors. GE has considerable experience with each of these three methods.

Since September 1979, when regulations required that NO_x emissions be limited to 75 ppmvd (parts per million by volume, dry), more than 300 GE heavy-duty gas turbines have accumulated more than 2.5 million operating hours using either steam or water-injection to meet or exceed these required NO_x emissions levels. The amount of water required to accomplish this is approximately one-half of the fuel flow. However, there is a 1.8% heat-rate penalty associated with using water to control NO_x emissions for oil-fired simple-cycle gas turbines. Output, increases by approximately 3%, making water (or steam) injection for power augmentation economically attractive in some circumstances (such as peaking applications).

Single-nozzle combustors that use water or steam injection are limited in their ability to reduce NO_x levels below 42 ppmvd on gas fuel and 65 ppmvd on oil fuel. GE developed multi-nozzle quiet combustors (MNQC) for the MS7001EA and MS7001FA capable of achieving 25 ppmvd on gas fuel and 42 ppmvd on oil, using either water or steam injection. Since October 1987, more than 26 MNQC-equipped MS7001s that use water or steam injection have been placed in service. One unit that uses steam injection has operated nearly 50,000 hours at 25 ppmvd NO_x (at 15% O_2).

Frequent combustion inspections and decreased hardware life are undesirable side effects that can result from the use of diluent injection to reduce NO_x emissions from combustion turbines. For applications that require NO_x emissions below 42 ppmvd (or 25 ppmvd in the case of the MS7001EA or MS7001FA MNQC), or to avoid the significant cycle efficiency penalties incurred when water or steam injection is used for NO_x control, one of the other two principal methods of NO_x control mentioned above must be used.

Selective catalytic reduction (SCR) converts NO and NO_2 in the gas turbine exhaust stream to molecular nitrogen and oxygen by reacting the NO_x with ammonia in the presence of a c alyst. Conventional SCR technology requires that the temperature of the exhaust stream remain in a narrow range (550 F to 750 F or 288 C to 399 C) and is restricted to applications with a heat recovery system installed in the exhaust. The SCR is installed at a location in the boiler where the exhaust gas temperature has decreased to the above temperature range. New high-temperature SCR technology is being developed that may allow SCRs to be used for applications without heat recovery boilers.

For an MS7001EA gas turbine, an SCR designed to remove 90% of the NO_x from the gas turbine exhaust stream has a volume of approximately 175 cubic meters and weighs 111 tons. It is comprised of segments stacked in the exhaust duct. Each segment has a honeycomb pattern with passages that are aligned in the direction of the exhaust gas flow. A catalyst, such as vanadium pentoxide, is deposited on the surface of the honeycomb.

SCR systems are sensitive to fuels containing more than 1,000 ppm of sulfur (light distillate oils may have up to 0.8% sulfur). There are two reasons for this sensitivity: first, sulfur poiso the catalyst being used in SCRs.

Secondly, the ammonia will react with sulfur in the presence of the catalyst to form ammonium bisulfate, which is extremely corrosive, particularly near the discharge of a heat recovery boiler. Special catalyst materials that are less sensitive to sulfur have been identified, and there are some theories as to how to inhibit the formation of ammonium bisulfate. This, however, remains an open issue with SCRs.

More than 100 GE units have accumulated more than 100,000 operating hours with SCRs installed. Twenty of the units are in Japan; others are located in California, New Jersey, New York and several other eastern U.S. states. Units operating with SCRs include MS9000s, MS7000s, MS6000s, LM2500s and LM5000s.

Lean premixed combustion is the basis for achieving low emissions from Dry Low NO_x and catalytic combustors. GE has participated in the development of catalytic combustors for many years. These systems use a catalytic reactor bed mounted within the combustor to burn a very lean fuel-air mixture. They have the potential to achieve extremely low emissions levels withc resorting to exhaust gas cleanup. Technical ch...

lenges in the combustor and in the catalyst and reactor bed materials must be overcome in order to develop an operational catalytic combustor. GE has development programs in place with both ceramic and catalyst manufacturers to address these challenges. GE does not believe commercial systems employing this technology will be available in the near term.

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5. Cutrone, M. B., Hilt, M. B., Goyal, A., Ekstedt, E. E., and Notardonato, J., "Evaluation of Advanced Combustor for Dry NO_x Suppression with Nitrogen Bearing Fuels in Utility and Industrial Gas Turbines," ASME Paper 81-GT-125, March 1981.
6. Zeldovich, J., "The Oxidation of Nitrogen in Combustion and Explosions," Acta Physicochimica USSR, Vol. 21, No. 4, 1946, pp 577-628.
7. Washam, R. M., "Dry Low NO_x Combustion System for Utility Gas Turbine," ASME Paper 83-JPGC-GT-13, Sept. 1983.
8. Davis, L. B., and Washam, R. M., "Development of a Dry Low NO_x Combustor," ASME Paper No. 89-GT-255, June 1989.

LIST OF FIGURES

ATTACHMENT C

EPA GUIDANCE ON CUSTOM FUEL MONITORING FOR GAS TURBINES

Determination Detail

Control Number: 9600034

Category: NSPS
EPA Office: Region 5
Date: 01/16/1996
Title: Custom Fuel Monitoring
Recipient: Wright, Amy
Author: Czerniak, George
Comments:

Abstract:

Q: Will EPA grant a request for a custom fuel monitoring schedule for (pipeline) natural gas fired turbines regulated by Subpart GG and Title IV (Acid Rain)?

A: Yes, this request is granted provided certain Acid Rain requirements are met.

Letter:

Amy Wright
Dayton Power and Light Company
O.H. Hutchings Station
9200 Chautauqua Road
Miamisburg, Ohio 45342

Dear Ms. Wright;

This is in response to your request for a custom fuel schedule, pursuant to the New Source Performance Standards (NSPS) Subpart GG, Section 60.334(b)(2), dated August 31, 1995. This request was originally sent to Donald Schregardus, Director, Ohio Environmental Protection Agency and later faxed to George Czerniak, United States Environmental Protection Agency (USEPA), Region 5, on September 9, 1995. In your request you proposed a custom fuel schedule under which no sampling of natural gas would be required for the combustion turbines installed, or to be installed under the Permit to Install application number 08-2507.

The three combustion turbines for which this custom schedule would apply are affected units under the "Acid Rain Program", Title IV of the Clean Air Act Amendments. Emissions from a Title IV effected unit are required to be monitored according to 40 CFR Part 75 "Continuous Emission Monitoring" for sulfur dioxide (SO2). Under Part 75, appendix D, a gas fired turbine that is using pipeline quality natural gas as it's primary fuel can use the default value of 0.0006 lb/mmBtu to account for the units SO2 emissions. With this the USEPA has recognized that the sulfur content of pipeline quality natural gas is low enough to warrant the use of a default value for SO2 emissions.

Therefore, the Regional office of the USEPA approves the custom fuel schedule of no fuel sampling for these three units provided the following requirements are met.

□ Each unit has been issued and is in possession of an approved Phase II Acid Rain Permit.

□ Each unit has submitted a Monitoring Plan, certified by signature of the Designated Representative, that commits to using a primary fuel of pipeline supplied natural gas.

□ Each unit is monitoring SO2 emissions using methods consistent with the requirements of Part 75 and certified by the USEPA.

This custom schedule will only be valid when pipeline natural gas is used as a primary fuel. If the primary fuel for these units is changed to anything other than this, SO2 emissions must be accounted for by using daily fuel sampling and analysis.

If you have any questions regarding this determination please contact Allan Batka of my staff at (312) 353-3716.

Sincerely yours,

George Czerniak, Chief
Air Enforcement and Compliance Assurance Branch

ATTACHMENT D

BUILDING DOWNWASH INFORMATION FROM BPIP

BPIP (Dated: 95086)

BPIP
EXISTING

DATE : 07/22/98
TIME : 10:35:26
FPL Ft. Myers, baseline, Origin is Mid HRSG Stacks 3 and 4 7/22/98

============================
BPIP PROCESSING INFORMATION:
============================

The ST flag has been set for processing for an ISCST2 run.

Inputs entered in FEET will be converted to meters using a conversion factor of 0.3048. Output will be in meters.

UTMP is set to UTMN. The input is assumed to be in a local X-Y coordinate system as opposed to a UTM coordinate system. True North is in the positive Y direction.

Plant north is set to -23.00 degrees with respect to True North.

FPL Ft. Myers, baseline, Origin is Mid HRSG Stacks 3 and 4 7/22/98

PRELIMINARY* GEP STACK HEIGHT RESULTS TABLE
(Output Units: meters)

Stack Name	Stack Height	Stack-Building Base Elevation Differences	GEP** EQN1	Preliminary* GEP Stack Height Value
UNIT_2	124.05	0.00	104.85	104.85
UNIT_1	92.05	0.00	105.56	105.56
GT#12	9.75	0.00	101.73	101.73
GT#11	9.75	0.00	24.38	65.00
GT#10	9.75	0.00	24.38	65.00
GT#9	9.75	0.00	24.38	65.00
GT#8	9.75	0.00	27.43	65.00
GT#7	9.75	0.00	27.43	65.00
GT#6	9.75	0.00	24.38	65.00
GT#5	9.75	0.00	24.38	65.00
GT#4	9.75	0.00	24.38	65.00
GT#3	9.75	0.00	24.38	65.00
GT#2	9.75	0.00	24.38	65.00
GT#1	9.75	0.00	24.38	65.00

* Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP Technical Support Document. Determinant 3 may be investigated for additional stack height credit. Final values result after Determinant 3 has been taken into consideration.

** Results were derived from Equation 1 on page 6 of GEP Technical Support Document. Values have been adjusted for any stack-building base elevation differences.

Note: Criteria for determining stack heights for modeling emission limitations for a source can be found in Table 3.1 of the

BPIP (Dated: 95086)

DATE : 07/22/98
TIME : 10:35:26

FPL Ft. Myers, baseline, Origin is Mid HRSG Stacks 3 and 4 7/22/98

BPIP output is in meters

SO BUILDHGT	UNIT_2	40.69	47.85	47.85	47.85	47.85	40.69
SO BUILDHGT	UNIT_2	40.69	40.69	47.85	47.85	47.85	47.85
SO BUILDHGT	UNIT_2	40.69	40.69	0.00	0.00	0.00	0.00
SO BUILDHGT	UNIT_2	40.69	47.85	47.85	47.85	47.85	40.69
SO BUILDHGT	UNIT_2	40.69	40.69	47.85	47.85	47.85	47.85
SO BUILDHGT	UNIT_2	40.69	40.69	0.00	0.00	0.00	0.00
SO BUILDWID	UNIT_2	59.55	37.99	37.99	37.99	36.48	83.96
SO BUILDWID	UNIT_2	83.72	86.29	37.63	37.99	37.99	37.14
SO BUILDWID	UNIT_2	61.03	49.44	0.00	0.00	0.00	0.00
SO BUILDWID	UNIT_2	59.55	37.99	37.99	37.99	36.48	83.96
SO BUILDWID	UNIT_2	83.72	86.29	37.63	37.99	37.99	37.14
SO BUILDWID	UNIT_2	61.03	49.44	0.00	0.00	0.00	0.00

SO BUILDHGT	UNIT_1	47.85	47.85	47.85	47.85	40.69	40.69
SO BUILDHGT	UNIT_1	40.69	40.69	40.69	40.69	40.69	40.69
SO BUILDHGT	UNIT_1	40.69	40.69	0.00	0.00	40.69	40.69
SO BUILDHGT	UNIT_1	47.85	47.85	47.85	47.85	40.69	40.69
SO BUILDHGT	UNIT_1	40.69	40.69	40.69	40.69	40.69	40.69
SO BUILDHGT	UNIT_1	40.69	40.69	0.00	0.00	40.69	40.69
SO BUILDWID	UNIT_1	36.28	38.08	38.47	38.18	83.95	83.96
SO BUILDWID	UNIT_1	83.72	86.29	86.24	83.57	78.36	70.77
SO BUILDWID	UNIT_1	61.03	49.44	0.00	0.00	35.56	48.29
SO BUILDWID	UNIT_1	36.28	38.08	38.47	38.18	83.95	83.96
SO BUILDWID	UNIT_1	83.72	86.29	86.24	83.57	78.36	70.77
SO BUILDWID	UNIT_1	61.03	49.44	0.00	0.00	35.56	48.29

SO BUILDHGT	GT#12	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#12	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#12	9.75	9.75	0.00	9.75	9.75	9.75
SO BUILDHGT	GT#12	9.75	40.69	40.69	40.69	9.75	0.00
SO BUILDHGT	GT#12	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#12	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDWID	GT#12	17.63	19.16	20.11	20.45	20.16	19.27
SO BUILDWID	GT#12	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#12	16.45	14.09	0.00	10.09	13.02	15.56
SO BUILDWID	GT#12	17.63	69.00	76.36	81.39	20.16	0.00
SO BUILDWID	GT#12	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#12	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#11	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#11	0.00	9.75	9.75	9.75	9.75	9.75

SO BUILDHGT	GT#11	9.75	9.75	0.00	9.75	9.75	9.75
SO BUILDHGT	GT#11	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#11	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#11	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDWID	GT#11	17.63	19.16	20.11	20.45	20.16	19.27
SO BUILDWID	GT#11	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#11	16.45	14.09	0.00	10.09	13.02	15.56
SO BUILDWID	GT#11	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#11	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#11	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#10	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#10	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#10	9.75	9.75	0.00	9.75	9.75	9.75
SO BUILDHGT	GT#10	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#10	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#10	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDWID	GT#10	17.63	19.16	20.11	20.45	20.16	19.27
SO BUILDWID	GT#10	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#10	16.45	14.09	0.00	10.09	13.02	15.56
SO BUILDWID	GT#10	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#10	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#10	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#9	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#9	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#9	9.75	9.75	0.00	9.75	9.75	9.75
SO BUILDHGT	GT#9	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#9	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#9	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDWID	GT#9	17.63	19.16	20.11	20.45	20.16	19.27
SO BUILDWID	GT#9	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#9	16.45	14.09	0.00	10.09	13.02	15.56
SO BUILDWID	GT#9	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#9	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#9	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#8	9.75	9.75	9.75	9.75	10.97	10.97
SO BUILDHGT	GT#8	10.97	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#8	9.75	9.75	0.00	9.75	9.75	9.75
SO BUILDHGT	GT#8	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#8	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#8	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDWID	GT#8	17.63	19.16	20.11	20.45	26.76	24.73
SO BUILDWID	GT#8	23.71	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#8	16.45	14.09	0.00	10.09	13.02	15.56
SO BUILDWID	GT#8	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#8	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#8	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#7	0.00	0.00	0.00	10.97	10.97	10.97
SO BUILDHGT	GT#7	10.97	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#7	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#7	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT	GT#7	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#7	9.75	9.75	9.75	9.75	9.75	0.00

```
SO BUILDWID   GT#7       0.00    0.00    0.00   27.98   26.76   24.73
SO BUILDWID   GT#7      23.71   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#7      16.45   14.09   11.30   10.09   13.02    0.00
SO BUILDWID   GT#7       0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID   GT#7       0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#7      16.45   14.09   11.30   10.09   13.02    0.00


SO BUILDHGT   GT#6       9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT   GT#6       0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#6       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#6       9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT   GT#6       0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#6       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDWID   GT#6      17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID   GT#6       0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#6      16.45   14.09   11.30   10.09   13.02   15.56
SO BUILDWID   GT#6      17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID   GT#6       0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#6      16.45   14.09   11.30   10.09   13.02   15.56


SO BUILDHGT   GT#5       9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT   GT#5       0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#5       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#5       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#5       0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#5       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDWID   GT#5      17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID   GT#5       0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#5      16.45   14.09   11.30   10.09   13.02   15.56
SO BUILDWID   GT#5      17.63   19.16   20.11   20.45   20.16   19.27
SO BUILDWID   GT#5       0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#5      16.45   14.09   11.30   10.09   13.02   15.56


SO BUILDHGT   GT#4       9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT   GT#4       0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#4       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#4       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#4       0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#4       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDWID   GT#4      17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID   GT#4       0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#4      16.45   14.09   11.30   10.09   13.02   15.56
SO BUILDWID   GT#4      17.63   19.16   20.11   20.45   20.16   19.27
SO BUILDWID   GT#4       0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#4      16.45   14.09   11.30   10.09   13.02   15.56


SO BUILDHGT   GT#3       9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT   GT#3       0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#3       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#3       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#3       0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#3       9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDWID   GT#3      17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID   GT#3       0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#3      16.45   14.09   11.30   10.09   13.02   15.56
SO BUILDWID   GT#3      17.63   19.16   20.11   20.45   20.16   19.27
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SO BUILDWID	GT#3	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#3	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#2	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#2	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#2	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#2	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#2	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#2	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDWID	GT#2	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#2	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#2	16.45	14.09	11.30	10.09	13.02	15.56
SO BUILDWID	GT#2	17.63	19.16	20.11	20.45	20.16	19.27
SO BUILDWID	GT#2	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#2	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#1	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#1	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT	GT#1	0.00	0.00	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#1	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#1	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT	GT#1	0.00	0.00	9.75	9.75	9.75	9.75
SO BUILDWID	GT#1	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#1	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID	GT#1	0.00	0.00	11.30	10.09	13.02	15.56
SO BUILDWID	GT#1	17.63	19.16	20.11	20.45	20.16	19.27
SO BUILDWID	GT#1	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID	GT#1	0.00	0.00	11.30	10.09	13.02	15.56

BPIP
EXISTING

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'FPL Ft. Myers, baseline, Origin is Mid HRSG Stacks 3 and 4 7/22/98'
'ST'
'FEET' .3048
'UTMN' -23.
20
'UNIT_2_BLDG'  1 0.0
4 157.0
221.3  -266.0
221.3  -164.0
297.0  -164.0
297.0  -266.0
'UNIT_1_BLDG' 1 0.0
4 133.5
210.1  -359.5
278.6  -359.5
278.6  -434.5
210.1  -434.5
'PROPERTY-CORN' 1 0.0
24 0.0
-2945      625
-2555      565
-2345      415
-2105      355
-1595      445
-1445      385
-1235      445
-1085      475
 -815      475
 -665      415
  445      445
 1375      565
 2035      565
 2215      535
 2365      475
 1915     -755
 1495     -815
 1585    -1265
  415    -1415
  -95    -1535
-2735    -1895
-2765    -1655
-2525    -1025
-3425     -665
'GT12 GENBLD' 1 0.0
4 32
      -310.0  -790.0
      -310.0  -850.0
      -280.0  -850.0
      -280.0  -790.0
'GT11 GENBLD' 1 0.0
4 32
      -385.0  -790.0
      -385.0  -850.0
      -355.0  -850.0
      -355.0  -790.0
'GT10 GENBLD' 1 0.0
4 32
      -460.0  -790.0
      -460.0  -850.0
      -430.0  -850.0
```

```
      -430.0  -790.0
'GT9 GENBLD' 1 0.0
4 32
      -535.0  -790.0
      -535.0  -850.0
      -505.0  -850.0
      -505.0  -790.0
'GT8 GENBLD' 1 0.0
4 32
      -610.0  -790.0
      -610.0  -850.0
      -580.0  -850.0
      -580.0  -790.0
'GT7 GENBLD' 1 0.0
4 32
      -685.0  -790.0
      -685.0  -850.0
      -655.0  -850.0
      -655.0  -790.0
'GT6 GENBLD' 1 0.0
4 32
      -310.0  -950.0
      -310.0  -890.0
      -280.0  -890.0
      -280.0  -950.0
'GT5 GENBLD' 1 0.0
4 32
      -385.0  -950.0
      -385.0  -890.0
      -355.0  -890.0
      -355.0  -950.0
'GT4 GENBLD' 1 0.0
4 32
      -460.0  -950.0
      -460.0  -890.0
      -430.0  -890.0
      -430.0  -950.0
'GT3 GENBLD' 1 0.0
4 32
      -535.0  -950.0
      -535.0  -890.0
      -505.0  -890.0
      -505.0  -950.0
'GT2 GENBLD' 1 0.0
4 32
      -610.0  -950.0
      -610.0  -890.0
      -580.0  -890.0
      -580.0  -950.0
'GT1 GENBLD' 1 0.0
4 32
      -685.0  -950.0
      -685.0  -890.0
      -655.0  -890.0
      -655.0  -950.0
'GT Maintenance Bldg' 1 0.0
4 36
  -875.0  -830.0
  -875.0  -755.0
  -820.0  -755.0
```

```
  -820.0  -830.0
'Diesel Tank #4' 1 0.0
8 40
   -915.0  -170.0
   -888.6  -106.4
   -825.0   -80.0
   -761.4  -106.4
   -735.0  -170.0
   -761.4  -233.6
   -825.0  -260.0
   -888.6  -233.6
'Oil Tank #2' 1 0.0
8 50
    -547.0  -170.0
    -520.6  -106.4
    -457.0   -80.0
    -393.4  -106.4
    -367.0  -170.0
    -393.4  -233.6
    -457.0  -260.0
    -520.6  -233.6
'Diesel Tank #3' 1 0.0
8 40
  -915.0  -410.0
  -888.6  -346.4
  -825.0  -320.0
  -761.4  -346.4
  -735.0  -410.0
  -761.4  -473.6
  -825.0  -500.0
  -888.6  -473.6
'Oil Tank #1' 1 0.0
8 43
    -524.0  -377.0
    -504.4  -329.6
    -457.0  -310.0
    -409.6  -329.6
    -390.0  -377.0
    -409.6  -424.4
    -457.0  -444.0
    -504.4  -424.4
14
'UNIT_2'  0.0  407.0     115.0  -215.0
'UNIT_1'  0.0  302.0     155.6  -397.0
' GT#12'  0.0   32.00   -341.0  -765.0
' GT#11'  0.0   32.00   -415.8  -765.0
' GT#10'  0.0   32.00   -491.0  -765.0
' GT#9 '  0.0   32.00   -566.1  -765.0
' GT#8 '  0.0   32.00   -640.9  -765.0
' GT#7 '  0.0   32.00   -695.0  -765.0
' GT#6 '  0.0   32.00   -341.0  -975.0
' GT#5 '  0.0   32.00   -415.8  -975.0
' GT#4 '  0.0   32.00   -491.0  -975.0
' GT#3 '  0.0   32.00   -566.1  -975.0
' GT#2 '  0.0   32.00   -640.9  -975.0
' GT#1 '  0.0   32.00   -695.0  -975.0
0
```

BPIP (Dated: 95086)

DATE : 08/16/98

TIME : 22:02:49

BPIP data for FPL Ft. Myers, Origin Between New HRSG Stacks 3 and 4 8/16/98

BPIP
CONSTRUCTION

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BPIP PROCESSING INFORMATION:

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The ST flag has been set for processing for an ISCST2 run.

Inputs entered in FEET will be converted to meters using a conversion factor of 0.3048. Output will be in meters.

UTMP is set to UTMN. The input is assumed to be in a local X-Y coordinate system as opposed to a UTM coordinate system. True North is in the positive Y direction.

Plant north is set to -23.00 degrees with respect to True North.

BPIP data for FPL Ft. Myers, Origin Between New HRSG Stacks 3 and 4 8/16/98

PRELIMINARY* GEP STACK HEIGHT RESULTS TABLE
(Output Units: meters)

Stack Name	Stack Height	Stack-Building Base Elevation Differences	GEP** EQN1	Preliminary* GEP Stack Height Value
UNIT_2	124.05	0.00	104.85	104.85
UNIT_1	92.05	0.00	105.56	105.56
GT#12	9.75	0.00	101.73	101.73
GT#11	9.75	0.00	24.38	65.00
GT#10	9.75	0.00	24.38	65.00
GT#9	9.75	0.00	24.38	65.00
GT#8	9.75	0.00	27.43	65.00
GT#7	9.75	0.00	27.43	65.00
GT#6	9.75	0.00	24.38	65.00
GT#5	9.75	0.00	24.38	65.00
GT#4	9.75	0.00	24.38	65.00
GT#3	9.75	0.00	24.38	65.00
GT#2	9.75	0.00	24.38	65.00
GT#1	9.75	0.00	24.38	65.00
HRSG1	38.10	0.00	101.73	101.73
HRSG2	38.10	0.00	105.63	105.63
HRSG3	38.10	0.00	105.93	105.93
HRSG4	38.10	0.00	105.93	105.93
HRSG5	38.10	0.00	101.73	101.73
HRSG6	38.10	0.00	104.97	104.97
CT1	29.87	0.00	101.73	101.73
CT2	29.87	0.00	105.93	105.93
CT3	29.87	0.00	105.92	105.92
CT4	29.87	0.00	103.84	103.84
CT5	29.87	0.00	101.73	101.73

CT6	29.87	0.00	101.73	101.73
cool01	13.72	0.00	101.73	101.73
cool02	13.72	0.00	101.73	101.73
cool03	13.72	0.00	101.73	101.73
cool04	13.72	0.00	93.54	93.54
cool05	13.72	0.00	23.62	65.00
cool06	13.72	0.00	23.62	65.00
cool07	13.72	0.00	23.62	65.00
cool08	13.72	0.00	23.62	65.00
cool09	13.72	0.00	23.62	65.00
cool10	13.72	0.00	23.62	65.00
cool11	13.72	0.00	23.62	65.00
cool12	13.72	0.00	23.62	65.00

* Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP Technical Support Document. Determinant 3 may be investigated for additional stack height credit. Final values result after Determinant 3 has been taken into consideration.

** Results were derived from Equation 1 on page 6 of GEP Technical Support Document. Values have been adjusted for any stack-building base elevation differences.

Note: Criteria for determining stack heights for modeling emission limitations for a source can be found in Table 3.1 of the GEP Technical Support Document.

BPIP (Dated: 95086)

DATE : 08/16/98
TIME : 22:02:49

BPIP data for FPL Ft. Myers, Origin Between New HRSG Stacks 3 and 4 8/16/98

BPIP output is in meters

SO	BUILDHGT	UNIT_2	40.69	47.85	47.85	47.85	47.85	40.69
SO	BUILDHGT	UNIT_2	40.69	40.69	47.85	47.85	47.85	47.85
SO	BUILDHGT	UNIT_2	40.69	40.69	26.21	0.00	26.21	26.21
SO	BUILDHGT	UNIT_2	40.69	47.85	47.85	47.85	47.85	40.69
SO	BUILDHGT	UNIT_2	40.69	40.69	47.85	47.85	47.85	47.85
SO	BUILDHGT	UNIT_2	40.69	40.69	0.00	0.00	0.00	0.00
SO	BUILDWID	UNIT_2	59.55	37.99	37.99	37.99	36.48	83.96
SO	BUILDWID	UNIT_2	83.72	86.29	37.63	37.99	37.99	37.14
SO	BUILDWID	UNIT_2	61.03	49.44	14.63	0.00	16.54	19.32
SO	BUILDWID	UNIT_2	59.55	37.99	37.99	37.99	36.48	83.96
SO	BUILDWID	UNIT_2	83.72	86.29	37.63	37.99	37.99	37.14
SO	BUILDWID	UNIT_2	61.03	49.44	0.00	0.00	0.00	0.00

SO	BUILDHGT	UNIT_1	47.85	47.85	47.85	47.85	40.69	40.69
SO	BUILDHGT	UNIT_1	40.69	40.69	40.69	40.69	40.69	40.69
SO	BUILDHGT	UNIT_1	40.69	40.69	0.00	0.00	40.69	40.69
SO	BUILDHGT	UNIT_1	47.85	47.85	47.85	47.85	40.69	40.69
SO	BUILDHGT	UNIT_1	40.69	40.69	40.69	40.69	40.69	40.69
SO	BUILDHGT	UNIT_1	40.69	40.69	0.00	0.00	40.69	40.69

SO	BUILDWID	UNIT_1	36.28	38.08	38.47	38.18	83.95	83.96
SO	BUILDWID	UNIT_1	83.72	86.29	86.24	83.57	78.36	70.77
SO	BUILDWID	UNIT_1	61.03	49.44	0.00	0.00	35.56	48.29
SO	BUILDWID	UNIT_1	36.28	38.08	38.47	38.18	83.95	83.96
SO	BUILDWID	UNIT_1	83.72	86.29	86.24	83.57	78.36	70.77
SO	BUILDWID	UNIT_1	61.03	49.44	0.00	0.00	35.56	48.29

SO	BUILDHGT	GT#12	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#12	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#12	9.75	9.75	0.00	9.75	9.75	9.75
SO	BUILDHGT	GT#12	9.75	40.69	40.69	40.69	9.75	0.00
SO	BUILDHGT	GT#12	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#12	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#12	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#12	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#12	16.45	14.09	0.00	10.09	13.02	15.56
SO	BUILDWID	GT#12	17.63	69.00	76.36	81.39	20.16	0.00
SO	BUILDWID	GT#12	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#12	16.45	14.09	11.30	10.09	13.02	15.56

SO	BUILDHGT	GT#11	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#11	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#11	9.75	9.75	0.00	9.75	9.75	9.75
SO	BUILDHGT	GT#11	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#11	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#11	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#11	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#11	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#11	16.45	14.09	0.00	10.09	13.02	15.56
SO	BUILDWID	GT#11	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#11	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#11	16.45	14.09	11.30	10.09	13.02	15.56

SO	BUILDHGT	GT#10	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#10	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#10	9.75	9.75	0.00	9.75	9.75	9.75
SO	BUILDHGT	GT#10	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#10	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#10	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#10	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#10	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#10	16.45	14.09	0.00	10.09	13.02	15.56
SO	BUILDWID	GT#10	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#10	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#10	16.45	14.09	11.30	10.09	13.02	15.56

SO	BUILDHGT	GT#9	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#9	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#9	9.75	9.75	0.00	9.75	9.75	9.75
SO	BUILDHGT	GT#9	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#9	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#9	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#9	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#9	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#9	16.45	14.09	0.00	10.09	13.02	15.56
SO	BUILDWID	GT#9	17.63	19.16	20.11	20.45	20.16	0.00

SO BUILDWID	GT#9	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#9	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#8	9.75	9.75	9.75	9.75	10.97	10.97
SO BUILDHGT	GT#8	10.97	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#8	9.75	9.75	0.00	9.75	9.75	9.75
SO BUILDHGT	GT#8	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#8	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#8	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDWID	GT#8	17.63	19.16	20.11	20.45	26.76	24.73
SO BUILDWID	GT#8	23.71	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#8	16.45	14.09	0.00	10.09	13.02	15.56
SO BUILDWID	GT#8	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#8	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#8	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#7	0.00	0.00	0.00	10.97	10.97	10.97
SO BUILDHGT	GT#7	10.97	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#7	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#7	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT	GT#7	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#7	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDWID	GT#7	0.00	0.00	0.00	27.98	26.76	24.73
SO BUILDWID	GT#7	23.71	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#7	16.45	14.09	11.30	10.09	13.02	0.00
SO BUILDWID	GT#7	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID	GT#7	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#7	16.45	14.09	11.30	10.09	13.02	0.00

SO BUILDHGT	GT#6	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#6	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#6	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#6	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#6	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#6	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDWID	GT#6	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#6	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#6	16.45	14.09	11.30	10.09	13.02	15.56
SO BUILDWID	GT#6	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#6	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#6	16.45	14.09	11.30	10.09	13.02	15.56

SO BUILDHGT	GT#5	9.75	9.75	9.75	9.75	9.75	0.00
SO BUILDHGT	GT#5	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#5	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#5	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#5	0.00	9.75	9.75	9.75	9.75	9.75
SO BUILDHGT	GT#5	9.75	9.75	9.75	9.75	9.75	9.75
SO BUILDWID	GT#5	17.63	19.16	20.11	20.45	20.16	0.00
SO BUILDWID	GT#5	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#5	16.45	14.09	11.30	10.09	13.02	15.56
SO BUILDWID	GT#5	17.63	19.16	20.11	20.45	20.16	19.27
SO BUILDWID	GT#5	0.00	19.88	20.41	20.32	19.61	18.31
SO BUILDWID	GT#5	16.45	14.09	11.30	10.09	13.02	15.56

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SO BUILDHGT  GT#4      9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT  GT#4      0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#4      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#4      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#4      0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#4      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDWID  GT#4     17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID  GT#4      0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID  GT#4     16.45   14.09   11.30   10.09   13.02   15.56
SO BUILDWID  GT#4     17.63   19.16   20.11   20.45   20.16   19.27
SO BUILDWID  GT#4      0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID  GT#4     16.45   14.09   11.30   10.09   13.02   15.56


SO BUILDHGT  GT#3      9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT  GT#3      0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#3      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#3      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#3      0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#3      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDWID  GT#3     17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID  GT#3      0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID  GT#3     16.45   14.09   11.30   10.09   13.02   15.56
SO BUILDWID  GT#3     17.63   19.16   20.11   20.45   20.16   19.27
SO BUILDWID  GT#3      0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID  GT#3     16.45   14.09   11.30   10.09   13.02   15.56


SO BUILDHGT  GT#2      9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT  GT#2      0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#2      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#2      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#2      0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#2      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDWID  GT#2     17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID  GT#2      0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID  GT#2     16.45   14.09   11.30   10.09   13.02   15.56
SO BUILDWID  GT#2     17.63   19.16   20.11   20.45   20.16   19.27
SO BUILDWID  GT#2      0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID  GT#2     16.45   14.09   11.30   10.09   13.02   15.56


SO BUILDHGT  GT#1      9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT  GT#1      0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT  GT#1      0.00    0.00    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#1      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT  GT#1      0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT  GT#1      0.00    0.00    9.75    9.75    9.75    9.75
SO BUILDWID  GT#1     17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID  GT#1      0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID  GT#1      0.00    0.00   11.30   10.09   13.02   15.56
SO BUILDWID  GT#1     17.63   19.16   20.11   20.45   20.16   19.27
SO BUILDWID  GT#1      0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID  GT#1      0.00    0.00   11.30   10.09   13.02   15.56


SO BUILDHGT HRSG1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG1     26.21   26.21   26.21   26.21   26.21   26.21
```

SO BUILDHGT HRSG1	26.21	40.69	40.69	40.69	26.21	26.21
SO BUILDHGT HRSG1	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID HRSG1	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID HRSG1	21.34	22.94	23.84	24.02	23.47	22.21
SO BUILDWID HRSG1	20.27	17.72	14.63	13.26	16.54	19.32
SO BUILDWID HRSG1	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID HRSG1	21.34	86.29	86.24	83.57	23.47	22.21
SO BUILDWID HRSG1	20.27	17.72	14.63	13.26	16.54	19.32

SO BUILDHGT HRSG2	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG2	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG2	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG2	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG2	26.21	40.69	47.85	47.85	40.69	26.21
SO BUILDHGT HRSG2	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID HRSG2	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID HRSG2	21.34	22.94	23.84	24.02	23.47	22.21
SO BUILDWID HRSG2	20.27	17.72	14.63	13.26	16.54	19.32
SO BUILDWID HRSG2	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID HRSG2	21.34	86.29	37.63	38.52	78.36	22.21
SO BUILDWID HRSG2	20.27	17.72	14.63	13.26	16.54	19.32

SO BUILDHGT HRSG3	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG3	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG3	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG3	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG3	26.21	26.21	47.85	47.85	47.85	40.69
SO BUILDHGT HRSG3	40.69	26.21	26.21	26.21	26.21	26.21
SO BUILDWID HRSG3	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID HRSG3	21.34	22.94	23.84	24.02	23.47	22.21
SO BUILDWID HRSG3	20.27	17.72	14.63	13.26	16.54	19.32
SO BUILDWID HRSG3	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID HRSG3	21.34	22.94	37.63	38.64	38.47	70.77
SO BUILDWID HRSG3	61.03	17.72	14.63	13.26	16.54	19.32

SO BUILDHGT HRSG4	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4	26.21	26.21	40.69	47.85	47.85	47.85
SO BUILDHGT HRSG4	40.69	40.69	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4	26.21	26.21	40.69	47.85	47.85	47.85
SO BUILDHGT HRSG4	40.69	40.69	26.21	26.21	26.21	26.21
SO BUILDWID HRSG4	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID HRSG4	21.34	22.94	86.24	38.64	38.47	37.14
SO BUILDWID HRSG4	61.03	49.44	14.63	13.26	16.54	19.32
SO BUILDWID HRSG4	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID HRSG4	21.34	22.94	86.24	38.64	38.47	37.14
SO BUILDWID HRSG4	61.03	49.44	14.63	13.26	16.54	19.32

SO BUILDHGT HRSG5	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5	26.21	26.21	26.21	26.21	26.21	40.69
SO BUILDHGT HRSG5	40.69	40.69	47.85	47.85	40.69	40.69
SO BUILDHGT HRSG5	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5	26.21	26.21	26.21	26.21	26.21	40.69
SO BUILDHGT HRSG5	40.69	40.69	47.85	47.85	40.69	40.69
SO BUILDWID HRSG5	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID HRSG5	21.34	22.94	23.84	24.02	23.47	41.73

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SO BUILDWID HRSG5     61.03   49.44   26.69   24.67   35.56   48.29
SO BUILDWID HRSG5     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG5     21.34   22.94   23.84   24.02   23.47   41.73
SO BUILDWID HRSG5     61.03   49.44   26.69   24.67   35.56   48.29

SO BUILDHGT HRSG6     47.85   47.85   47.85   26.21   26.21   26.21
SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   40.69   40.69
SO BUILDHGT HRSG6     47.85   47.85   47.85   26.21   26.21   26.21
SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   40.69   40.69
SO BUILDWID HRSG6     36.28   38.08   38.08   24.00   23.39   22.06
SO BUILDWID HRSG6     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG6     20.27   17.72   14.63   13.26   35.56   48.29
SO BUILDWID HRSG6     36.28   38.08   38.08   24.00   23.39   22.06
SO BUILDWID HRSG6     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG6     20.27   17.72   14.63   13.26   35.56   48.29

SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21    0.00
SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21    0.00
SO BUILDHGT   CT1     26.21   26.21   40.69   40.69   40.69   26.21
SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID   CT1     21.51   23.05   23.89   24.00   23.39    0.00
SO BUILDWID   CT1     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT1     20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID   CT1     21.51   23.05   23.89   24.00   23.39    0.00
SO BUILDWID   CT1     21.34   22.94   86.24   83.57   78.36   22.21
SO BUILDWID   CT1     20.27   17.72   14.63   13.26   16.54   19.32

SO BUILDHGT   CT2     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT2     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT2     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT2     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT2     26.21   26.21   47.85   47.85   47.85   40.69
SO BUILDHGT   CT2     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID   CT2     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT2     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT2     20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID   CT2     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT2     21.34   22.94   37.63   38.64   38.47   70.77
SO BUILDWID   CT2     20.27   17.72   14.63   13.26   16.54   19.32

SO BUILDHGT   CT3     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT3     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT3     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT3     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT3     26.21   26.21   26.21   47.85   47.85   47.85
SO BUILDHGT   CT3     40.69   26.21   26.21   26.21   26.21   26.21
SO BUILDWID   CT3     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT3     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT3     20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID   CT3     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT3     21.34   22.94   23.84   38.64   38.47   37.14
SO BUILDWID   CT3     61.03   17.72   14.63   13.26   16.54   19.32
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SO BUILDHGT	CT4	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT4	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT4	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT4	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT4	26.21	26.21	26.21	26.21	47.85	47.85
SO BUILDHGT	CT4	40.69	40.69	26.21	26.21	26.21	26.21
SO BUILDWID	CT4	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID	CT4	21.34	22.94	23.84	24.02	23.47	22.21
SO BUILDWID	CT4	20.27	17.72	14.63	13.26	16.54	19.32
SO BUILDWID	CT4	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID	CT4	21.34	22.94	23.84	24.02	37.32	37.14
SO BUILDWID	CT4	61.03	49.44	14.63	13.26	16.54	19.32

SO BUILDHGT	CT5	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT5	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT5	40.69	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT5	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT5	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT5	40.69	40.69	47.85	47.85	26.21	26.21
SO BUILDWID	CT5	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID	CT5	21.34	22.94	23.84	24.02	23.47	22.21
SO BUILDWID	CT5	61.03	17.72	14.63	13.26	16.54	19.32
SO BUILDWID	CT5	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID	CT5	21.34	22.94	23.84	24.02	23.47	22.21
SO BUILDWID	CT5	61.03	49.44	26.69	24.67	16.54	19.32

SO BUILDHGT	CT6	40.69	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	0.00	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	0.00	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	26.21	26.21	26.21	26.21	40.69	40.69
SO BUILDWID	CT6	40.81	23.05	23.89	24.00	23.39	22.06
SO BUILDWID	CT6	0.00	22.94	23.84	24.02	23.47	22.21
SO BUILDWID	CT6	20.27	17.72	14.63	13.26	16.54	19.32
SO BUILDWID	CT6	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID	CT6	0.00	22.94	23.84	24.02	23.47	22.21
SO BUILDWID	CT6	20.27	17.72	14.63	13.26	35.56	48.29

SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	40.69	40.69
SO BUILDHGT	cool01	40.69	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDWID	cool01	172.49	177.10	177.12	176.27	170.07	158.70
SO BUILDWID	cool01	142.50	121.98	97.75	70.55	41.20	19.86
SO BUILDWID	cool01	50.18	78.97	105.36	128.56	35.56	48.29
SO BUILDWID	cool01	59.55	177.10	177.12	176.27	170.07	158.70
SO BUILDWID	cool01	142.50	121.98	97.75	70.55	41.20	19.86
SO BUILDWID	cool01	50.18	78.97	105.36	128.56	147.84	162.63

SO BUILDHGT	cool02	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool02	9.45	9.45	9.45	9.45	9.45	9.45

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SO BUILDHGT cool02      9.45    9.45    9.45    9.45   40.69   40.69
SO BUILDHGT cool02      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool02      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool02      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool02    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool02    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool02     50.18   78.97  105.36  128.56   35.56   48.29
SO BUILDWID cool02    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool02    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool02     50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool03      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool03      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool03      9.45    9.45    9.45    9.45   40.69   40.69
SO BUILDHGT cool03      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool03      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool03      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool03    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool03    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool03     50.18   78.97  105.36  128.56   35.56   48.29
SO BUILDWID cool03    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool03    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool03     50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool04      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool04      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool04      9.45    9.45    9.45    9.45   40.69    9.45
SO BUILDHGT cool04      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool04      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool04      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool04    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool04    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool04     50.18   78.97  105.36  128.56   35.23  162.63
SO BUILDWID cool04    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool04    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool04     50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool05    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool05    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool05     50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool05    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool05    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool05     50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
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SO BUILDWID cool06     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool06     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool06      50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool06     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool06     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool06      50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool07       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool07     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool07     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool07      50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool07     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool07     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool07      50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool08       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool08     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool08     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool08      50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool08     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool08     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool08      50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool09       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool09     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool09     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool09      50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool09     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool09     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool09      50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool10       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool10     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool10     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool10      50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool10     172.49  177.10  177.12  176.27  170.07  158.70
```

```
SO BUILDWID cool10     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool10      50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool11       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool11     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool11     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool11      50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool11     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool11     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool11      50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool12       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool12     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool12     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool12      50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool12     172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool12     142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool12      50.18   78.97  105.36  128.56  147.84  162.63
```

BPIP
CONSTRUCTION

```
'BPIP data for FPL Ft. Myers, Origin Between New HRSG Stacks 3 and 4 8/16/98'
'ST'
'FEET' .3048
'UTMN' -23.
33
'UNIT_2_BLDG'  1 0.0
4 157.0
221.3  -266.0
221.3  -164.0
297.0  -164.0
297.0  -266.0
'UNIT_1_BLDG' 1 0.0
4 133.5
210.1  -359.5
278.6  -359.5
278.6  -434.5
210.1  -434.5
'CT1HRSG' 1 0.0
4 86
 -395     10
 -395     78
 -355     78
 -355     10
'CT2HRSG' 1 0.0
4 86
 -245     10
 -245     78
 -205     78
 -205     10
'CT3HRSG' 1 0.0
4 86
  -95     10
  -95     78
  -55     78
  -55     10
'CT4HRSG' 1 0.0
4 86
   55     10
   55     78
   95     78
   95     10
'CT5HRSG' 1 0.0
4 86
  205     10
  205     78
  245     78
  245     10
'CT6HRSG' 1 0.0
4 86
  355     10
  355     78
  395     78
  395     10
'CT1AIRIN' 1 0.0
4 55
 -399    190
 -399    210
 -351    210
 -351    190
'CT2AIRIN' 1 0.0
```

```
4 55
 -249   190
 -249   210
 -201   210
 -201   190
'CT3AIRIN' 1 0.0
4 55
  -99   190
  -99   210
  -51   210
  -51   190
'CT4AIRIN' 1 0.0
4 55
   51   190
   51   210
   99   210
   99   190
'CT5AIRIN' 1 0.0
4 55
  201   190
  201   210
  249   210
  249   190
'CT6AIRIN' 1 0.0
4 55
  351   190
  351   210
  399   210
  399   190
'PROPERTY-CORN' 1 0.0
24 0.0
-2945     625
-2555     565
-2345     415
-2105     355
-1595     445
-1445     385
-1235     445
-1085     475
 -815     475
 -665     415
  445     445
 1375     565
 2035     565
 2215     535
 2365     475
 1915    -755
 1495    -815
 1585   -1265
  415   -1415
  -95   -1535
-2735   -1895
-2765   -1655
-2525   -1025
-3425    -665
'GT12 GENBLD' 1 0.0
4 32
      -310.0  -790.0
      -310.0  -850.0
      -280.0  -850.0
```

```
      -280.0  -790.0
'GT11 GENBLD' 1 0.0
4 32
      -385.0  -790.0
      -385.0  -850.0
      -355.0  -850.0
      -355.0  -790.0
'GT10 GENBLD' 1 0.0
4 32
      -460.0  -790.0
      -460.0  -850.0
      -430.0  -850.0
      -430.0  -790.0
'GT9 GENBLD' 1 0.0
4 32
      -535.0  -790.0
      -535.0  -850.0
      -505.0  -850.0
      -505.0  -790.0
'GT8 GENBLD' 1 0.0
4 32
      -610.0  -790.0
      -610.0  -850.0
      -580.0  -850.0
      -580.0  -790.0
'GT7 GENBLD' 1 0.0
4 32
      -685.0  -790.0
      -685.0  -850.0
      -655.0  -850.0
      -655.0  -790.0
'GT6 GENBLD' 1 0.0
4 32
      -310.0  -950.0
      -310.0  -890.0
      -280.0  -890.0
      -280.0  -950.0
'GT5 GENBLD' 1 0.0
4 32
      -385.0  -950.0
      -385.0  -890.0
      -355.0  -890.0
      -355.0  -950.0
'GT4 GENBLD' 1 0.0
4 32
      -460.0  -950.0
      -460.0  -890.0
      -430.0  -890.0
      -430.0  -950.0
'GT3 GENBLD' 1 0.0
4 32
      -535.0  -950.0
      -535.0  -890.0
      -505.0  -890.0
      -505.0  -950.0
'GT2 GENBLD' 1 0.0
4 32
      -610.0  -950.0
      -610.0  -890.0
      -580.0  -890.0
```

```
      -580.0  -950.0
'GT1 GENBLD' 1 0.0
4 32
      -685.0  -950.0
      -685.0  -890.0
      -655.0  -890.0
      -655.0  -950.0
'GT Maintenance Bldg' 1 0.0
4 36
  -875.0  -830.0
  -875.0  -755.0
  -820.0  -755.0
  -820.0  -830.0
'Diesel Tank #4' 1 0.0
8 40
   -915.0  -170.0
   -888.6  -106.4
   -825.0   -80.0
   -761.4  -106.4
   -735.0  -170.0
   -761.4  -233.6
   -825.0  -260.0
   -888.6  -233.6
'Oil Tank #2' 1 0.0
8 50
    -547.0  -170.0
    -520.6  -106.4
    -457.0   -80.0
    -393.4  -106.4
    -367.0  -170.0
    -393.4  -233.6
    -457.0  -260.0
    -520.6  -233.6
'Diesel Tank #3' 1 0.0
8 40
  -915.0  -410.0
  -888.6  -346.4
  -825.0  -320.0
  -761.4  -346.4
  -735.0  -410.0
  -761.4  -473.6
  -825.0  -500.0
  -888.6  -473.6
'Oil Tank #1' 1 0.0
8 43
    -524.0  -377.0
    -504.4  -329.6
    -457.0  -310.0
    -409.6  -329.6
    -390.0  -377.0
    -409.6  -424.4
    -457.0  -444.0
    -504.4  -424.4
'Cooling Tower' 1 0.0
4 31.00
35       -817
74.13    -785.87
435.19   -1239.79
396.06   -1270.91
```
38

'UNIT_2'	0.0	407.0	115.0	-215.0
'UNIT_1'	0.0	302.0	155.6	-397.0
' GT#12'	0.0	32.00	-341.0	-765.0
' GT#11'	0.0	32.00	-415.8	-765.0
' GT#10'	0.0	32.00	-491.0	-765.0
' GT#9 '	0.0	32.00	-566.1	-765.0
' GT#8 '	0.0	32.00	-640.9	-765.0
' GT#7 '	0.0	32.00	-695.0	-765.0
' GT#6 '	0.0	32.00	-341.0	-975.0
' GT#5 '	0.0	32.00	-415.8	-975.0
' GT#4 '	0.0	32.00	-491.0	-975.0
' GT#3 '	0.0	32.00	-566.1	-975.0
' GT#2 '	0.0	32.00	-640.9	-975.0
' GT#1 '	0.0	32.00	-695.0	-975.0
'HRSG1 '	0.0	125.00	-375.0	0.0
'HRSG2 '	0.0	125.00	-225.0	0.0
'HRSG3 '	0.0	125.00	-75.0	0.0
'HRSG4 '	0.0	125.00	75.0	0.0
'HRSG5 '	0.0	125.00	225.0	0.0
'HRSG6 '	0.0	125.00	375.0	0.0
' CT1 '	0.0	98.00	-375.0	120.0
' CT2 '	0.0	98.00	-225.0	120.0
' CT3 '	0.0	98.00	-75.0	120.0
' CT4 '	0.0	98.00	75.0	120.0
' CT5 '	0.0	98.00	225.0	120.0
' CT6 '	0.0	98.00	375.0	120.0
'cool01'	0.0	45.00	77.6	-830.4
'cool02'	0.0	45.00	106.23	-866.4
'cool03'	0.0	45.00	134.87	-902.4
'cool04'	0.0	45.00	163.51	-938.4
'cool05'	0.0	45.00	192.14	-974.4
'cool06'	0.0	45.00	220.78	-1010.4
'cool07'	0.0	45.00	249.41	-1046.4
'cool08'	0.0	45.00	278.05	-1082.4
'cool09'	0.0	45.00	306.68	-1118.4
'cool10'	0.0	45.00	335.32	-1154.4
'cool11'	0.0	45.00	363.96	-1190.4
'cool12'	0.0	45.00	392.59	-1226.4

0

```
'FPL Ft. Myers, baseline, Origin is Mid HRSG Stacks 3 and 4 7/22/98'
'ST'
'FEET' .3048
'UTMN' -23.
20
'UNIT_2_BLDG'  1 0.0
4 157.0
221.3  -266.0
221.3  -164.0
297.0  -164.0
297.0  -266.0
'UNIT_1_BLDG' 1 0.0
4 133.5
210.1  -359.5
278.6  -359.5
278.6  -434.5
210.1  -434.5
'PROPERTY-CORN' 1 0.0
24 0.0
-2945     625
-2555     565
-2345     415
-2105     355
-1595     445
-1445     385
-1235     445
-1085     475
 -815     475
 -665     415
  445     445
 1375     565
 2035     565
 2215     535
 2365     475
 1915    -755
 1495    -815
 1585   -1265
  415   -1415
  -95   -1535
-2735   -1895
-2765   -1655
-2525   -1025
-3425    -665
'GT12 GENBLD' 1 0.0
4 32
      -310.0  -790.0
      -310.0  -850.0
      -280.0  -850.0
      -280.0  -790.0
'GT11 GENBLD' 1 0.0
4 32
      -385.0  -790.0
      -385.0  -850.0
      -355.0  -850.0
      -355.0  -790.0
'GT10 GENBLD' 1 0.0
4 32
      -460.0  -790.0
      -460.0  -850.0
      -430.0  -850.0
```

```
      -430.0  -790.0
'GT9 GENBLD' 1 0.0
4 32
      -535.0  -790.0
      -535.0  -850.0
      -505.0  -850.0
      -505.0  -790.0
'GT8 GENBLD' 1 0.0
4 32
      -610.0  -790.0
      -610.0  -850.0
      -580.0  -850.0
      -580.0  -790.0
'GT7 GENBLD' 1 0.0
4 32
      -685.0  -790.0
      -685.0  -850.0
      -655.0  -850.0
      -655.0  -790.0
'GT6 GENBLD' 1 0.0
4 32
      -310.0  -950.0
      -310.0  -890.0
      -280.0  -890.0
      -280.0  -950.0
'GT5 GENBLD' 1 0.0
4 32
      -385.0  -950.0
      -385.0  -890.0
      -355.0  -890.0
      -355.0  -950.0
'GT4 GENBLD' 1 0.0
4 32
      -460.0  -950.0
      -460.0  -890.0
      -430.0  -890.0
      -430.0  -950.0
'GT3 GENBLD' 1 0.0
4 32
      -535.0  -950.0
      -535.0  -890.0
      -505.0  -890.0
      -505.0  -950.0
'GT2 GENBLD' 1 0.0
4 32
      -610.0  -950.0
      -610.0  -890.0
      -580.0  -890.0
      -580.0  -950.0
'GT1 GENBLD' 1 0.0
4 32
      -685.0  -950.0
      -685.0  -890.0
      -655.0  -890.0
      -655.0  -950.0
'GT Maintenance Bldg' 1 0.0
4 36
  -875.0  -830.0
  -875.0  -755.0
  -820.0  -755.0
```

```
  -820.0  -830.0
'Diesel Tank #4' 1 0.0
8 40
   -915.0  -170.0
   -888.6  -106.4
   -825.0   -80.0
   -761.4  -106.4
   -735.0  -170.0
   -761.4  -233.6
   -825.0  -260.0
   -888.6  -233.6
'Oil Tank #2' 1 0.0
8 50
    -547.0  -170.0
    -520.6  -106.4
    -457.0   -80.0
    -393.4  -106.4
    -367.0  -170.0
    -393.4  -233.6
    -457.0  -260.0
    -520.6  -233.6
'Diesel Tank #3' 1 0.0
8 40
  -915.0  -410.0
  -888.6  -346.4
  -825.0  -320.0
  -761.4  -346.4
  -735.0  -410.0
  -761.4  -473.6
  -825.0  -500.0
  -888.6  -473.6
'Oil Tank #1' 1 0.0
8 43
    -524.0  -377.0
    -504.4  -329.6
    -457.0  -310.0
    -409.6  -329.6
    -390.0  -377.0
    -409.6  -424.4
    -457.0  -444.0
    -504.4  -424.4
14
'UNIT_2'  0.0  407.0     115.0  -215.0
'UNIT_1'  0.0  302.0     155.6  -397.0
' GT#12'  0.0   32.00   -341.0  -765.0
' GT#11'  0.0   32.00   -415.8  -765.0
' GT#10'  0.0   32.00   -491.0  -765.0
' GT#9 '  0.0   32.00   -566.1  -765.0
' GT#8 '  0.0   32.00   -640.9  -765.0
' GT#7 '  0.0   32.00   -695.0  -765.0
' GT#6 '  0.0   32.00   -341.0  -975.0
' GT#5 '  0.0   32.00   -415.8  -975.0
' GT#4 '  0.0   32.00   -491.0  -975.0
' GT#3 '  0.0   32.00   -566.1  -975.0
' GT#2 '  0.0   32.00   -640.9  -975.0
' GT#1 '  0.0   32.00   -695.0  -975.0
0
```

BPIP (Dated: 95086)

BPIP
FUTURE

DATE : 08/16/98
TIME : 22:02:28
BPIP data for FPL Ft. Myers, Origin Between New HRSG Stacks 3 and 4 8/13/98

============================
BPIP PROCESSING INFORMATION:
============================

The ST flag has been set for processing for an ISCST2 run.

Inputs entered in FEET will be converted to meters using a conversion factor of 0.3048. Output will be in meters.

UTMP is set to UTMN. The input is assumed to be in a local X-Y coordinate system as opposed to a UTM coordinate system. True North is in the positive Y direction.

Plant north is set to -23.00 degrees with respect to True North.

BPIP data for FPL Ft. Myers, Origin Between New HRSG Stacks 3 and 4 8/13/98

PRELIMINARY* GEP STACK HEIGHT RESULTS TABLE
(Output Units: meters)

Stack Name	Stack Height	Stack-Building Base Elevation Differences	GEP** EQN1	Preliminary* GEP Stack Height Value
GT#12	9.75	0.00	24.38	65.00
GT#11	9.75	0.00	24.38	65.00
GT#10	9.75	0.00	24.38	65.00
GT#9	9.75	0.00	24.38	65.00
GT#8	9.75	0.00	27.43	65.00
GT#7	9.75	0.00	27.43	65.00
GT#6	9.75	0.00	24.38	65.00
GT#5	9.75	0.00	24.38	65.00
GT#4	9.75	0.00	24.38	65.00
GT#3	9.75	0.00	24.38	65.00
GT#2	9.75	0.00	24.38	65.00
GT#1	9.75	0.00	24.38	65.00
HRSG1	38.10	0.00	62.28	65.00
HRSG2	38.10	0.00	62.28	65.00
HRSG3	38.10	0.00	62.28	65.00
HRSG4	38.10	0.00	62.28	65.00
HRSG5	38.10	0.00	62.28	65.00
HRSG6	38.10	0.00	62.28	65.00
CT1	29.87	0.00	62.28	65.00
CT2	29.87	0.00	62.28	65.00
CT3	29.87	0.00	62.28	65.00
CT4	29.87	0.00	62.28	65.00
CT5	29.87	0.00	62.28	65.00
CT6	29.87	0.00	62.28	65.00
cool01	13.72	0.00	23.62	65.00

cool02	13.72	0.00	23.62	65.00
cool03	13.72	0.00	23.62	65.00
cool04	13.72	0.00	23.62	65.00
cool05	13.72	0.00	23.62	65.00
cool06	13.72	0.00	23.62	65.00
cool07	13.72	0.00	23.62	65.00
cool08	13.72	0.00	23.62	65.00
cool09	13.72	0.00	23.62	65.00
cool10	13.72	0.00	23.62	65.00
cool11	13.72	0.00	23.62	65.00
cool12	13.72	0.00	23.62	65.00

* Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP Technical Support Document. Determinant 3 may be investigated for additional stack height credit. Final values result after Determinant 3 has been taken into consideration.

** Results were derived from Equation 1 on page 6 of GEP Technical Support Document. Values have been adjusted for any stack-building base elevation differences.

Note: Criteria for determining stack heights for modeling emission limitations for a source can be found in Table 3.1 of the GEP Technical Support Document.

BPIP (Dated: 95086)

DATE : 08/16/98
TIME : 22:02:28

BPIP data for FPL Ft. Myers, Origin Between New HRSG Stacks 3 and 4 8/13/98

BPIP output is in meters

SO	BUILDHGT	GT#12	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#12	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#12	9.75	9.75	0.00	9.75	9.75	9.75
SO	BUILDHGT	GT#12	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#12	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#12	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#12	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#12	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#12	16.45	14.09	0.00	10.09	13.02	15.56
SO	BUILDWID	GT#12	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#12	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#12	16.45	14.09	11.30	10.09	13.02	15.56

SO	BUILDHGT	GT#11	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#11	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#11	9.75	9.75	0.00	9.75	9.75	9.75
SO	BUILDHGT	GT#11	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#11	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#11	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#11	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#11	0.00	19.88	20.41	20.32	19.61	18.31

SO	BUILDWID	GT#11	16.45	14.09	0.00	10.09	13.02	15.56
SO	BUILDWID	GT#11	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#11	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#11	16.45	14.09	11.30	10.09	13.02	15.56

SO	BUILDHGT	GT#10	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#10	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#10	9.75	9.75	0.00	9.75	9.75	9.75
SO	BUILDHGT	GT#10	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#10	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#10	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#10	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#10	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#10	16.45	14.09	0.00	10.09	13.02	15.56
SO	BUILDWID	GT#10	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#10	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#10	16.45	14.09	11.30	10.09	13.02	15.56

SO	BUILDHGT	GT#9	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#9	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#9	9.75	9.75	0.00	9.75	9.75	9.75
SO	BUILDHGT	GT#9	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#9	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#9	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#9	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#9	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#9	16.45	14.09	0.00	10.09	13.02	15.56
SO	BUILDWID	GT#9	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#9	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#9	16.45	14.09	11.30	10.09	13.02	15.56

SO	BUILDHGT	GT#8	9.75	9.75	9.75	9.75	10.97	10.97
SO	BUILDHGT	GT#8	10.97	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#8	9.75	9.75	0.00	9.75	9.75	9.75
SO	BUILDHGT	GT#8	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#8	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#8	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#8	17.63	19.16	20.11	20.45	26.76	24.73
SO	BUILDWID	GT#8	23.71	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#8	16.45	14.09	0.00	10.09	13.02	15.56
SO	BUILDWID	GT#8	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#8	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#8	16.45	14.09	11.30	10.09	13.02	15.56

SO	BUILDHGT	GT#7	0.00	0.00	0.00	10.97	10.97	10.97
SO	BUILDHGT	GT#7	10.97	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#7	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#7	0.00	0.00	0.00	0.00	0.00	0.00
SO	BUILDHGT	GT#7	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#7	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDWID	GT#7	0.00	0.00	0.00	27.98	26.76	24.73
SO	BUILDWID	GT#7	23.71	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#7	16.45	14.09	11.30	10.09	13.02	0.00
SO	BUILDWID	GT#7	0.00	0.00	0.00	0.00	0.00	0.00
SO	BUILDWID	GT#7	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#7	16.45	14.09	11.30	10.09	13.02	0.00

SO	BUILDHGT	GT#6	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#6	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#6	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#6	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#6	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#6	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#6	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#6	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#6	16.45	14.09	11.30	10.09	13.02	15.56
SO	BUILDWID	GT#6	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#6	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#6	16.45	14.09	11.30	10.09	13.02	15.56
SO	BUILDHGT	GT#5	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#5	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#5	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#5	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#5	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#5	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#5	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#5	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#5	16.45	14.09	11.30	10.09	13.02	15.56
SO	BUILDWID	GT#5	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#5	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#5	16.45	14.09	11.30	10.09	13.02	15.56
SO	BUILDHGT	GT#4	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#4	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#4	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#4	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#4	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#4	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#4	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#4	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#4	16.45	14.09	11.30	10.09	13.02	15.56
SO	BUILDWID	GT#4	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#4	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#4	16.45	14.09	11.30	10.09	13.02	15.56
SO	BUILDHGT	GT#3	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#3	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#3	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#3	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#3	0.00	9.75	9.75	9.75	9.75	9.75
SO	BUILDHGT	GT#3	9.75	9.75	9.75	9.75	9.75	9.75
SO	BUILDWID	GT#3	17.63	19.16	20.11	20.45	20.16	0.00
SO	BUILDWID	GT#3	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#3	16.45	14.09	11.30	10.09	13.02	15.56
SO	BUILDWID	GT#3	17.63	19.16	20.11	20.45	20.16	19.27
SO	BUILDWID	GT#3	0.00	19.88	20.41	20.32	19.61	18.31
SO	BUILDWID	GT#3	16.45	14.09	11.30	10.09	13.02	15.56
SO	BUILDHGT	GT#2	9.75	9.75	9.75	9.75	9.75	0.00
SO	BUILDHGT	GT#2	0.00	9.75	9.75	9.75	9.75	9.75

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SO BUILDHGT   GT#2      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#2      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#2      0.00    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#2      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDWID   GT#2     17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID   GT#2      0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#2     16.45   14.09   11.30   10.09   13.02   15.56
SO BUILDWID   GT#2     17.63   19.16   20.11   20.45   20.16   19.27
SO BUILDWID   GT#2      0.00   19.88   20.41   20.32   19.61   18.31
SO BUILDWID   GT#2     16.45   14.09   11.30   10.09   13.02   15.56


SO BUILDHGT   GT#1      9.75    9.75    9.75    9.75    9.75    0.00
SO BUILDHGT   GT#1      0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT   GT#1      0.00    0.00    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#1      9.75    9.75    9.75    9.75    9.75    9.75
SO BUILDHGT   GT#1      0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT   GT#1      0.00    0.00    9.75    9.75    9.75    9.75
SO BUILDWID   GT#1     17.63   19.16   20.11   20.45   20.16    0.00
SO BUILDWID   GT#1      0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID   GT#1      0.00    0.00   11.30   10.09   13.02   15.56
SO BUILDWID   GT#1     17.63   19.16   20.11   20.45   20.16   19.27
SO BUILDWID   GT#1      0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID   GT#1      0.00    0.00   11.30   10.09   13.02   15.56


SO BUILDHGT HRSG1      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG1      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG1      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG1      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG1      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG1      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID HRSG1      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG1      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG1      20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID HRSG1      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG1      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG1      20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT HRSG2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID HRSG2      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG2      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG2      20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID HRSG2      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG2      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG2      20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT HRSG3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG3      26.21   26.21   26.21   26.21   26.21   26.21
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SO BUILDWID HRSG3     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG3     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG3     20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID HRSG3     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG3     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG3     20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT HRSG4     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG4     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG4     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG4     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG4     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG4     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID HRSG4     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG4     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG4     20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID HRSG4     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG4     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG4     20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT HRSG5     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID HRSG5     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG5     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG5     20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID HRSG5     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG5     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG5     20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG6     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID HRSG6     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG6     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG6     20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID HRSG6     21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID HRSG6     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID HRSG6     20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21    0.00
SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21    0.00
SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT1     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID   CT1     21.51   23.05   23.89   24.00   23.39    0.00
SO BUILDWID   CT1     21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT1     20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID   CT1     21.51   23.05   23.89   24.00   23.39    0.00
```

```
SO BUILDWID   CT1      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT1      20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT   CT2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT2      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID   CT2      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT2      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT2      20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID   CT2      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT2      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT2      20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT   CT3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT3      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID   CT3      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT3      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT3      20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID   CT3      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT3      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT3      20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT   CT4      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT4      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT4      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT4      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT4      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT4      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID   CT4      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT4      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT4      20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID   CT4      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT4      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT4      20.27   17.72   14.63   13.26   16.54   19.32


SO BUILDHGT   CT5      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT5      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT5      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT5      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT5      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT   CT5      26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID   CT5      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT5      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT5      20.27   17.72   14.63   13.26   16.54   19.32
SO BUILDWID   CT5      21.51   23.05   23.89   24.00   23.39   22.06
SO BUILDWID   CT5      21.34   22.94   23.84   24.02   23.47   22.21
SO BUILDWID   CT5      20.27   17.72   14.63   13.26   16.54   19.32
```

SO BUILDHGT	CT6	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	0.00	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	0.00	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	CT6	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	CT6	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID	CT6	0.00	22.94	23.84	24.02	23.47	22.21
SO BUILDWID	CT6	20.27	17.72	14.63	13.26	16.54	19.32
SO BUILDWID	CT6	21.51	23.05	23.89	24.00	23.39	22.06
SO BUILDWID	CT6	0.00	22.94	23.84	24.02	23.47	22.21
SO BUILDWID	CT6	20.27	17.72	14.63	13.26	16.54	19.32

SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool01	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDWID	cool01	172.49	177.10	177.12	176.27	170.07	158.70
SO BUILDWID	cool01	142.50	121.98	97.75	70.55	41.20	19.86
SO BUILDWID	cool01	50.18	78.97	105.36	128.56	147.84	162.63
SO BUILDWID	cool01	172.49	177.10	177.12	176.27	170.07	158.70
SO BUILDWID	cool01	142.50	121.98	97.75	70.55	41.20	19.86
SO BUILDWID	cool01	50.18	78.97	105.36	128.56	147.84	162.63

SO BUILDHGT	cool02	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool02	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool02	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool02	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool02	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool02	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDWID	cool02	172.49	177.10	177.12	176.27	170.07	158.70
SO BUILDWID	cool02	142.50	121.98	97.75	70.55	41.20	19.86
SO BUILDWID	cool02	50.18	78.97	105.36	128.56	147.84	162.63
SO BUILDWID	cool02	172.49	177.10	177.12	176.27	170.07	158.70
SO BUILDWID	cool02	142.50	121.98	97.75	70.55	41.20	19.86
SO BUILDWID	cool02	50.18	78.97	105.36	128.56	147.84	162.63

SO BUILDHGT	cool03	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool03	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool03	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool03	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool03	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool03	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDWID	cool03	172.49	177.10	177.12	176.27	170.07	158.70
SO BUILDWID	cool03	142.50	121.98	97.75	70.55	41.20	19.86
SO BUILDWID	cool03	50.18	78.97	105.36	128.56	147.84	162.63
SO BUILDWID	cool03	172.49	177.10	177.12	176.27	170.07	158.70
SO BUILDWID	cool03	142.50	121.98	97.75	70.55	41.20	19.86
SO BUILDWID	cool03	50.18	78.97	105.36	128.56	147.84	162.63

SO BUILDHGT	cool04	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool04	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool04	9.45	9.45	9.45	9.45	9.45	9.45
SO BUILDHGT	cool04	9.45	9.45	9.45	9.45	9.45	9.45

```
SO BUILDHGT cool04      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool04      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool04    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool04    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool04     50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool04    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool04    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool04     50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool05      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool05    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool05    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool05     50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool05    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool05    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool05     50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool06      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool06    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool06    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool06     50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool06    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool06    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool06     50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool07      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool07      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool07    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool07    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool07     50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool07    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool07    142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool07     50.18   78.97  105.36  128.56  147.84  162.63


SO BUILDHGT cool08      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool08      9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool08    172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool08    142.50  121.98   97.75   70.55   41.20   19.86
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SO BUILDWID cool08    50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool08   172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool08   142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool08    50.18   78.97  105.36  128.56  147.84  162.63

SO BUILDHGT cool09     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool09     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool09   172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool09   142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool09    50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool09   172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool09   142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool09    50.18   78.97  105.36  128.56  147.84  162.63

SO BUILDHGT cool10     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool10     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool10   172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool10   142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool10    50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool10   172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool10   142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool10    50.18   78.97  105.36  128.56  147.84  162.63

SO BUILDHGT cool11     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool11     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool11   172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool11   142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool11    50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool11   172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool11   142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool11    50.18   78.97  105.36  128.56  147.84  162.63

SO BUILDHGT cool12     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool12     9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool12   172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool12   142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool12    50.18   78.97  105.36  128.56  147.84  162.63
SO BUILDWID cool12   172.49  177.10  177.12  176.27  170.07  158.70
SO BUILDWID cool12   142.50  121.98   97.75   70.55   41.20   19.86
SO BUILDWID cool12    50.18   78.97  105.36  128.56  147.84  162.63
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BPIP
FUTURE

```
'BPIP data for FPL Ft. Myers, Origin Between New HRSG Stacks 3 and 4 8/13/98'
'ST'
'FEET' .3048
'UTMN' -23.
29
'CT1HRSG' 1 0.0
4 86
 -395    10
 -395    78
 -355    78
 -355    10
'CT2HRSG' 1 0.0
4 86
 -245    10
 -245    78
 -205    78
 -205    10
'CT3HRSG' 1 0.0
4 86
  -95    10
  -95    78
  -55    78
  -55    10
'CT4HRSG' 1 0.0
4 86
   55    10
   55    78
   95    78
   95    10
'CT5HRSG' 1 0.0
4 86
  205    10
  205    78
  245    78
  245    10
'CT1HRSG' 1 0.0
4 86
  355    10
  355    78
  395    78
  395    10
'CT1AIRIN' 1 0.0
4 55
 -399   190
 -399   210
 -351   210
 -351   190
'CT2AIRIN' 1 0.0
4 55
 -249   190
 -249   210
 -201   210
 -201   190
'CT3AIRIN' 1 0.0
4 55
  -99   190
  -99   210
  -51   210
  -51   190
'CT4AIRIN' 1 0.0
```

```
4 55
   51   190
   51   210
   99   210
   99   190
'CT5AIRIN' 1 0.0
4 55
  201   190
  201   210
  249   210
  249   190
'CT6AIRIN' 1 0.0
4 55
  351   190
  351   210
  399   210
  399   190
'PROPERTY-CORN' 1 0.0
24 0.0
-2945      625
-2555      565
-2345      415
-2105      355
-1595      445
-1445      385
-1235      445
-1085      475
 -815      475
 -665      415
  445      445
 1375      565
 2035      565
 2215      535
 2365      475
 1915     -755
 1495     -815
 1585    -1265
  415    -1415
  -95    -1535
-2735    -1895
-2765    -1655
-2525    -1025
-3425     -665
'GT12 GENBLD' 1 0.0
4 32
      -310.0  -790.0
      -310.0  -850.0
      -280.0  -850.0
      -280.0  -790.0
'GT11 GENBLD' 1 0.0
4 32
      -385.0  -790.0
      -385.0  -850.0
      -355.0  -850.0
      -355.0  -790.0
'GT10 GENBLD' 1 0.0
4 32
      -460.0  -790.0
      -460.0  -850.0
      -430.0  -850.0
```

```
      -430.0  -790.0
'GT9 GENBLD' 1 0.0
4 32
      -535.0  -790.0
      -535.0  -850.0
      -505.0  -850.0
      -505.0  -790.0
'GT8 GENBLD' 1 0.0
4 32
      -610.0  -790.0
      -610.0  -850.0
      -580.0  -850.0
      -580.0  -790.0
'GT7 GENBLD' 1 0.0
4 32
      -685.0  -790.0
      -685.0  -850.0
      -655.0  -850.0
      -655.0  -790.0
'GT6 GENBLD' 1 0.0
4 32
      -310.0  -950.0
      -310.0  -890.0
      -280.0  -890.0
      -280.0  -950.0
'GT5 GENBLD' 1 0.0
4 32
      -385.0  -950.0
      -385.0  -890.0
      -355.0  -890.0
      -355.0  -950.0
'GT4 GENBLD' 1 0.0
4 32
      -460.0  -950.0
      -460.0  -890.0
      -430.0  -890.0
      -430.0  -950.0
'GT3 GENBLD' 1 0.0
4 32
      -535.0  -950.0
      -535.0  -890.0
      -505.0  -890.0
      -505.0  -950.0
'GT2 GENBLD' 1 0.0
4 32
      -610.0  -950.0
      -610.0  -890.0
      -580.0  -890.0
      -580.0  -950.0
'GT1 GENBLD' 1 0.0
4 32
      -685.0  -950.0
      -685.0  -890.0
      -655.0  -890.0
      -655.0  -950.0
'GT Maintenance Bldg' 1 0.0
4 36
  -875.0  -830.0
  -875.0  -755.0
  -820.0  -755.0
```

```
  -820.0  -830.0
'Diesel Tank #4' 1 0.0
8 40
   -915.0  -170.0
   -888.6  -106.4
   -825.0   -80.0
   -761.4  -106.4
   -735.0  -170.0
   -761.4  -233.6
   -825.0  -260.0
   -888.6  -233.6
'Diesel Tank #3' 1 0.0
8 40
  -915.0  -410.0
  -888.6  -346.4
  -825.0  -320.0
  -761.4  -346.4
  -735.0  -410.0
  -761.4  -473.6
  -825.0  -500.0
  -888.6  -473.6
'Cooling Tower' 1 0.0
4 31.0
35      -817
74.13   -785.87
435.19  -1239.79
396.06  -1270.91
36
' GT#12'  0.0   32.00   -341.0  -765.0
' GT#11'  0.0   32.00   -415.8  -765.0
' GT#10'  0.0   32.00   -491.0  -765.0
' GT#9 '  0.0   32.00   -566.1  -765.0
' GT#8 '  0.0   32.00   -640.9  -765.0
' GT#7 '  0.0   32.00   -695.0  -765.0
' GT#6 '  0.0   32.00   -341.0  -975.0
' GT#5 '  0.0   32.00   -415.8  -975.0
' GT#4 '  0.0   32.00   -491.0  -975.0
' GT#3 '  0.0   32.00   -566.1  -975.0
' GT#2 '  0.0   32.00   -640.9  -975.0
' GT#1 '  0.0   32.00   -695.0  -975.0
'HRSG1 '  0.0  125.00   -375.0     0.0
'HRSG2 '  0.0  125.00   -225.0     0.0
'HRSG3 '  0.0  125.00    -75.0     0.0
'HRSG4 '  0.0  125.00     75.0     0.0
'HRSG5 '  0.0  125.00    225.0     0.0
'HRSG6 '  0.0  125.00    375.0     0.0
'  CT1 '  0.0   98.00   -375.0   120.0
'  CT2 '  0.0   98.00   -225.0   120.0
'  CT3 '  0.0   98.00    -75.0   120.0
'  CT4 '  0.0   98.00     75.0   120.0
'  CT5 '  0.0   98.00    225.0   120.0
'  CT6 '  0.0   98.00    375.0   120.0
'cool01'  0.0   45.00   77.6    -830.4
'cool02'  0.0   45.00   106.23  -866.4
'cool03'  0.0   45.00   134.87  -902.4
'cool04'  0.0   45.00   163.51  -938.4
'cool05'  0.0   45.00   192.14  -974.4
'cool06'  0.0   45.00   220.78  -1010.4
'cool07'  0.0   45.00   249.41  -1046.4
'cool08'  0.0   45.00   278.05  -1082.4
```

```
'cool09'  0.0   45.00   306.68  -1118.4
'cool10'  0.0   45.00   335.32  -1154.4
'cool11'  0.0   45.00   363.96  -1190.4
'cool12'  0.0   45.00   392.59  -1226.4
0
```

BPIP (Dated: 95086)

DATE : 09/01/98

TIME : 11:14:46

BPIP for Boiler/NORTH, Ft. Myers, Origin Between New HRSG Stks 3 & 4 8/31/98

BPIP
BOILER PROPOSED
NORTH LOCATION

============================

BPIP PROCESSING INFORMATION:

============================

The ST flag has been set for processing for an ISCST2 run.

Inputs entered in FEET will be converted to meters using a conversion factor of 0.3048. Output will be in meters.

UTMP is set to UTMN. The input is assumed to be in a local X-Y coordinate system as opposed to a UTM coordinate system. True North is in the positive Y direction.

Plant north is set to -23.00 degrees with respect to True North.

BPIP for Boiler/NORTH, Ft. Myers, Origin Between New HRSG Stks 3 & 4 8/31/98

PRELIMINARY* GEP STACK HEIGHT RESULTS TABLE
(Output Units: meters)

Stack Name	Stack Height	Stack-Building Base Elevation Differences	GEP** EQN1	Preliminary* GEP Stack Height Value
BOILER_N	9.14	0.00	61.86	65.00

* Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP Technical Support Document. Determinant 3 may be investigated for additional stack height credit. Final values result after Determinant 3 has been taken into consideration.

** Results were derived from Equation 1 on page 6 of GEP Technical Support Document. Values have been adjusted for any stack-building base elevation differences.

Note: Criteria for determining stack heights for modeling emission limitations for a source can be found in Table 3.1 of the GEP Technical Support Document.

BPIP (Dated: 95086)

DATE : 09/01/98

TIME : 11:14:46

BPIP for Boiler/NORTH, Ft. Myers, Origin Between New HRSG Stks 3 & 4 8/31/98

BPIP output is in meters

```
SO BUILDHGT BOILER_N    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDHGT BOILER_N    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDHGT BOILER_N    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDHGT BOILER_N    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDHGT BOILER_N    3.75    3.75    3.75   26.21   26.21   26.21
SO BUILDHGT BOILER_N    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDWID BOILER_N   10.13    9.80    9.17    8.26    7.11    5.73
SO BUILDWID BOILER_N    5.13    6.58    7.83    8.84    9.58   10.04
SO BUILDWID BOILER_N   10.18   10.02    9.55    9.28    9.87   10.16
SO BUILDWID BOILER_N   10.13    9.80    9.17    8.26    7.11    5.73
SO BUILDWID BOILER_N    5.13    6.58    7.83   23.76   23.47   22.21
SO BUILDWID BOILER_N   10.18   10.02    9.55    9.28    9.87   10.16
```

BPIP
BOILER PROPOSED
NORTH LOCATION

```
'BPIP for Boiler/NORTH, Ft. Myers, Origin Between New HRSG Stks 3 & 4 8/31/98'
'ST'
'FEET' .3048
'UTMN' -23.
34
'BOILER_N_BLDG'  1 0.0
4 12.3
-650.0  280.0
-650.0  295.3
-620.3  295.3
-620.3  280.0
'UNIT_2_BLDG'  1 0.0
4 157.0
221.3  -266.0
221.3  -164.0
297.0  -164.0
297.0  -266.0
'UNIT_1_BLDG' 1 0.0
4 133.5
210.1  -359.5
278.6  -359.5
278.6  -434.5
210.1  -434.5
'CT1HRSG' 1 0.0
4 86
 -395    10
 -395    78
 -355    78
 -355    10
'CT2HRSG' 1 0.0
4 86
 -245    10
 -245    78
 -205    78
 -205    10
'CT3HRSG' 1 0.0
4 86
  -95    10
  -95    78
  -55    78
  -55    10
'CT4HRSG' 1 0.0
4 86
   55    10
   55    78
   95    78
   95    10
'CT5HRSG' 1 0.0
4 86
  205    10
  205    78
  245    78
  245    10
'CT6HRSG' 1 0.0
4 86
  355    10
  355    78
  395    78
  395    10
'CT1AIRIN' 1 0.0
```

```
4 55
 -399   190
 -399   210
 -351   210
 -351   190
'CT2AIRIN' 1 0.0
4 55
 -249   190
 -249   210
 -201   210
 -201   190
'CT3AIRIN' 1 0.0
4 55
  -99   190
  -99   210
  -51   210
  -51   190
'CT4AIRIN' 1 0.0
4 55
   51   190
   51   210
   99   210
   99   190
'CT5AIRIN' 1 0.0
4 55
  201   190
  201   210
  249   210
  249   190
'CT6AIRIN' 1 0.0
4 55
  351   190
  351   210
  399   210
  399   190
'PROPERTY-CORN' 1 0.0
24 0.0
-2945     625
-2555     565
-2345     415
-2105     355
-1595     445
-1445     385
-1235     445
-1085     475
 -815     475
 -665     415
  445     445
 1375     565
 2035     565
 2215     535
 2365     475
 1915    -755
 1495    -815
 1585   -1265
  415   -1415
  -95   -1535
-2735   -1895
-2765   -1655
-2525   -1025
```

```
-3425    -665
'GT12 GENBLD' 1 0.0
4 32
      -310.0  -790.0
      -310.0  -850.0
      -280.0  -850.0
      -280.0  -790.0
'GT11 GENBLD' 1 0.0
4 32
      -385.0  -790.0
      -385.0  -850.0
      -355.0  -850.0
      -355.0  -790.0
'GT10 GENBLD' 1 0.0
4 32
      -460.0  -790.0
      -460.0  -850.0
      -430.0  -850.0
      -430.0  -790.0
'GT9 GENBLD' 1 0.0
4 32
      -535.0  -790.0
      -535.0  -850.0
      -505.0  -850.0
      -505.0  -790.0
'GT8 GENBLD' 1 0.0
4 32
      -610.0  -790.0
      -610.0  -850.0
      -580.0  -850.0
      -580.0  -790.0
'GT7 GENBLD' 1 0.0
4 32
      -685.0  -790.0
      -685.0  -850.0
      -655.0  -850.0
      -655.0  -790.0
'GT6 GENBLD' 1 0.0
4 32
      -310.0  -950.0
      -310.0  -890.0
      -280.0  -890.0
      -280.0  -950.0
'GT5 GENBLD' 1 0.0
4 32
      -385.0  -950.0
      -385.0  -890.0
      -355.0  -890.0
      -355.0  -950.0
'GT4 GENBLD' 1 0.0
4 32
      -460.0  -950.0
      -460.0  -890.0
      -430.0  -890.0
      -430.0  -950.0
'GT3 GENBLD' 1 0.0
4 32
      -535.0  -950.0
      -535.0  -890.0
      -505.0  -890.0
```

```
      -505.0  -950.0
'GT2 GENBLD' 1 0.0
4 32
      -610.0  -950.0
      -610.0  -890.0
      -580.0  -890.0
      -580.0  -950.0
'GT1 GENBLD' 1 0.0
4 32
      -685.0  -950.0
      -685.0  -890.0
      -655.0  -890.0
      -655.0  -950.0
'GT Maintenance Bldg' 1 0.0
4 36
  -875.0  -830.0
  -875.0  -755.0
  -820.0  -755.0
  -820.0  -830.0
'Diesel Tank #4' 1 0.0
8 40
   -915.0  -170.0
   -888.6  -106.4
   -825.0   -80.0
   -761.4  -106.4
   -735.0  -170.0
   -761.4  -233.6
   -825.0  -260.0
   -888.6  -233.6
'Oil Tank #2' 1 0.0
8 50
    -547.0  -170.0
    -520.6  -106.4
    -457.0   -80.0
    -393.4  -106.4
    -367.0  -170.0
    -393.4  -233.6
    -457.0  -260.0
    -520.6  -233.6
'Diesel Tank #3' 1 0.0
8 40
  -915.0  -410.0
  -888.6  -346.4
  -825.0  -320.0
  -761.4  -346.4
  -735.0  -410.0
  -761.4  -473.6
  -825.0  -500.0
  -888.6  -473.6
'Oil Tank #1' 1 0.0
8 43
    -524.0  -377.0
    -504.4  -329.6
    -457.0  -310.0
    -409.6  -329.6
    -390.0  -377.0
    -409.6  -424.4
    -457.0  -444.0
    -504.4  -424.4
'Cooling Tower' 1 0.0
```

```
4 31.00
35      -817
74.13   -785.87
435.19  -1239.79
396.06  -1270.91
1
'BOILER_N'   0.0    30.0    -620.3   293.0
0
```

BPIP (Dated: 95086)

DATE : 09/01/98
TIME : 11:16:42
BPIP for Boiler/south, Ft. Myers, Origin Between New HRSG Stks 3 & 4 8/31/98

BPIP
BOILER PROPOSED
SOUTH LOCATION

============================
BPIP PROCESSING INFORMATION:
============================

The ST flag has been set for processing for an ISCST2 run.

Inputs entered in FEET will be converted to meters using a conversion factor of 0.3048. Output will be in meters.

UTMP is set to UTMN. The input is assumed to be in a local X-Y coordinate system as opposed to a UTM coordinate system. True North is in the positive Y direction.

Plant north is set to -23.00 degrees with respect to True North.

BPIP for Boiler/south, Ft. Myers, Origin Between New HRSG Stks 3 & 4 8/31/98

PRELIMINARY* GEP STACK HEIGHT RESULTS TABLE
(Output Units: meters)

Stack Name	Stack Height	Stack-Building Base Elevation Differences	GEP** EQN1	Preliminary* GEP Stack Height Value
BOILER_S	9.14	0.00	9.37	65.00

* Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP Technical Support Document. Determinant 3 may be investigated for additional stack height credit. Final values result after Determinant 3 has been taken into consideration.

** Results were derived from Equation 1 on page 6 of GEP Technical Support Document. Values have been adjusted for any stack-building base elevation differences.

Note: Criteria for determining stack heights for modeling emission limitations for a source can be found in Table 3.1 of the GEP Technical Support Document.

BPIP (Dated: 95086)

DATE : 09/01/98
TIME : 11:16:42

BPIP for Boiler/south, Ft. Myers, Origin Between New HRSG Stks 3 & 4 8/31/98

BPIP output is in meters

```
SO BUILDHGT BOILER_S    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDHGT BOILER_S    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDHGT BOILER_S    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDHGT BOILER_S    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDHGT BOILER_S    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDHGT BOILER_S    3.75    3.75    3.75    3.75    3.75    3.75
SO BUILDWID BOILER_S    8.84    9.58   10.04   10.18   10.02    9.55
SO BUILDWID BOILER_S    9.28    9.87   10.16   10.13    9.80    9.17
SO BUILDWID BOILER_S    8.26    7.11    5.73    5.13    6.58    7.83
SO BUILDWID BOILER_S    8.84    9.58   10.04   10.18   10.02    9.55
SO BUILDWID BOILER_S    9.28    9.87   10.16   10.13    9.80    9.17
SO BUILDWID BOILER_S    8.26    7.11    5.73    5.13    6.58    7.83
```

```
'BPIP for Boiler/south, Ft. Myers, Origin Between New HRSG Stks 3 & 4 8/31/98'
'ST'
'FEET' .3048
'UTMN' -23.
34
'BOILER_S_BLDG'  1 0.0
4 12.3
50     -1200
50     -1170.3
65.3   -1170.3
65.3   -1200
'UNIT_2_BLDG'  1 0.0
4 157.0
221.3  -266.0
221.3  -164.0
297.0  -164.0
297.0  -266.0
'UNIT_1_BLDG' 1 0.0
4 133.5
210.1  -359.5
278.6  -359.5
278.6  -434.5
210.1  -434.5
'CT1HRSG' 1 0.0
4 86
 -395    10
 -395    78
 -355    78
 -355    10
'CT2HRSG' 1 0.0
4 86
 -245    10
 -245    78
 -205    78
 -205    10
'CT3HRSG' 1 0.0
4 86
  -95    10
  -95    78
  -55    78
  -55    10
'CT4HRSG' 1 0.0
4 86
   55    10
   55    78
   95    78
   95    10
'CT5HRSG' 1 0.0
4 86
  205    10
  205    78
  245    78
  245    10
'CT6HRSG' 1 0.0
4 86
  355    10
  355    78
  395    78
  395    10
'CT1AIRIN' 1 0.0
```

BPIP
BOILER PROPOSED
SOUTH LOCATION

```
4 55
 -399   190
 -399   210
 -351   210
 -351   190
'CT2AIRIN' 1 0.0
4 55
 -249   190
 -249   210
 -201   210
 -201   190
'CT3AIRIN' 1 0.0
4 55
  -99   190
  -99   210
  -51   210
  -51   190
'CT4AIRIN' 1 0.0
4 55
   51   190
   51   210
   99   210
   99   190
'CT5AIRIN' 1 0.0
4 55
  201   190
  201   210
  249   210
  249   190
'CT6AIRIN' 1 0.0
4 55
  351   190
  351   210
  399   210
  399   190
'PROPERTY-CORN' 1 0.0
24 0.0
-2945     625
-2555     565
-2345     415
-2105     355
-1595     445
-1445     385
-1235     445
-1085     475
 -815     475
 -665     415
  445     445
 1375     565
 2035     565
 2215     535
 2365     475
 1915    -755
 1495    -815
 1585   -1265
  415   -1415
  -95   -1535
-2735   -1895
-2765   -1655
-2525   -1025
```

```
-3425    -665
'GT12 GENBLD' 1 0.0
4 32
      -310.0  -790.0
      -310.0  -850.0
      -280.0  -850.0
      -280.0  -790.0
'GT11 GENBLD' 1 0.0
4 32
      -385.0  -790.0
      -385.0  -850.0
      -355.0  -850.0
      -355.0  -790.0
'GT10 GENBLD' 1 0.0
4 32
      -460.0  -790.0
      -460.0  -850.0
      -430.0  -850.0
      -430.0  -790.0
'GT9 GENBLD' 1 0.0
4 32
      -535.0  -790.0
      -535.0  -850.0
      -505.0  -850.0
      -505.0  -790.0
'GT8 GENBLD' 1 0.0
4 32
      -610.0  -790.0
      -610.0  -850.0
      -580.0  -850.0
      -580.0  -790.0
'GT7 GENBLD' 1 0.0
4 32
      -685.0  -790.0
      -685.0  -850.0
      -655.0  -850.0
      -655.0  -790.0
'GT6 GENBLD' 1 0.0
4 32
      -310.0  -950.0
      -310.0  -890.0
      -280.0  -890.0
      -280.0  -950.0
'GT5 GENBLD' 1 0.0
4 32
      -385.0  -950.0
      -385.0  -890.0
      -355.0  -890.0
      -355.0  -950.0
'GT4 GENBLD' 1 0.0
4 32
      -460.0  -950.0
      -460.0  -890.0
      -430.0  -890.0
      -430.0  -950.0
'GT3 GENBLD' 1 0.0
4 32
      -535.0  -950.0
      -535.0  -890.0
      -505.0  -890.0
```

```
      -505.0  -950.0
'GT2 GENBLD' 1 0.0
4 32
      -610.0  -950.0
      -610.0  -890.0
      -580.0  -890.0
      -580.0  -950.0
'GT1 GENBLD' 1 0.0
4 32
      -685.0  -950.0
      -685.0  -890.0
      -655.0  -890.0
      -655.0  -950.0
'GT Maintenance Bldg' 1 0.0
4 36
  -875.0  -830.0
  -875.0  -755.0
  -820.0  -755.0
  -820.0  -830.0
'Diesel Tank #4' 1 0.0
8 40
   -915.0  -170.0
   -888.6  -106.4
   -825.0   -80.0
   -761.4  -106.4
   -735.0  -170.0
   -761.4  -233.6
   -825.0  -260.0
   -888.6  -233.6
'Oil Tank #2' 1 0.0
8 50
    -547.0  -170.0
    -520.6  -106.4
    -457.0   -80.0
    -393.4  -106.4
    -367.0  -170.0
    -393.4  -233.6
    -457.0  -260.0
    -520.6  -233.6
'Diesel Tank #3' 1 0.0
8 40
  -915.0  -410.0
  -888.6  -346.4
  -825.0  -320.0
  -761.4  -346.4
  -735.0  -410.0
  -761.4  -473.6
  -825.0  -500.0
  -888.6  -473.6
'Oil Tank #1' 1 0.0
8 43
    -524.0  -377.0
    -504.4  -329.6
    -457.0  -310.0
    -409.6  -329.6
    -390.0  -377.0
    -409.6  -424.4
    -457.0  -444.0
    -504.4  -424.4
'Cooling Tower' 1 0.0
```

```
4 31.00
35      -817
74.13   -785.87
435.19  -1239.79
396.06  -1270.91
1
'BOILER_S'   0.0    30.0     50.0 -1185.0
0
```

ATTACHMENT E

DETAILED SUMMARY OF ISCST MODEL RESULTS

ISCBOB3 RELEASE 98056

EXISTING
SO_2 AAQS SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :so2base.o87
ISCST3 OUTPUT FILE NUMBER 2 :so2base.o88
ISCST3 OUTPUT FILE NUMBER 3 :so2base.o89
ISCST3 OUTPUT FILE NUMBER 4 :so2base.o90
ISCST3 OUTPUT FILE NUMBER 5 :so2base.o91
First title for last output file is: 1987 FPL FT. MYERS SO2 AAQS, BASE CASE

9/2/98

Second title for last output file is: PRE-CONSTRUCTION CONDITIONS

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	10.4	240.	4000.	87123124
	1988	11.6	290.	4000.	88123124
	1989	11.5	300.	3000.	89123124
	1990	14.6	240.	4000.	90123124
	1991	12.9	240.	4000.	91123124
HIGH 24-Hour					
	1987	253.6	250.	2500.	87081824
	1988	144.1	90.	1100.	88080624
	1989	185.0	320.	3000.	89091424
	1990	165.2	230.	2500.	90051124
	1991	212.1	60.	2500.	91070224
HSH 24-Hour					
	1987	153.6	250.	2500.	87081724
	1988	112.7	270.	2500.	88081924
	1989	157.0	320.	4000.	89091324
	1990	105.9	230.	2500.	90090224
	1991	124.3	240.	1100.	91091124
HIGH 3-Hour					
	1987	630.6	250.	2500.	87081812
	1988	738.7	120.	1100.	88070312
	1989	651.6	220.	906.	89073015
	1990	751.9	60.	1100.	90090812
	1991	761.2	10.	900.	91081515
HSH 3-Hour					
	1987	624.3	250.	2500.	87081815
	1988	465.0	80.	1100.	88042112
	1989	495.4	310.	900.	89090912
	1990	509.0	230.	2500.	90051112
	1991	575.3	140.	1100.	91063012

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

**MODELOPTs: CONC   RURAL FLAT   DFAULT   NOCMPL

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

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

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	253.89107c	ON 87081824: AT (	-2443.20,	-889.25,	0.00,	0.00)	GP	POL
	HIGH	2ND HIGH VALUE IS	154.13657c	ON 87081724: AT (	-2537.17,	-923.45,	0.00,	0.00)	GP	POL

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

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

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

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	655.61584	ON 87081812: AT (	-2039.80,	-824.13,	0.00,	0.00)	GP	POL
	HIGH 2ND HIGH VALUE IS	630.67969	ON 87081815: AT (	-2225.24,	-899.06,	0.00,	0.00)	GP	POL

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

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

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

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	191.70282c	ON 89091424: AT (	-2154.82,	2758.04,	0.00,	0.00)	GP	POL
	HIGH	2ND HIGH VALUE IS	159.40192c	ON 89091324: AT (	-2296.21,	2641.48,	0.00,	0.00)	GP	POL

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

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

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

GROUP ID		AVERAGE CONC		RECEPTOR (XR,	YR,	ZELEV,	ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	14.71675	AT (	-3620.08,	-1924.83,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	14.71632	AT (	-3531.79,	-1877.89,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	14.70949	AT (	-3708.38,	-1971.78,	0.00,	0.00)	GP	POL
	4TH HIGHEST VALUE IS	14.70672	AT (	-3443.50,	-1830.94,	0.00,	0.00)	GP	POL
	5TH HIGHEST VALUE IS	14.69339	AT (	-3796.67,	-2018.73,	0.00,	0.00)	GP	POL
	6TH HIGHEST VALUE IS	14.68816	AT (	-3355.20,	-1783.99,	0.00,	0.00)	GP	POL
	7TH HIGHEST VALUE IS	14.67199	AT (	-3884.97,	-2065.68,	0.00,	0.00)	GP	POL

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

ISCBOB3 RELEASE 98056

EXISTING
NO_2 AAQS SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :noxbase.o87
ISCST3 OUTPUT FILE NUMBER 2 :noxbase.o88
ISCST3 OUTPUT FILE NUMBER 3 :noxbase.o89
ISCST3 OUTPUT FILE NUMBER 4 :noxbase.o90
ISCST3 OUTPUT FILE NUMBER 5 :noxbase.o91
First title for last output file is: 1987 FPL FT. MYERS NOX AAQS, BASE CASE

9/2/98

Second title for last output file is: PRE-CONSTRUCTION CONDITIONS

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
Annual					
	1987	6.4	190.	607.	87123124
	1988	5.4	240.	7000.	88123124
	1989	5.0	300.	5000.	89123124
	1990	7.4	240.	7000.	90123124
	1991	5.9	240.	5000.	91123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

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

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	7.42758	AT (	-5766.73,	-3603.45,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	7.42644	AT (	-5512.31,	-3444.48,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	7.42626	AT (	-5936.34,	-3709.44,	0.00,	0.00)	GP	POL
	4TH HIGHEST VALUE IS	7.41985	AT (	-5451.36,	-3540.15,	0.00,	0.00)	GP	POL
	5TH HIGHEST VALUE IS	7.41926	AT (	-5257.90,	-3285.50,	0.00,	0.00)	GP	POL
	6TH HIGHEST VALUE IS	7.41747	AT (	-5199.76,	-3376.76,	0.00,	0.00)	GP	POL
	7TH HIGHEST VALUE IS	7.41637	AT (	-5702.96,	-3703.55,	0.00,	0.00)	GP	POL

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

ISCST3 OUTPUT FILE NUMBER 1 :pmbase.o87
ISCST3 OUTPUT FILE NUMBER 2 :pmbase.o88
ISCST3 OUTPUT FILE NUMBER 3 :pmbase.o89
ISCST3 OUTPUT FILE NUMBER 4 :pmbase.o90
ISCST3 OUTPUT FILE NUMBER 5 :pmbase.o91
First title for last output file is: 1987 FPL FT. MYERS PM10 AAQS, BASE CASE
Second title for last output file is: PRE-CONSTRUCTION CONDITIONS

EXISTING
PM10 AAQS SCREENING

9/2/98

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	0.5	240.	4000.	87123124
	1988	0.5	290.	4000.	88123124
	1989	0.5	300.	4000.	89123124
	1990	0.7	240.	4000.	90123124
	1991	0.6	240.	4000.	91123124
HIGH 24-Hour					
	1987	11.7	250.	2500.	87081824
	1988	6.6	90.	1100.	88080624
	1989	8.7	320.	3000.	89091424
	1990	7.7	230.	3000.	90051124
	1991	10.0	60.	2500.	91070224
HSH 24-Hour					
	1987	7.1	250.	2500.	87081724
	1988	5.3	270.	3000.	88081924
	1989	7.3	320.	4000.	89091324
	1990	5.0	230.	2500.	90090224
	1991	5.7	240.	1500.	91062524

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

** CONC OF PM10 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	11.81143c	ON 87081824: AT (	-2427.31,	-931.76,	0.00,	0.00)	GP	POL
	HIGH	2ND HIGH VALUE IS	7.15001c	ON 87081724: AT (	-2537.17,	-923.45,	0.00,	0.00)	GP	POL

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

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

** CONC OF PM10 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	9.05426c	ON 89091424: AT (	-2093.25,	2679.24,	0.00,	0.00)	GP	POL
	HIGH 2ND HIGH VALUE IS	7.41130c	ON 89091324: AT (	-2296.21,	2641.48,	0.00,	0.00)	GP	POL

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

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

** CONC OF PM10 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC		RECEPTOR (XR,	YR,	ZELEV,	ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.70480	AT (	-3708.38,	-1971.78,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.70479	AT (	-3620.08,	-1924.83,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.70440	AT (	-3531.79,	-1877.89,	0.00,	0.00)	GP	POL
	4TH HIGHEST VALUE IS	0.70435	AT (	-3796.67,	-2018.73,	0.00,	0.00)	GP	POL
	5TH HIGHEST VALUE IS	0.70364	AT (	-3884.97,	-2065.68,	0.00,	0.00)	GP	POL
	6TH HIGHEST VALUE IS	0.70359	AT (	-3443.50,	-1830.94,	0.00,	0.00)	GP	POL
	7TH HIGHEST VALUE IS	0.70273	AT (	-3973.26,	-2112.62,	0.00,	0.00)	GP	POL

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

ISCBOB3 RELEASE 98056

GENERIC IMPACTS
PROPOSED CTs
CONSTRUCTION
SIMPLE-CYCLE

8/13/98

ISCST3 OUTPUT FILE NUMBER 1 :BYPSLDCN.087
ISCST3 OUTPUT FILE NUMBER 2 :BYPSLDCN.088
ISCST3 OUTPUT FILE NUMBER 3 :BYPSLDCN.089
ISCST3 OUTPUT FILE NUMBER 4 :BYPSLDCN.090
ISCST3 OUTPUT FILE NUMBER 5 :BYPSLDCN.091
First title for last output file is: 1987 FPL FT. MYERS GENERIC IMPACTS
Second title for last output file is: GE FRAME 7FA CTS -- BYPASS STACKS

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: BASE95					
Annual					
	1987	0.08096	30.	237.	87123124
	1988	0.14733	300.	162.	88123124
	1989	0.05299	30.	237.	89123124
	1990	0.06823	300.	162.	90123124
	1991	0.06169	30.	237.	91123124
HIGH 24-Hour					
	1987	3.38218	300.	162.	87090424
	1988	4.52225	280.	233.	88032324
	1989	4.94764	30.	237.	89032224
	1990	4.20374	270.	367.	90030824
	1991	3.37209	20.	300.	91030324
HSH 24-Hour					
	1987	2.60377	30.	237.	87011924
	1988	3.69694	290.	188.	88032324
	1989	2.09199	310.	146.	89081724
	1990	2.84464	300.	162.	90101024
	1991	2.23696	30.	237.	91030324
HIGH 8-Hour					
	1987	7.89997	280.	233.	87111616
	1988	11.13574	290.	188.	88091416
	1989	7.75775	30.	237.	89032216
	1990	12.30223	270.	367.	90030816
	1991	8.81504	20.	300.	91030316
HSH 8-Hour					
	1987	7.29563	30.	237.	87011516
	1988	7.67425	30.	237.	88022016
	1989	5.82927	310.	146.	89042324
	1990	7.32151	300.	162.	90101024
	1991	5.77022	30.	237.	91030316
HIGH 3-Hour					
	1987	19.43031	30.	237.	87011515
	1988	21.50237	300.	162.	88091412
	1989	20.38874	30.	237.	89032218
	1990	18.16193	300.	162.	90101024
	1991	20.22587	20.	300.	91030312
HSH 3-Hour					
	1987	17.27319	30.	237.	87032618
	1988	16.14778	300.	162.	88112612
	1989	14.30280	280.	233.	89081221
	1990	16.73276	300.	162.	90120312
	1991	15.55033	30.	237.	91022218
HIGH 1-Hour					
	1987	52.20470	320.	137.	87122207
	1988	49.13923	280.	233.	88013014

	1989	45.94825	310.	146.	89042323
	1990	46.00423	300.	162.	90120310
	1991	39.53244	30.	237.	91092115
HSH 1-Hour					
	1987	45.40292	30.	237.	87031911
	1988	43.75155	300.	162.	88071716
	1989	42.90837	280.	233.	89081219
	1990	45.40128	300.	162.	90101022
	1991	32.51407	30.	237.	91011916
SOURCE GROUP ID:	BASE35				
Annual					
	1987	0.05264	30.	237.	87123124
	1988	0.08812	300.	162.	88123124
	1989	0.03240	30.	237.	89123124
	1990	0.03955	300.	162.	90123124
	1991	0.03881	30.	237.	91123124
HIGH 24-Hour					
	1987	2.54901	300.	162.	87090424
	1988	3.06347	320.	137.	88112224
	1989	3.75208	30.	237.	89032224
	1990	3.33601	270.	367.	90030824
	1991	2.72425	20.	300.	91030324
HSH 24-Hour					
	1987	1.95774	30.	237.	87032624
	1988	2.45509	290.	188.	88032324
	1989	1.75042	280.	233.	89051924
	1990	2.16140	300.	162.	90062824
	1991	1.67895	30.	237.	91030324
HIGH 8-Hour					
	1987	6.22874	280.	233.	87111616
	1988	7.80084	290.	188.	88091416
	1989	6.48309	300.	162.	89081724
	1990	9.89342	270.	367.	90030816
	1991	7.47540	20.	300.	91030316
HSH 8-Hour					
	1987	5.56792	30.	237.	87011916
	1988	6.31261	280.	233.	88013016
	1989	4.77104	280.	233.	89081224
	1990	5.55777	300.	162.	90062824
	1991	4.55618	30.	237.	91030316
HIGH 3-Hour					
	1987	15.57675	30.	237.	87032618
	1988	18.03697	280.	300.	88013015
	1989	15.71366	30.	237.	89032218
	1990	15.33416	300.	162.	90101024
	1991	18.25842	20.	300.	91030312
HSH 3-Hour					
	1987	13.52621	30.	237.	87011515
	1988	13.84378	300.	162.	88013015
	1989	12.72257	280.	233.	89081221
	1990	12.96751	300.	162.	90062818
	1991	10.50183	30.	237.	91092115
HIGH 1-Hour					
	1987	46.73023	30.	237.	87032617
	1988	45.83359	280.	233.	88013014
	1989	41.99364	280.	233.	89051902
	1990	41.40280	300.	162.	90101022
	1991	31.50550	30.	237.	91092115
HSH 1-Hour					
	1987	38.23973	30.	237.	87031911

	1988	39.74913	300.	162.	88071716
	1989	38.16767	280.	233.	89081219
	1990	38.90254	300.	162.	90062818
	1991	25.06437	30.	237.	91021411

SOURCE GROUP ID: LD7595

Annual					
	1987	0.18083	300.	162.	87123124
	1988	0.34675	300.	162.	88123124
	1989	0.13624	300.	162.	89123124
	1990	0.17153	300.	162.	90123124
	1991	0.12455	30.	237.	91123124
HIGH 24-Hour					
	1987	6.63471	280.	233.	87111624
	1988	8.46867	320.	137.	88112224
	1989	7.33221	30.	237.	89032224
	1990	8.08488	300.	162.	90122124
	1991	5.74480	30.	237.	91022224
HSH 24-Hour					
	1987	4.93673	280.	233.	87120724
	1988	6.06599	300.	162.	88112624
	1989	2.94868	300.	162.	89042424
	1990	4.46737	300.	162.	90101024
	1991	4.56043	30.	237.	91033024
HIGH 8-Hour					
	1987	12.45184	280.	233.	87111616
	1988	18.18855	300.	162.	88091416
	1989	11.73939	310.	146.	89042408
	1990	18.09437	300.	162.	90122116
	1991	12.33061	280.	233.	91111916
HSH 8-Hour					
	1987	11.61104	30.	237.	87011516
	1988	14.04777	300.	162.	88010716
	1989	8.61433	30.	237.	89050116
	1990	11.76268	30.	237.	90101116
	1991	8.98558	280.	233.	91052116
HIGH 3-Hour					
	1987	30.77053	30.	237.	87011515
	1988	35.62599	300.	162.	88091412
	1989	30.26616	30.	237.	89032218
	1990	28.44607	30.	237.	90101112
	1991	31.25048	30.	237.	91022218
HSH 3-Hour					
	1987	21.26188	30.	237.	87022218
	1988	24.57824	300.	162.	88020115
	1989	18.65970	300.	162.	89042324
	1990	23.36526	300.	162.	90122112
	1991	25.98439	30.	237.	91011918
HIGH 1-Hour					
	1987	58.67957	300.	162.	87062824
	1988	53.92773	280.	233.	88013014
	1989	52.72603	280.	233.	89051902
	1990	52.32397	320.	137.	90033102
	1991	52.91412	30.	237.	91092115
HSH 1-Hour					
	1987	55.29761	300.	162.	87081607
	1988	49.59613	300.	162.	88071716
	1989	50.14286	280.	233.	89081219
	1990	51.64001	320.	137.	90021524
	1991	47.94059	30.	237.	91011916

SOURCE GROUP ID: LD7535

Annual					
	1987	0.13108	300.	162.	87123124
	1988	0.26002	300.	162.	88123124
	1989	0.09571	300.	162.	89123124
	1990	0.12182	300.	162.	90123124
	1991	0.09790	30.	237.	91123124
HIGH 24-Hour					
	1987	5.35020	280.	233.	87111624
	1988	6.82990	320.	137.	88112224
	1989	6.45919	30.	237.	89032224
	1990	6.28985	300.	162.	90122124
	1991	4.61072	30.	237.	91022224
HSH 24-Hour					
	1987	4.25175	280.	233.	87120724
	1988	5.31675	300.	162.	88091424
	1989	2.37602	30.	237.	89050124
	1990	3.70427	300.	162.	90101024
	1991	3.57388	30.	237.	91033024
HIGH 8-Hour					
	1987	11.03364	280.	233.	87111616
	1988	15.94967	300.	162.	88091416
	1989	10.17826	30.	237.	89032216
	1990	15.44977	270.	367.	90030816
	1991	10.36742	280.	233.	91111916
HSH 8-Hour					
	1987	10.06997	30.	237.	87011516
	1988	10.75746	30.	237.	88022016
	1989	7.12325	30.	237.	89050116
	1990	9.98158	30.	237.	90101116
	1991	7.55624	280.	233.	91052116
HIGH 3-Hour					
	1987	26.76006	30.	237.	87011515
	1988	31.20878	300.	162.	88091412
	1989	26.54032	30.	237.	89032218
	1990	24.80609	30.	237.	90101112
	1991	25.19544	30.	237.	91022218
HSH 3-Hour					
	1987	19.01381	30.	237.	87032618
	1988	22.59927	300.	162.	88020115
	1989	15.96548	280.	233.	89081221
	1990	18.05964	300.	162.	90122112
	1991	22.21489	30.	237.	91011918
HIGH 1-Hour					
	1987	72.46475	320.	137.	87122207
	1988	63.90229	290.	188.	88030224
	1989	56.54237	320.	137.	89032301
	1990	49.38377	300.	162.	90101022
	1991	48.44865	30.	237.	91092115
HSH 1-Hour					
	1987	53.05503	30.	237.	87031911
	1988	47.76214	300.	162.	88071716
	1989	47.89640	280.	233.	89081219
	1990	46.96432	300.	162.	90062818
	1991	42.62769	30.	237.	91011916

SOURCE GROUP ID: LD5095

Annual					
	1987	0.32950	300.	162.	87123124
	1988	0.64007	300.	162.	88123124
	1989	0.29820	300.	162.	89123124
	1990	0.35193	300.	162.	90123124

	1991	0.20162	30.	237.	91123124
HIGH 24-Hour					
	1987	10.43828	280.	233.	87111624
	1988	11.44238	320.	137.	88112224
	1989	9.15866	30.	237.	89032224
	1990	11.85417	300.	162.	90122124
	1991	8.98993	30.	237.	91022224
HSH 24-Hour					
	1987	7.47656	280.	233.	87120724
	1988	10.51975	300.	162.	88112624
	1989	5.63477	300.	162.	89042424
	1990	6.16431	300.	162.	90101024
	1991	7.38748	30.	237.	91033024
HIGH 8-Hour					
	1987	17.70156	280.	233.	87111616
	1988	23.79746	300.	162.	88091416
	1989	19.03850	320.	137.	89082924
	1990	25.88054	300.	162.	90122116
	1991	17.08961	280.	233.	91111916
HSH 8-Hour					
	1987	15.71202	30.	237.	87022224
	1988	20.67954	300.	162.	88010716
	1989	16.18805	300.	162.	89082924
	1990	16.13312	30.	237.	90101116
	1991	14.82805	280.	233.	91052116
HIGH 3-Hour					
	1987	39.58567	30.	237.	87011515
	1988	45.78989	300.	162.	88091412
	1989	37.93017	30.	237.	89032218
	1990	36.42475	30.	237.	90101112
	1991	46.08157	30.	237.	91022218
HSH 3-Hour					
	1987	32.62361	30.	237.	87022218
	1988	35.90723	300.	162.	88010115
	1989	30.70730	300.	162.	89082921
	1990	31.19111	30.	237.	90021012
	1991	34.59302	30.	237.	91011918
HIGH 1-Hour					
	1987	60.79859	30.	237.	87030906
	1988	55.94013	30.	237.	88012509
	1989	59.97420	30.	237.	89032215
	1990	60.77756	30.	237.	90012419
	1991	59.29631	30.	237.	91011916
HSH 1-Hour					
	1987	57.25238	280.	233.	87032711
	1988	55.04109	30.	237.	88012015
	1989	53.98019	280.	233.	89081219
	1990	57.89240	30.	237.	90101110
	1991	54.42916	30.	237.	91022217
SOURCE GROUP ID:	LD5035				
Annual					
	1987	0.26561	300.	162.	87123124
	1988	0.53066	300.	162.	88123124
	1989	0.23253	300.	162.	89123124
	1990	0.28109	300.	162.	90123124
	1991	0.17452	30.	237.	91123124
HIGH 24-Hour					
	1987	9.53127	280.	233.	87111624
	1988	10.23089	300.	162.	88112224
	1989	8.49624	30.	237.	89032224

	1990	10.33962	300.	162.	90122124
	1991	7.65367	30.	237.	91022224
HSH 24-Hour					
	1987	6.62538	280.	233.	87120724
	1988	9.21403	300.	162.	88112624
	1989	4.66195	300.	162.	89032924
	1990	5.57040	300.	162.	90101024
	1991	6.40190	30.	237.	91033024
HIGH 8-Hour					
	1987	15.90844	280.	233.	87111616
	1988	21.85559	300.	162.	88091416
	1989	16.50264	300.	162.	89042408
	1990	22.82199	300.	162.	90122116
	1991	15.39952	280.	233.	91111916
HSH 8-Hour					
	1987	14.16047	30.	237.	87011916
	1988	18.43262	300.	162.	88010716
	1989	12.65068	300.	162.	89082924
	1990	14.72893	30.	237.	90101116
	1991	12.80008	280.	233.	91052116
HIGH 3-Hour					
	1987	36.91001	30.	237.	87011515
	1988	42.70918	300.	162.	88091412
	1989	34.91260	30.	237.	89032218
	1990	34.00983	30.	237.	90101112
	1991	41.33559	30.	237.	91022218
HSH 3-Hour					
	1987	28.81248	30.	237.	87022218
	1988	31.96929	300.	162.	88010115
	1989	24.05300	300.	162.	89082921
	1990	28.74740	300.	162.	90101024
	1991	31.92815	30.	237.	91011918
HIGH 1-Hour					
	1987	55.69595	280.	233.	87111614
	1988	55.15031	280.	233.	88013014
	1989	56.99974	280.	233.	89051902
	1990	54.57206	30.	237.	90101110
	1991	59.45647	30.	237.	91092115
HSH 1-Hour					
	1987	55.09877	280.	233.	87032711
	1988	52.74740	30.	237.	88012509
	1989	53.32585	280.	233.	89081219
	1990	54.02142	30.	237.	90012419
	1991	55.90127	30.	237.	91011916

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PM10
PROPOSED CTs
AND COOLING TOWER
SIMPLE-CYCLE

ISCST3 OUTPUT FILE NUMBER 1 :bysgpmcn.087
ISCST3 OUTPUT FILE NUMBER 2 :bysgpmcn.088
ISCST3 OUTPUT FILE NUMBER 3 :bysgpmcn.089
ISCST3 OUTPUT FILE NUMBER 4 :bysgpmcn.090
ISCST3 OUTPUT FILE NUMBER 5 :bysgpmcn.091
First title for last output file is: 1987 FPL FT. MYERS PM10 SIGNIFICANT IMPACT ANALYSIS 8/16/98
Second title for last output file is: CONSTRUCTION, BYPASS STACKS, 50%L, 95 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
Annual					
	1987	1.111	160.	467.	87123124
	1988	0.881	160.	467.	88123124
	1989	0.872	160.	467.	89123124
	1990	0.555	160.	467.	90123124
	1991	0.645	160.	467.	91123124
HIGH 24-Hour					
	1987	13.039	160.	467.	87021824
	1988	9.683	160.	467.	88022124
	1989	10.618	160.	467.	89030724
	1990	8.967	300.	162.	90122124
	1991	8.861	160.	467.	91092724

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

SO_2 AAQS PROPOSED
CTs/OTHER SOURCES
CONSTRUCTION
SIMPLE-CYCLE SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :BYAQS2CN.087
ISCST3 OUTPUT FILE NUMBER 2 :BYAQS2CN.088
ISCST3 OUTPUT FILE NUMBER 3 :BYAQS2CN.089
ISCST3 OUTPUT FILE NUMBER 4 :BYAQS2CN.090
ISCST3 OUTPUT FILE NUMBER 5 :BYAQS2CN.091
First title for last output file is: 1987 FPL FT. MYERS SO2 AAQS ANALYSIS 9/3/98
Second title for last output file is: CONSTRUCTION IMPACTS -- BYPASS STACKS, 50%L, 95 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	4.7	190.	607.	87123124
	1988	3.9	190.	607.	88123124
	1989	3.7	270.	900.	89123124
	1990	3.7	240.	1023.	90123124
	1991	5.7	240.	1023.	91123124
HIGH 24-Hour					
	1987	138.4	250.	951.	87052024
	1988	122.2	320.	900.	88082324
	1989	122.2	340.	900.	89081824
	1990	119.3	180.	900.	90041824
	1991	163.0	260.	900.	91062424
HSH 24-Hour					
	1987	83.2	190.	607.	87101424
	1988	89.9	190.	607.	88101424
	1989	86.0	50.	900.	89081324
	1990	78.1	60.	900.	90062024
	1991	123.0	240.	1023.	91091124
HIGH 3-Hour					
	1987	573.8	260.	900.	87052012
	1988	657.8	120.	900.	88070312
	1989	651.6	220.	906.	89073015
	1990	713.0	180.	900.	90041815
	1991	761.2	10.	900.	91081515
HSH 3-Hour					
	1987	487.1	290.	900.	87081612
	1988	412.2	310.	900.	88071812
	1989	495.5	310.	900.	89090912
	1990	479.0	50.	900.	90062015
	1991	551.4	340.	900.	91070712

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

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

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	681.37231	ON 91070712: AT (	-422.52,	794.65,	0.00,	0.00)	GP	POL
	HIGH 2ND HIGH VALUE IS	551.45074	ON 91042512: AT (	-337.15,	834.47,	0.00,	0.00)	GP	POL

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

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

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

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	137.00661c	ON 91062524: AT (	-816.30,	-593.08,	0.00,	0.00)	DP	NA
	HIGH 2ND HIGH VALUE IS	126.38199c	ON 91091124: AT (	-932.85,	-582.91,	0.00,	0.00)	DP	NA

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

**MODELOPTs: CONC   RURAL FLAT   DFAULT   NOCMPL

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

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

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	6.10727 AT (	-932.85,	-582.91,	0.00,	0.00)	DP	NA
	2ND HIGHEST VALUE IS	6.10107 AT (	-911.94,	-615.11,	0.00,	0.00)	DP	NA
	3RD HIGHEST VALUE IS	6.07134 AT (	-952.63,	-550.00,	0.00,	0.00)	DP	NA
	4TH HIGHEST VALUE IS	6.03741 AT (	-889.92,	-646.56,	0.00,	0.00)	DP	NA
	5TH HIGHEST VALUE IS	6.01087 AT (	-971.24,	-516.42,	0.00,	0.00)	DP	NA
	6TH HIGHEST VALUE IS	5.93675 AT (	-881.27,	-594.42,	0.00,	0.00)	DP	NA
	7TH HIGHEST VALUE IS	5.83604 AT (	-883.67,	-552.18,	0.00,	0.00)	DP	NA

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

ISCBOB3 RELEASE 98056

NO$_2$ AAQS PROPOSED
CTs/OTHER SOURCES
CONSTRUCTION
SIMPLE-CYCLE SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :BYAQNXCN.087
ISCST3 OUTPUT FILE NUMBER 2 :BYAQNXCN.088
ISCST3 OUTPUT FILE NUMBER 3 :BYAQNXCN.089
ISCST3 OUTPUT FILE NUMBER 4 :BYAQNXCN.090
ISCST3 OUTPUT FILE NUMBER 5 :BYAQNXCN.091
First title for last output file is: 1987 FPL FT. MYERS NOX AAQS ANALYSIS 9/3/98
Second title for last output file is: CONSTRUCTION IMPACTS -- BYPASS STACKS, 50%L, 95 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	6.4	190.	607.	87123124
	1988	5.3	190.	607.	88123124
	1989	3.3	190.	607.	89123124
	1990	3.1	220.	906.	90123124
	1991	2.9	230.	919.	91123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PM10 AAQS PROPOSED
CTs/OTHER SOURCES
CONSTRUCTION
SIMPLE-CYCLE SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :BYAQPMCN.087
ISCST3 OUTPUT FILE NUMBER 2 :BYAQPMCN.088
ISCST3 OUTPUT FILE NUMBER 3 :BYAQPMCN.089
ISCST3 OUTPUT FILE NUMBER 4 :BYAQPMCN.090
ISCST3 OUTPUT FILE NUMBER 5 :BYAQPMCN.091
First title for last output file is: 1987 FPL FT. MYERS PM10 AAQS ANALYSIS

9/3/98

Second title for last output file is: CONSTRUCTION, BYPASS STACKS, 50%L, 95 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	1.13	160.	467.	87123124
	1988	0.91	160.	467.	88123124
	1989	0.90	160.	467.	89123124
	1990	0.59	230.	1100.	90123124
	1991	0.67	160.	467.	91123124
HIGH 24-Hour					
	1987	13.04	160.	467.	87021824
	1988	9.68	160.	467.	88022124
	1989	10.62	160.	467.	89030724
	1990	8.97	300.	162.	90122124
	1991	8.88	160.	467.	91092724
HSH 24-Hour					
	1987	10.26	160.	467.	87101324
	1988	9.40	160.	467.	88020924
	1989	10.44	160.	467.	89122424
	1990	6.58	160.	467.	90102624
	1991	7.81	160.	467.	91020824

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

GENERIC IMPACTS
PROPOSED CTs
CONSTRUCTION
COMBINED-CYCLE

8/1/98

ISCST3 OUTPUT FILE NUMBER 1 :HRSGLDCN.087
ISCST3 OUTPUT FILE NUMBER 2 :HRSGLDCN.088
ISCST3 OUTPUT FILE NUMBER 3 :HRSGLDCN.089
ISCST3 OUTPUT FILE NUMBER 4 :HRSGLDCN.090
ISCST3 OUTPUT FILE NUMBER 5 :HRSGLDCN.091
First title for last output file is: 1987 FPL FT. MYERS GENERIC IMPACTS
Second title for last output file is: GE FRAME 7FA CTS -- HRSG STACKS

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: BASE95					
Annual					
	1987	0.77707	280.	233.	87123124
	1988	1.36454	280.	233.	88123124
	1989	0.71253	280.	233.	89123124
	1990	0.91053	280.	233.	90123124
	1991	0.58577	280.	233.	91123124
HIGH 24-Hour					
	1987	21.11061	270.	367.	87111624
	1988	15.88418	280.	233.	88091424
	1989	12.20695	270.	367.	89092824
	1990	14.35894	270.	367.	90030824
	1991	14.79377	280.	233.	91052124
HSH 24-Hour					
	1987	13.54729	280.	233.	87111724
	1988	15.07015	280.	233.	88032324
	1989	9.86143	280.	233.	89050424
	1990	11.07174	270.	367.	90042524
	1991	10.03073	30.	237.	91030324
HIGH 8-Hour					
	1987	36.52054	270.	367.	87111624
	1988	29.80770	280.	233.	88091416
	1989	24.10807	310.	146.	89082924
	1990	34.40271	270.	367.	90030816
	1991	26.16438	270.	367.	91111916
HSH 8-Hour					
	1987	26.79559	270.	367.	87111616
	1988	26.60939	280.	233.	88032316
	1989	20.23652	330.	133.	89072008
	1990	25.63941	270.	367.	90042524
	1991	23.22955	280.	233.	91052116
HIGH 3-Hour					
	1987	45.73177	20.	185.	87030803
	1988	47.65599	270.	367.	88050815
	1989	43.78586	330.	133.	89033003
	1990	54.54820	270.	367.	90030815
	1991	42.74064	280.	233.	91052115
HSH 3-Hour					
	1987	37.69507	280.	233.	87121912
	1988	45.95328	270.	367.	88091318
	1989	40.35530	330.	133.	89072006
	1990	47.15120	270.	367.	90050324
	1991	35.23266	270.	367.	91020415
HIGH 1-Hour					
	1987	79.07399	330.	133.	87122207
	1988	73.35094	300.	162.	88041807

	1989	85.38619	330.	133.	89060524
	1990	73.37468	350.	136.	90062323
	1991	75.30293	340.	132.	91081423
HSH 1-Hour					
	1987	70.30258	320.	137.	87080203
	1988	72.18817	350.	136.	88040405
	1989	72.77491	350.	136.	89030323
	1990	70.31126	330.	133.	90042322
	1991	70.73618	330.	133.	91032801
SOURCE GROUP ID:	BASE35				
Annual					
	1987	0.52273	280.	233.	87123124
	1988	0.91934	280.	233.	88123124
	1989	0.44070	280.	233.	89123124
	1990	0.58206	270.	367.	90123124
	1991	0.35789	280.	233.	91123124
HIGH 24-Hour					
	1987	16.01442	270.	367.	87111624
	1988	12.89708	280.	233.	88091424
	1989	8.65219	270.	367.	89092824
	1990	12.50614	270.	367.	90030824
	1991	10.64812	280.	233.	91052124
HSH 24-Hour					
	1987	9.89422	280.	233.	87111724
	1988	12.83898	280.	233.	88032324
	1989	6.77842	280.	233.	89050424
	1990	8.52376	270.	367.	90042524
	1991	8.03539	30.	237.	91032924
HIGH 8-Hour					
	1987	26.83424	270.	367.	87111624
	1988	24.69005	280.	233.	88091416
	1989	17.37952	310.	146.	89082924
	1990	31.31324	270.	367.	90030816
	1991	22.08842	270.	367.	91111916
HSH 8-Hour					
	1987	21.20872	270.	367.	87111616
	1988	23.57997	280.	233.	88032316
	1989	13.90708	330.	133.	89082924
	1990	21.10556	270.	367.	90040916
	1991	18.28652	280.	233.	91052116
HIGH 3-Hour					
	1987	38.74587	20.	185.	87030803
	1988	40.86018	270.	367.	88091318
	1989	31.36822	300.	162.	89042403
	1990	48.13008	270.	367.	90030815
	1991	35.10199	280.	233.	91052115
HSH 3-Hour					
	1987	29.16810	20.	185.	87032715
	1988	38.24310	270.	367.	88050815
	1989	27.39484	330.	133.	89033003
	1990	36.67404	270.	367.	90050324
	1991	27.50839	270.	367.	91052118
HIGH 1-Hour					
	1987	70.38766	330.	133.	87122207
	1988	62.96732	290.	188.	88030224
	1989	73.16268	330.	133.	89060524
	1990	55.22446	350.	136.	90062323
	1991	64.44650	340.	132.	91081423
HSH 1-Hour					
	1987	60.09393	320.	137.	87080203

	1988	54.07741	350.	136.	88040405
	1989	54.64311	350.	136.	89030323
	1990	52.64908	330.	133.	90042322
	1991	53.06054	340.	132.	91050522
SOURCE GROUP ID:	LD7595				
Annual					
	1987	1.29158	280.	233.	87123124
	1988	2.24094	280.	233.	88123124
	1989	1.33162	280.	233.	89123124
	1990	1.60073	280.	233.	90123124
	1991	1.10216	280.	233.	91123124
HIGH 24-Hour					
	1987	27.65323	270.	367.	87111624
	1988	19.98191	280.	233.	88091424
	1989	17.57331	270.	367.	89092824
	1990	19.84429	290.	188.	90122124
	1991	21.60766	280.	233.	91052124
HSH 24-Hour					
	1987	19.21932	280.	233.	87111624
	1988	18.35818	280.	233.	88090224
	1989	16.02061	270.	367.	89050424
	1990	16.04366	270.	367.	90031124
	1991	15.26688	270.	367.	91052224
HIGH 8-Hour					
	1987	48.17388	270.	367.	87111624
	1988	37.84718	280.	233.	88091416
	1989	38.29706	330.	133.	89033008
	1990	37.14595	270.	367.	90030816
	1991	32.67746	280.	233.	91052124
HSH 8-Hour					
	1987	34.67071	270.	367.	87111616
	1988	34.29815	280.	233.	88090224
	1989	31.96782	330.	133.	89060908
	1990	33.74047	270.	367.	90120308
	1991	30.53987	280.	233.	91111916
HIGH 3-Hour					
	1987	59.38529	280.	233.	87111706
	1988	58.45224	270.	367.	88050815
	1989	70.86686	330.	133.	89033003
	1990	59.58033	270.	367.	90030815
	1991	64.96646	320.	137.	91042803
HSH 3-Hour					
	1987	52.71736	270.	367.	87111618
	1988	51.91064	270.	367.	88091318
	1989	54.19189	330.	133.	89072006
	1990	56.64783	270.	367.	90050324
	1991	44.57052	320.	137.	91031306
HIGH 1-Hour					
	1987	92.54328	20.	185.	87011820
	1988	97.73045	350.	136.	88092304
	1989	100.58068	330.	133.	89060524
	1990	97.86890	350.	136.	90062323
	1991	94.83202	330.	133.	91042303
HSH 1-Hour					
	1987	89.65939	290.	188.	87090223
	1988	96.77629	350.	136.	88040405
	1989	95.24023	330.	133.	89030323
	1990	94.30647	330.	133.	90042322
	1991	94.69985	330.	133.	91032801
SOURCE GROUP ID:	LD7535				

Annual					
	1987	1.01999	280.	233.	87123124
	1988	1.78499	280.	233.	88123124
	1989	0.99838	280.	233.	89123124
	1990	1.23829	280.	233.	90123124
	1991	0.82502	280.	233.	91123124
HIGH 24-Hour					
	1987	25.07322	270.	367.	87111624
	1988	18.32093	280.	233.	88091424
	1989	14.90518	270.	367.	89092824
	1990	17.21035	290.	188.	90122124
	1991	18.18779	280.	233.	91052124
HSH 24-Hour					
	1987	16.49693	280.	233.	87111724
	1988	16.72349	280.	233.	88032324
	1989	12.63174	270.	367.	89050424
	1990	13.30641	270.	367.	90031124
	1991	12.27362	270.	367.	91052224
HIGH 8-Hour					
	1987	43.97121	270.	367.	87111624
	1988	33.95438	280.	233.	88091416
	1989	30.40101	330.	133.	89033008
	1990	35.52285	270.	367.	90030816
	1991	28.48341	270.	367.	91111916
HSH 8-Hour					
	1987	31.23150	270.	367.	87111616
	1988	28.71828	280.	233.	88032316
	1989	24.39040	330.	133.	89060908
	1990	30.16003	270.	367.	90042524
	1991	26.89103	280.	233.	91052124
HIGH 3-Hour					
	1987	52.15253	280.	233.	87111706
	1988	53.83650	270.	367.	88050815
	1989	57.76270	330.	133.	89033003
	1990	56.30313	270.	367.	90030815
	1991	50.15460	320.	137.	91042803
HSH 3-Hour					
	1987	44.71427	280.	233.	87121912
	1988	49.24435	270.	367.	88091318
	1989	47.81779	330.	133.	89072006
	1990	54.94704	270.	367.	90050324
	1991	39.96925	270.	367.	91111915
HIGH 1-Hour					
	1987	84.05981	330.	133.	87122207
	1988	86.44664	350.	136.	88092304
	1989	93.72150	330.	133.	89060524
	1990	86.59332	350.	136.	90062323
	1991	83.79436	330.	133.	91042303
HSH 1-Hour					
	1987	79.88956	290.	188.	87090223
	1988	85.43871	350.	136.	88040405
	1989	86.01067	350.	136.	89030323
	1990	83.24010	330.	133.	90042322
	1991	83.65486	330.	133.	91032801
SOURCE GROUP ID:	LD5095				
Annual					
	1987	1.86571	280.	233.	87123124
	1988	3.16705	280.	233.	88123124
	1989	2.08779	280.	233.	89123124
	1990	2.33869	280.	233.	90123124

	1991	1.73786	280.	233.	91123124
HIGH 24-Hour					
	1987	32.13087	270.	367.	87111624
	1988	23.63591	280.	233.	88091424
	1989	22.43927	300.	162.	89022024
	1990	24.69165	290.	188.	90122124
	1991	27.54893	280.	233.	91052124
HSH 24-Hour					
	1987	23.92563	280.	233.	87111724
	1988	22.06101	280.	233.	88090224
	1989	20.00885	280.	233.	89050424
	1990	20.78736	280.	233.	90012024
	1991	20.85298	270.	367.	91052224
HIGH 8-Hour					
	1987	57.05572	270.	367.	87111624
	1988	44.51331	280.	233.	88091416
	1989	52.56434	330.	133.	89033008
	1990	50.08398	300.	162.	90020208
	1991	43.33338	280.	233.	91052124
HSH 8-Hour					
	1987	39.51567	280.	233.	87111708
	1988	40.48782	280.	233.	88111924
	1989	46.87206	330.	133.	89060908
	1990	41.10953	270.	367.	90042524
	1991	36.31430	280.	233.	91111916
HIGH 3-Hour					
	1987	78.13218	300.	162.	87081503
	1988	69.80056	330.	133.	88021824
	1989	93.48151	330.	133.	89033003
	1990	75.25032	300.	162.	90020403
	1991	90.57188	320.	137.	91042803
HSH 3-Hour					
	1987	60.87558	270.	367.	87111618
	1988	58.74239	280.	233.	88081506
	1989	75.17715	330.	133.	89060903
	1990	73.09383	300.	162.	90020203
	1991	60.75839	300.	162.	91042903
HIGH 1-Hour					
	1987	109.40572	20.	185.	87011820
	1988	115.19701	350.	136.	88092304
	1989	114.84253	350.	136.	89030323
	1990	115.31588	350.	136.	90062323
	1991	111.94460	330.	133.	91042303
HSH 1-Hour					
	1987	101.81185	350.	136.	87022622
	1988	114.37490	350.	136.	88040405
	1989	110.89311	330.	133.	89060524
	1990	111.49073	330.	133.	90042322
	1991	111.83061	330.	133.	91032801
SOURCE GROUP ID:	LD5035				
Annual					
	1987	1.61812	280.	233.	87123124
	1988	2.79512	280.	233.	88123124
	1989	1.76266	280.	233.	89123124
	1990	2.02903	280.	233.	90123124
	1991	1.47132	280.	233.	91123124
HIGH 24-Hour					
	1987	30.76305	270.	367.	87111624
	1988	22.41965	280.	233.	88091424
	1989	20.04724	280.	233.	89021424

	1990	22.57005	290.	188.	90122124
	1991	25.27213	280.	233.	91052124
HSH 24-Hour					
	1987	20.87866	280.	233.	87122524
	1988	21.50071	280.	233.	88090224
	1989	17.66170	280.	233.	89050424
	1990	18.35907	280.	233.	90012024
	1991	18.63533	270.	367.	91052224
HIGH 8-Hour					
	1987	54.88862	270.	367.	87111624
	1988	41.92114	280.	233.	88091416
	1989	47.12786	330.	133.	89033008
	1990	44.81490	300.	162.	90020208
	1991	39.48566	280.	233.	91052124
HSH 8-Hour					
	1987	37.66737	280.	233.	87111708
	1988	40.82223	280.	233.	88090224
	1989	40.94148	330.	133.	89060908
	1990	38.65578	270.	367.	90030816
	1991	34.03381	280.	233.	91111916
HIGH 3-Hour					
	1987	67.53133	300.	162.	87081503
	1988	63.64602	330.	133.	88021824
	1989	85.18713	330.	133.	89033003
	1990	66.05744	320.	137.	90082521
	1991	80.89855	320.	137.	91042803
HSH 3-Hour					
	1987	58.73663	270.	367.	87122418
	1988	57.88411	280.	233.	88112209
	1989	64.70961	330.	133.	89060903
	1990	64.64705	300.	162.	90020403
	1991	54.59151	320.	137.	91031306
HIGH 1-Hour					
	1987	103.25542	20.	185.	87011820
	1988	108.82330	350.	136.	88092304
	1989	108.44503	350.	136.	89030323
	1990	108.95023	350.	136.	90062323
	1991	105.69664	330.	133.	91042303
HSH 1-Hour					
	1987	93.95492	330.	133.	87022605
	1988	107.94650	350.	136.	88040405
	1989	106.12558	330.	133.	89030323
	1990	105.21303	330.	133.	90042322
	1991	105.57511	330.	133.	91032801

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PM10 PROPOSED CTs AND COOLING TOWER CONSTRUCTION COMBINED-CYCLE

ISCST3 OUTPUT FILE NUMBER 1 :HRSGPMCN.087
ISCST3 OUTPUT FILE NUMBER 2 :HRSGPMCN.088
ISCST3 OUTPUT FILE NUMBER 3 :HRSGPMCN.089
ISCST3 OUTPUT FILE NUMBER 4 :HRSGPMCN.090
ISCST3 OUTPUT FILE NUMBER 5 :HRSGPMCN.091
First title for last output file is: 1987 FPL FT. MYERS PM10 SIGNIFICANT IMPACT ANALYSIS 8/16/98
Second title for last output file is: CONSTRUCTION IMPACTS-- HRSG STACKS, 50%L,95 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	1.591	280.	233.	87123124
	1988	2.616	280.	233.	88123124
	1989	1.861	280.	233.	89123124
	1990	1.984	270.	367.	90123124
	1991	1.574	280.	233.	91123124
HIGH 24-Hour					
	1987	24.308	270.	367.	87111624
	1988	18.874	270.	367.	88091624
	1989	18.172	270.	367.	89050424
	1990	18.761	290.	188.	90122124
	1991	20.828	280.	233.	91052124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

SO$_2$ AAQS
PROPOSED CTs/OTHER
SOURCES CONSTRUCTION
COMBINED-CYCLE SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :hraqs2cn.087
ISCST3 OUTPUT FILE NUMBER 2 :hraqs2cn.088
ISCST3 OUTPUT FILE NUMBER 3 :hraqs2cn.089
ISCST3 OUTPUT FILE NUMBER 4 :hraqs2cn.090
ISCST3 OUTPUT FILE NUMBER 5 :hraqs2cn.091
First title for last output file is: 1987 FPL FT. MYERS SO2 AAQS ANALYSIS

8/17/98

Second title for last output file is: HRSG STACKS, BASED ON 75%L, 35 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	4.610	190.	607.	87123124
	1988	3.853	190.	607.	88123124
	1989	2.359	190.	607.	89123124
	1990	2.072	190.	607.	90123124
	1991	1.984	190.	607.	91123124
HIGH 24-Hour					
	1987	86.889	190.	607.	87030524
	1988	112.815	190.	607.	88010524
	1989	79.273	190.	607.	89102824
	1990	57.767	190.	607.	90011324
	1991	47.033	190.	607.	91121624
HSH 24-Hour					
	1987	84.012	190.	607.	87101424
	1988	90.262	190.	607.	88101424
	1989	51.982	190.	607.	89031124
	1990	52.712	190.	607.	90113024
	1991	40.750	190.	607.	91011724
HIGH 3-Hour					
	1987	441.887	190.	607.	87030512
	1988	319.665	190.	607.	88101403
	1989	272.245	190.	607.	89102821
	1990	300.644	190.	607.	90031812
	1991	235.148	190.	607.	91011712
HSH 3-Hour					
	1987	374.491	190.	607.	87010518
	1988	287.719	190.	607.	88010524
	1989	235.005	190.	607.	89010412
	1990	249.719	190.	607.	90113006
	1991	212.532	190.	607.	91121515

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

NO$_2$ AAQS
PROPOSED CTS OTHER
SOURCES CONSTRUCTION
COMBINED-CYCLE SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :hraqnxcn.087
ISCST3 OUTPUT FILE NUMBER 2 :hraqnxcn.088
ISCST3 OUTPUT FILE NUMBER 3 :hraqnxcn.089
ISCST3 OUTPUT FILE NUMBER 4 :hraqnxcn.090
ISCST3 OUTPUT FILE NUMBER 5 :hraqnxcn.091
First title for last output file is: 1987 FPL FT. MYERS NOX AAQS ANALYSIS 8/17/98
Second title for last output file is: CONSTRUCTION IMPACTS-- HRSG STACKS, 50%L/95 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	8.069	280.	233.	87123124
	1988	12.805	280.	233.	88123124
	1989	8.946	280.	233.	89123124
	1990	9.933	270.	367.	90123124
	1991	7.758	280.	233.	91123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PM10 AAQS
PROPOSED CTs/OTHER
SOURCES CONSTRUCTION
COMBINED-CYCLE SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :HRAQPMCN.087
ISCST3 OUTPUT FILE NUMBER 2 :HRAQPMCN.088
ISCST3 OUTPUT FILE NUMBER 3 :HRAQPMCN.089
ISCST3 OUTPUT FILE NUMBER 4 :HRAQPMCN.090
ISCST3 OUTPUT FILE NUMBER 5 :HRAQPMCN.091
First title for last output file is: 1987 FPL FT. MYERS PM10 AAQS ANALYSIS 8/17/98
Second title for last output file is: CONSTRUCTION IMPACTS-- HRSG STACKS, 50%L,95 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
Annual					
	1987	1.624	280.	233.	87123124
	1988	2.637	280.	233.	88123124
	1989	1.895	280.	233.	89123124
	1990	2.026	270.	367.	90123124
	1991	1.615	280.	233.	91123124
HIGH 24-Hour					
	1987	24.308	270.	367.	87111624
	1988	18.896	270.	367.	88091624
	1989	18.175	270.	367.	89050424
	1990	18.761	290.	188.	90122124
	1991	20.828	280.	233.	91052124
HSH 24-Hour					
	1987	18.591	280.	233.	87122524
	1988	17.629	280.	233.	88090224
	1989	15.305	280.	233.	89050424
	1990	15.918	280.	233.	90012024
	1991	15.826	270.	367.	91052224

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

** CONC OF PM10 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.59148 AT (	-3708.38,	-1971.78,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.59144 AT (	-3796.67,	-2018.73,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.59118 AT (	-3884.97,	-2065.68,	0.00,	0.00)	GP	POL
	4TH HIGHEST VALUE IS	0.59112 AT (	-3620.08,	-1924.83,	0.00,	0.00)	GP	POL
	5TH HIGHEST VALUE IS	0.59074 AT (	-3973.26,	-2112.62,	0.00,	0.00)	GP	POL
	6TH HIGHEST VALUE IS	0.59042 AT (	-3531.79,	-1877.89,	0.00,	0.00)	GP	POL
	7TH HIGHEST VALUE IS	0.58938 AT (	-3443.50,	-1830.94,	0.00,	0.00)	GP	POL

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

ISCBOB3 RELEASE 98056

GENERIC IMPACTS
PROPOSED CTs
FUTURE OPERATIONS
SIMPLE-CYCLE

ISCST3 OUTPUT FILE NUMBER 1 :BYPSLDFU.087
ISCST3 OUTPUT FILE NUMBER 2 :BYPSLDFU.088
ISCST3 OUTPUT FILE NUMBER 3 :BYPSLDFU.089
ISCST3 OUTPUT FILE NUMBER 4 :BYPSLDFU.090
ISCST3 OUTPUT FILE NUMBER 5 :BYPSLDFU.091
First title for last output file is: 1987 FPL FT. MYERS GENERIC IMPACTS 8/13/98
Second title for last output file is: GE FRAME 7FA CTS -- BYPASS STACKS, POST CONSTRUCTION

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: BASE95					
Annual					
	1987	0.00884	250.	15000.	87123124
	1988	0.00991	250.	20000.	88123124
	1989	0.00785	250.	15000.	89123124
	1990	0.01379	240.	20000.	90123124
	1991	0.01165	250.	15000.	91123124
HIGH 24-Hour					
	1987	0.23097	250.	10000.	87081824
	1988	0.16393	180.	25000.	88121824
	1989	0.12539	310.	20000.	89091224
	1990	0.16533	230.	7000.	90051124
	1991	0.14467	250.	20000.	91111424
HSH 24-Hour					
	1987	0.14147	250.	7000.	87081724
	1988	0.12602	240.	15000.	88102824
	1989	0.10631	320.	10000.	89091324
	1990	0.10488	230.	30000.	90110224
	1991	0.11658	250.	20000.	91113024
HIGH 8-Hour					
	1987	0.39042	250.	7000.	87081816
	1988	0.31779	180.	25000.	88121808
	1989	0.32779	230.	20000.	89062124
	1990	0.39265	230.	7000.	90051116
	1991	0.35453	180.	1500.	91081616
HSH 8-Hour					
	1987	0.31730	250.	25000.	87060824
	1988	0.22722	280.	25000.	88091424
	1989	0.24003	270.	2000.	89071016
	1990	0.27303	230.	25000.	90060824
	1991	0.30146	250.	20000.	91111424
HIGH 3-Hour					
	1987	0.66022	210.	20000.	87110706
	1988	0.72955	190.	1500.	88070315
	1989	0.60292	270.	1500.	89073115
	1990	0.86845	190.	2000.	90041815
	1991	0.82724	180.	1500.	91081615
HSH 3-Hour					
	1987	0.55171	230.	2000.	87083015
	1988	0.44962	60.	2000.	88060515
	1989	0.56003	270.	2000.	89071015
	1990	0.60665	180.	1500.	90082915
	1991	0.60189	260.	1500.	91062815
HIGH 1-Hour					
	1987	1.84446	10.	1500.	87070612
	1988	1.82870	40.	1500.	88060513

	1989	1.80764	270.	1500.	89073114
	1990	1.81614	90.	1500.	90081014
	1991	1.86491	250.	1500.	91062813
HSH 1-Hour					
	1987	1.62505	230.	1500.	87083014
	1988	1.20841	50.	2000.	88050413
	1989	1.66279	270.	2000.	89071013
	1990	1.67664	50.	1500.	90051912
	1991	1.80568	260.	1500.	91062813
SOURCE GROUP ID:	BASE35				
Annual					
	1987	0.00812	250.	15000.	87123124
	1988	0.00936	240.	20000.	88123124
	1989	0.00798	240.	15000.	89123124
	1990	0.01427	240.	20000.	90123124
	1991	0.01058	250.	20000.	91123124
HIGH 24-Hour					
	1987	0.22316	250.	10000.	87081824
	1988	0.15627	180.	25000.	88121824
	1989	0.11803	310.	20000.	89091224
	1990	0.14329	190.	2000.	90041824
	1991	0.13712	250.	20000.	91111424
HSH 24-Hour					
	1987	0.13216	250.	20000.	87060824
	1988	0.11181	240.	20000.	88102824
	1989	0.09393	250.	20000.	89092724
	1990	0.09897	240.	30000.	90121424
	1991	0.10817	250.	20000.	91113024
HIGH 8-Hour					
	1987	0.38473	250.	7000.	87081816
	1988	0.31331	260.	20000.	88091708
	1989	0.30839	230.	25000.	89062124
	1990	0.36846	190.	2000.	90041816
	1991	0.35063	180.	2000.	91081616
HSH 8-Hour					
	1987	0.29514	250.	25000.	87060824
	1988	0.20468	280.	25000.	88091424
	1989	0.23700	270.	2000.	89071016
	1990	0.25499	230.	25000.	90060824
	1991	0.28020	250.	20000.	91111424
HIGH 3-Hour					
	1987	0.59316	250.	7000.	87081815
	1988	0.71981	200.	2000.	88070315
	1989	0.58548	140.	1500.	89052812
	1990	0.85973	190.	2000.	90041815
	1991	0.81815	180.	2000.	91081615
HSH 3-Hour					
	1987	0.54380	230.	2000.	87083015
	1988	0.40830	230.	25000.	88091124
	1989	0.53894	270.	2000.	89052015
	1990	0.59893	180.	1500.	90082915
	1991	0.46624	310.	2000.	91080615
HIGH 1-Hour					
	1987	1.73767	190.	1500.	87091813
	1988	1.65305	180.	1500.	88070313
	1989	1.75644	140.	1500.	89052811
	1990	1.79518	90.	1500.	90081014
	1991	1.75332	80.	1500.	91041014
HSH 1-Hour					
	1987	1.60832	230.	2000.	87083014

	1988	1.03022	200.	1500.	88070313
	1989	1.61681	270.	2000.	89052013
	1990	1.61648	50.	2000.	90061014
	1991	1.38513	250.	2000.	91051713
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.01012	200.	20000.	87123124
	1988	0.01161	240.	20000.	88123124
	1989	0.00951	300.	15000.	89123124
	1990	0.01677	240.	20000.	90123124
	1991	0.01278	250.	20000.	91123124
HIGH 24-Hour					
	1987	0.29349	250.	7000.	87081824
	1988	0.19256	180.	25000.	88121824
	1989	0.18317	320.	7000.	89091424
	1990	0.18245	230.	7000.	90051124
	1991	0.24682	170.	1500.	91081624
HSH 24-Hour					
	1987	0.15434	250.	20000.	87060824
	1988	0.14099	240.	15000.	88102824
	1989	0.12583	300.	15000.	89091224
	1990	0.13248	230.	20000.	90110224
	1991	0.12489	250.	1500.	91032524
HIGH 8-Hour					
	1987	0.53421	250.	7000.	87081816
	1988	0.42418	10.	160.	88112308
	1989	0.43346	320.	7000.	89091416
	1990	0.43331	230.	7000.	90051116
	1991	0.63468	170.	1500.	91081616
HSH 8-Hour					
	1987	0.35667	250.	25000.	87060824
	1988	0.29033	280.	20000.	88091424
	1989	0.27818	240.	7000.	89080516
	1990	0.32136	230.	20000.	90060824
	1991	0.32538	250.	30000.	91113008
HIGH 3-Hour					
	1987	0.84203	210.	20000.	87110706
	1988	1.00128	10.	160.	88112303
	1989	0.76370	310.	1500.	89090912
	1990	0.89508	190.	1500.	90041815
	1991	0.97936	340.	132.	91030315
HSH 3-Hour					
	1987	0.60955	270.	1500.	87062115
	1988	0.74038	50.	1500.	88040515
	1989	0.71481	240.	1500.	89052912
	1990	0.72859	180.	1500.	90090912
	1991	0.74713	250.	1500.	91032515
HIGH 1-Hour					
	1987	2.24692	180.	1500.	87091812
	1988	2.27730	120.	1500.	88070312
	1989	2.29109	310.	1500.	89090912
	1990	2.37275	210.	1500.	90080412
	1991	2.93807	340.	132.	91030314
HSH 1-Hour					
	1987	1.82865	270.	1500.	87062113
	1988	1.89696	40.	1500.	88060513
	1989	2.14432	240.	1500.	89052912
	1990	1.85862	40.	1500.	90062013
	1991	2.24092	250.	1500.	91032513
SOURCE GROUP ID:	LD7535				

Annual					
	1987	0.00951	200.	20000.	87123124
	1988	0.01096	240.	20000.	88123124
	1989	0.00905	300.	15000.	89123124
	1990	0.01606	240.	20000.	90123124
	1991	0.01241	250.	15000.	91123124
HIGH 24-Hour					
	1987	0.28603	250.	7000.	87081824
	1988	0.18678	180.	20000.	88121824
	1989	0.16085	310.	15000.	89091224
	1990	0.17727	230.	7000.	90051124
	1991	0.24402	170.	1500.	91081624
HSH 24-Hour					
	1987	0.14717	250.	7000.	87081724
	1988	0.13635	240.	15000.	88102824
	1989	0.12338	300.	15000.	89082924
	1990	0.12448	240.	20000.	90032824
	1991	0.12046	250.	20000.	91010224
HIGH 8-Hour					
	1987	0.52842	250.	7000.	87081816
	1988	0.36444	180.	20000.	88121808
	1989	0.36497	230.	20000.	89062124
	1990	0.42101	230.	7000.	90051116
	1991	0.62748	170.	1500.	91081616
HSH 8-Hour					
	1987	0.33538	250.	25000.	87060824
	1988	0.26855	280.	20000.	88091424
	1989	0.27020	270.	1500.	89052016
	1990	0.30690	230.	20000.	90060824
	1991	0.33729	250.	20000.	91113008
HIGH 3-Hour					
	1987	0.79318	120.	1500.	87072715
	1988	0.75259	190.	1500.	88070315
	1989	0.71549	260.	1500.	89061715
	1990	0.88276	190.	2000.	90041815
	1991	0.85913	180.	1500.	91081615
HSH 3-Hour					
	1987	0.60162	270.	1500.	87062115
	1988	0.57902	240.	1500.	88081715
	1989	0.61563	270.	1500.	89073115
	1990	0.72370	180.	1500.	90090912
	1991	0.68757	60.	4000.	91041515
HIGH 1-Hour					
	1987	2.21113	50.	1500.	87050214
	1988	2.20003	240.	1500.	88041412
	1989	2.14521	260.	1500.	89061713
	1990	2.17110	180.	1500.	90090912
	1991	2.22692	80.	1500.	91062214
HSH 1-Hour					
	1987	1.80485	270.	1500.	87062113
	1988	1.73706	240.	1500.	88081714
	1989	1.84462	270.	1500.	89073114
	1990	1.78716	180.	1500.	90082913
	1991	1.97387	240.	1500.	91062513
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.01242	200.	20000.	87123124
	1988	0.01336	240.	20000.	88123124
	1989	0.01042	240.	20000.	89123124
	1990	0.01941	240.	20000.	90123124

	1991	0.01451	250.	15000.	91123124
HIGH 24-Hour					
	1987	0.32000	250.	7000.	87081824
	1988	0.38989	10.	160.	88112324
	1989	0.24223	230.	1500.	89073024
	1990	0.20157	230.	7000.	90051124
	1991	0.34239	20.	300.	91030324
HSH 24-Hour					
	1987	0.18596	250.	20000.	87060824
	1988	0.14001	270.	20000.	88091024
	1989	0.14982	230.	1500.	89090824
	1990	0.14298	240.	20000.	90092024
	1991	0.14382	160.	1500.	91091324
HIGH 8-Hour					
	1987	0.55689	250.	7000.	87081816
	1988	1.16967	10.	160.	88112308
	1989	0.72652	230.	1500.	89073016
	1990	0.51105	50.	1500.	90090816
	1991	0.98436	20.	300.	91030316
HSH 8-Hour					
	1987	0.43445	250.	20000.	87060824
	1988	0.35424	280.	20000.	88091424
	1989	0.33709	230.	1500.	89090816
	1990	0.35860	80.	1500.	90042916
	1991	0.38718	250.	25000.	91111424
HIGH 3-Hour					
	1987	1.01567	210.	20000.	87110706
	1988	2.58749	30.	237.	88112303
	1989	1.45303	230.	1500.	89073015
	1990	1.36123	50.	1500.	90090812
	1991	2.07367	340.	132.	91030315
HSH 3-Hour					
	1987	0.82759	20.	1500.	87092015
	1988	0.77677	120.	1500.	88070312
	1989	0.89885	230.	1500.	89090812
	1990	0.80407	40.	1500.	90062015
	1991	1.08295	20.	300.	91030312
HIGH 1-Hour					
	1987	2.60964	50.	1500.	87080313
	1988	5.21573	10.	160.	88112303
	1989	2.69656	230.	1500.	89090812
	1990	2.61777	20.	1500.	90092212
	1991	6.22093	340.	132.	91030314
HSH 1-Hour					
	1987	2.44338	20.	1500.	87092013
	1988	2.94082	340.	132.	88112302
	1989	2.27335	230.	1500.	89073013
	1990	2.14736	80.	1500.	90042913
	1991	3.19833	20.	300.	91030310
SOURCE GROUP ID:	LD5035				
Annual					
	1987	0.01163	200.	20000.	87123124
	1988	0.01307	240.	20000.	88123124
	1989	0.00995	240.	20000.	89123124
	1990	0.01864	240.	20000.	90123124
	1991	0.01379	250.	15000.	91123124
HIGH 24-Hour					
	1987	0.31183	250.	7000.	87081824
	1988	0.29103	10.	160.	88112324
	1989	0.19452	320.	7000.	89091424

	1990	0.19624	230.	7000.	90051124
	1991	0.27217	20.	300.	91030324
HSH 24-Hour					
	1987	0.17566	250.	20000.	87060824
	1988	0.15199	240.	15000.	88102824
	1989	0.13558	300.	15000.	89091224
	1990	0.13709	240.	20000.	90040824
	1991	0.14302	160.	1500.	91091324
HIGH 8-Hour					
	1987	0.54870	250.	7000.	87081816
	1988	0.87309	10.	160.	88112308
	1989	0.45546	320.	7000.	89091416
	1990	0.50725	50.	1500.	90090816
	1991	0.78250	20.	300.	91030316
HSH 8-Hour					
	1987	0.40731	250.	25000.	87060824
	1988	0.33448	280.	20000.	88091424
	1989	0.28763	270.	1500.	89052016
	1990	0.35694	80.	1500.	90042916
	1991	0.37059	250.	25000.	91113008
HIGH 3-Hour					
	1987	0.96205	210.	20000.	87110706
	1988	1.97328	30.	237.	88112303
	1989	0.85619	180.	1500.	89061115
	1990	1.35143	50.	1500.	90090812
	1991	1.67291	340.	132.	91030315
HSH 3-Hour					
	1987	0.82094	20.	1500.	87092015
	1988	0.75270	50.	1500.	88040515
	1989	0.72863	240.	1500.	89052912
	1990	0.79042	40.	1500.	90062015
	1991	0.85527	20.	300.	91030312
HIGH 1-Hour					
	1987	2.59467	50.	1500.	87080313
	1988	4.04679	10.	160.	88112303
	1989	2.56857	180.	1500.	89061113
	1990	2.58814	250.	1500.	90100112
	1991	5.01871	340.	132.	91030314
HSH 1-Hour					
	1987	2.42725	20.	1500.	87092013
	1988	2.19386	340.	132.	88112302
	1989	2.18579	240.	1500.	89052912
	1990	2.13830	80.	1500.	90042913
	1991	2.54162	20.	300.	91030310

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

GENERIC IMPACTS
PROPOSED CTs
FUTURE OPERATIONS
COMBINED-CYCLE

ISCST3 OUTPUT FILE NUMBER 1 :HRSGLDFU.087
ISCST3 OUTPUT FILE NUMBER 2 :HRSGLDFU.088
ISCST3 OUTPUT FILE NUMBER 3 :HRSGLDFU.089
ISCST3 OUTPUT FILE NUMBER 4 :HRSGLDFU.090
ISCST3 OUTPUT FILE NUMBER 5 :HRSGLDFU.091
First title for last output file is: 1987 FPL FT. MYERS GENERIC IMPACTS

8/1/98

Second title for last output file is: GE FRAME 7FA CTS -- HRSG STACKS, POST CONSTRUCTION

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	BASE95				
Annual					
	1987	0.087	230.	3000.	87123124
	1988	0.097	290.	3000.	88123124
	1989	0.085	300.	3000.	89123124
	1990	0.127	240.	4000.	90123124
	1991	0.100	250.	4000.	91123124
HIGH 24-Hour					
	1987	1.749	250.	2500.	87081824
	1988	1.113	70.	656.	88041224
	1989	1.157	320.	3000.	89091424
	1990	1.268	230.	2500.	90051124
	1991	2.701	110.	577.	91021524
HSH 24-Hour					
	1987	1.253	120.	511.	87010124
	1988	1.000	120.	511.	88040724
	1989	1.032	320.	3000.	89091324
	1990	0.911	230.	4000.	90051124
	1991	1.354	110.	577.	91030424
HIGH 8-Hour					
	1987	3.893	250.	2000.	87081816
	1988	2.978	260.	558.	88091116
	1989	2.685	320.	2500.	89091416
	1990	2.958	230.	2500.	90051116
	1991	4.620	110.	577.	91021516
HSH 8-Hour					
	1987	3.037	120.	511.	87010116
	1988	2.102	110.	577.	88040816
	1989	1.839	270.	2500.	89072516
	1990	2.170	250.	2000.	90063016
	1991	3.170	110.	577.	91030416
HIGH 3-Hour					
	1987	4.971	290.	1100.	87072512
	1988	5.806	110.	577.	88040715
	1989	3.844	230.	919.	89073015
	1990	4.080	110.	577.	90102515
	1991	6.898	110.	577.	91021515
HSH 3-Hour					
	1987	4.047	250.	2000.	87081815
	1988	5.605	110.	577.	88040815
	1989	3.114	270.	2500.	89053115
	1990	3.742	230.	2500.	90041315
	1991	4.754	110.	577.	91042115
HIGH 1-Hour					
	1987	8.660	290.	1100.	87072511
	1988	10.843	80.	632.	88081715

	1989	8.692	110.	1100.	89042713
	1990	8.270	90.	700.	90061616
	1991	10.002	30.	300.	91030314
HSH 1-Hour					
	1987	7.714	290.	1100.	87081612
	1988	8.136	110.	577.	88040814
	1989	6.629	100.	1100.	89041613
	1990	8.018	90.	700.	90062713
	1991	7.842	30.	237.	91030310
SOURCE GROUP ID:	BASE35				
Annual					
	1987	0.075	230.	4000.	87123124
	1988	0.084	290.	3000.	88123124
	1989	0.074	300.	3000.	89123124
	1990	0.109	240.	4000.	90123124
	1991	0.088	250.	4000.	91123124
HIGH 24-Hour					
	1987	1.578	250.	2500.	87081824
	1988	0.897	70.	2500.	88062724
	1989	1.030	320.	3000.	89091424
	1990	1.136	230.	2500.	90051124
	1991	2.210	110.	577.	91021524
HSH 24-Hour					
	1987	0.984	120.	511.	87010124
	1988	0.756	270.	2500.	88081924
	1989	0.906	320.	3000.	89091324
	1990	0.772	240.	5000.	90030724
	1991	1.148	110.	577.	91030424
HIGH 8-Hour					
	1987	3.417	250.	2000.	87081816
	1988	2.560	260.	558.	88091116
	1989	2.363	320.	3000.	89091416
	1990	2.655	230.	2500.	90051116
	1991	3.847	110.	577.	91021516
HSH 8-Hour					
	1987	2.476	120.	511.	87010116
	1988	1.746	290.	3000.	88091416
	1989	1.594	250.	3000.	89111216
	1990	2.001	250.	2500.	90041916
	1991	2.672	110.	577.	91030416
HIGH 3-Hour					
	1987	4.492	60.	705.	87041815
	1988	5.147	110.	577.	88040715
	1989	3.408	230.	919.	89073015
	1990	3.624	230.	2000.	90041315
	1991	5.807	110.	577.	91021515
HSH 3-Hour					
	1987	3.555	250.	2000.	87081815
	1988	3.727	120.	900.	88040715
	1989	2.851	270.	3000.	89040209
	1990	3.376	230.	2500.	90051115
	1991	4.322	110.	577.	91042115
HIGH 1-Hour					
	1987	7.596	290.	1100.	87081612
	1988	10.089	80.	632.	88081715
	1989	8.599	110.	1100.	89042713
	1990	7.266	90.	700.	90061616
	1991	9.038	80.	1100.	91070912
HSH 1-Hour					
	1987	6.523	80.	632.	87092115

	1988	7.452	110.	577.	88040814
	1989	6.264	100.	900.	89042713
	1990	6.520	90.	700.	90062713
	1991	6.862	320.	1100.	91072311
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.116	230.	3000.	87123124
	1988	0.128	290.	2500.	88123124
	1989	0.112	300.	3000.	89123124
	1990	0.169	240.	3000.	90123124
	1991	0.127	240.	3000.	91123124
HIGH 24-Hour					
	1987	2.111	250.	2000.	87081824
	1988	1.573	120.	511.	88050624
	1989	1.431	120.	511.	89022324
	1990	1.596	230.	2000.	90051124
	1991	3.564	110.	577.	91021524
HSH 24-Hour					
	1987	1.696	120.	511.	87010124
	1988	1.346	290.	300.	88112624
	1989	1.246	320.	3000.	89091324
	1990	1.076	120.	511.	90102524
	1991	1.853	110.	577.	91030424
HIGH 8-Hour					
	1987	4.679	250.	2000.	87081816
	1988	4.199	260.	558.	88091116
	1989	3.232	320.	2500.	89091416
	1990	3.678	230.	2000.	90051116
	1991	6.001	110.	577.	91021516
HSH 8-Hour					
	1987	4.105	120.	511.	87010116
	1988	2.860	290.	300.	88010716
	1989	2.333	270.	2500.	89072516
	1990	2.603	250.	2000.	90063016
	1991	4.326	110.	577.	91030416
HIGH 3-Hour					
	1987	5.859	60.	705.	87041815
	1988	7.371	110.	577.	88040715
	1989	4.642	270.	2000.	89082315
	1990	5.638	110.	577.	90102515
	1991	8.747	110.	577.	91021515
HSH 3-Hour					
	1987	4.857	250.	2000.	87081815
	1988	7.061	110.	577.	88040815
	1989	3.924	270.	2500.	89053115
	1990	4.676	230.	2000.	90051115
	1991	6.256	20.	300.	91021415
HIGH 1-Hour					
	1987	9.296	80.	632.	87042511
	1988	12.061	80.	632.	88081715
	1989	11.787	110.	1100.	89042712
	1990	10.661	90.	600.	90062713
	1991	12.604	30.	300.	91030314
HSH 1-Hour					
	1987	8.535	80.	632.	87092115
	1988	10.356	70.	656.	88041216
	1989	8.861	110.	1100.	89042713
	1990	9.958	90.	700.	90061616
	1991	10.248	30.	237.	91030310
SOURCE GROUP ID:	LD7535				

Annual					
	1987	0.104	230.	3000.	87123124
	1988	0.114	290.	3000.	88123124
	1989	0.096	300.	3000.	89123124
	1990	0.142	240.	4000.	90123124
	1991	0.112	250.	3000.	91123124
HIGH 24-Hour					
	1987	1.928	250.	2000.	87081824
	1988	1.276	70.	656.	88041224
	1989	1.274	320.	2500.	89091424
	1990	1.429	230.	2000.	90051124
	1991	3.139	110.	577.	91021524
HSH 24-Hour					
	1987	1.452	120.	511.	87010124
	1988	1.146	290.	300.	88112624
	1989	1.139	320.	3000.	89091324
	1990	0.961	240.	4000.	90030724
	1991	1.581	110.	577.	91030424
HIGH 8-Hour					
	1987	4.289	250.	2000.	87081816
	1988	3.265	260.	558.	88091116
	1989	2.959	320.	2500.	89091416
	1990	3.347	230.	2000.	90051116
	1991	5.307	110.	577.	91021516
HSH 8-Hour					
	1987	3.521	120.	511.	87010116
	1988	2.352	120.	511.	88050616
	1989	2.078	270.	2500.	89072516
	1990	2.388	250.	2000.	90063016
	1991	3.734	110.	577.	91030416
HIGH 3-Hour					
	1987	5.306	60.	705.	87041815
	1988	6.562	110.	577.	88040715
	1989	4.279	270.	2000.	89082315
	1990	4.815	110.	577.	90102515
	1991	7.824	110.	577.	91021515
HSH 3-Hour					
	1987	4.457	250.	2000.	87081815
	1988	6.253	110.	577.	88040815
	1989	3.521	270.	2500.	89053115
	1990	4.248	230.	2000.	90051115
	1991	5.324	110.	577.	91030415
HIGH 1-Hour					
	1987	8.813	290.	1100.	87072511
	1988	11.460	80.	632.	88081715
	1989	8.775	110.	1100.	89042713
	1990	9.311	90.	700.	90062713
	1991	11.757	110.	1100.	91053111
HSH 1-Hour					
	1987	7.896	80.	632.	87092115
	1988	9.161	70.	656.	88041216
	1989	7.127	100.	1100.	89042713
	1990	9.116	90.	700.	90061616
	1991	9.274	80.	1100.	91070912
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.149	230.	2500.	87123124
	1988	0.178	290.	300.	88123124
	1989	0.142	300.	2500.	89123124
	1990	0.211	240.	3000.	90123124

	1991	0.159	230.	3000.	91123124
HIGH 24-Hour					
	1987	2.498	250.	2000.	87081824
	1988	2.084	120.	511.	88050624
	1989	1.880	120.	511.	89022324
	1990	1.940	230.	2000.	90051124
	1991	4.462	110.	577.	91021524
HSH 24-Hour					
	1987	2.208	120.	511.	87010124
	1988	1.789	290.	300.	88112624
	1989	1.483	320.	2500.	89091324
	1990	1.433	120.	511.	90102524
	1991	2.417	110.	577.	91030424
HIGH 8-Hour					
	1987	5.422	250.	2000.	87081816
	1988	5.243	260.	558.	88091116
	1989	3.801	320.	2000.	89091416
	1990	4.450	230.	2000.	90051116
	1991	7.382	110.	577.	91021516
HSH 8-Hour					
	1987	5.251	120.	511.	87041716
	1988	3.851	290.	300.	88010716
	1989	2.972	270.	2000.	89101516
	1990	3.177	120.	511.	90040316
	1991	5.701	20.	300.	91021416
HIGH 3-Hour					
	1987	7.242	60.	705.	87041815
	1988	9.054	70.	656.	88041218
	1989	5.974	70.	656.	89083115
	1990	7.355	110.	577.	90102515
	1991	10.548	110.	577.	91021515
HSH 3-Hour					
	1987	5.834	120.	511.	87041718
	1988	8.694	110.	577.	88040815
	1989	5.207	70.	656.	89042715
	1990	5.528	230.	1500.	90051115
	1991	8.292	20.	300.	91030312
HIGH 1-Hour					
	1987	15.850	10.	160.	87021616
	1988	14.429	70.	656.	88041217
	1989	12.846	20.	2000.	89030213
	1990	13.577	90.	600.	90062713
	1991	15.049	30.	300.	91030314
HSH 1-Hour					
	1987	10.118	80.	632.	87092115
	1988	12.732	70.	656.	88041216
	1989	11.187	20.	2000.	89121913
	1990	11.840	90.	600.	90061616
	1991	12.574	30.	237.	91030310
SOURCE GROUP ID:	LD5035				
Annual					
	1987	0.136	230.	2500.	87123124
	1988	0.150	290.	300.	88123124
	1989	0.126	300.	2500.	89123124
	1990	0.191	240.	3000.	90123124
	1991	0.146	250.	3000.	91123124
HIGH 24-Hour					
	1987	2.333	250.	2000.	87081824
	1988	1.902	120.	511.	88050624
	1989	1.691	120.	511.	89022324

	1990	1.823	230.	2000.	90051124
	1991	4.090	110.	577.	91021524
HSH 24-Hour					
	1987	1.996	120.	511.	87010124
	1988	1.584	290.	300.	88091424
	1989	1.381	320.	2500.	89091324
	1990	1.282	120.	511.	90102524
	1991	2.163	110.	577.	91030424
HIGH 8-Hour					
	1987	5.126	250.	2000.	87081816
	1988	4.727	260.	558.	88091116
	1989	3.550	320.	2500.	89091416
	1990	4.192	230.	2000.	90051116
	1991	6.824	110.	577.	91021516
HSH 8-Hour					
	1987	4.748	120.	511.	87041716
	1988	3.403	290.	300.	88010716
	1989	2.646	270.	2500.	89101516
	1990	2.852	250.	2000.	90063016
	1991	5.082	110.	577.	91030416
HIGH 3-Hour					
	1987	6.680	60.	705.	87041815
	1988	8.367	70.	656.	88041218
	1989	5.236	270.	1500.	89082315
	1990	6.648	110.	577.	90102515
	1991	9.825	110.	577.	91021515
HSH 3-Hour					
	1987	5.315	250.	2000.	87081815
	1988	8.030	110.	577.	88040815
	1989	4.325	270.	2000.	89053115
	1990	5.260	230.	2000.	90041315
	1991	7.611	20.	300.	91030312
HIGH 1-Hour					
	1987	14.355	350.	136.	87021616
	1988	13.330	70.	656.	88041217
	1989	11.905	110.	1100.	89042712
	1990	12.398	90.	600.	90062713
	1991	14.078	30.	300.	91030314
HSH 1-Hour					
	1987	9.295	80.	632.	87092115
	1988	11.771	70.	656.	88041216
	1989	9.186	110.	900.	89042713
	1990	11.059	90.	600.	90061616
	1991	11.643	30.	237.	91030310

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PM10 PROPOSED
CTs AND COOLING TOWER
FUTURE OPERATIONS
COMBINED-CYCLE

ISCST3 OUTPUT FILE NUMBER 1 :HRSGPMFU.087
ISCST3 OUTPUT FILE NUMBER 2 :HRSGPMFU.088
ISCST3 OUTPUT FILE NUMBER 3 :HRSGPMFU.089
ISCST3 OUTPUT FILE NUMBER 4 :HRSGPMFU.090
ISCST3 OUTPUT FILE NUMBER 5 :HRSGPMFU.091
First title for last output file is: 1987 FPL FT. MYERS PM10 SIGNIFICANT IMPACT ANALYSIS 8/16/98
Second title for last output file is: POST CONSTRUCTION IMPACTS-- HRSG STACKS, 50%L, 35 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	0.319	230.	919.	87123124
	1988	0.363	270.	367.	88123124
	1989	0.364	280.	300.	89123124
	1990	0.444	230.	1100.	90123124
	1991	0.373	230.	919.	91123124
HIGH 24-Hour					
	1987	3.941	230.	919.	87081824
	1988	4.362	130.	700.	88050624
	1989	4.095	320.	300.	89091424
	1990	4.295	120.	700.	90061124
	1991	5.505	130.	500.	91021524

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

SO$_2$ AAQS PROPOSED
CTs/OTHER SOURCES FUTURE
OPERATIONS
COMBINED-CYCLE SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :hraqs2fu.o87
ISCST3 OUTPUT FILE NUMBER 2 :hraqs2fu.o88
ISCST3 OUTPUT FILE NUMBER 3 :hraqs2fu.o89
ISCST3 OUTPUT FILE NUMBER 4 :hraqs2fu.o90
ISCST3 OUTPUT FILE NUMBER 5 :hraqs2fu.o91
First title for last output file is: 1987 FPL FT. MYERS SO2 AAQS ANALYSIS 8/17/98
Second title for last output file is: POST CONSTRUCTION IMPACTS-- HRSG STACKS, 50% LOAD, 35 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
Annual					
	1987	1.309	220.	2000.	87123124
	1988	1.475	230.	2000.	88123124
	1989	1.453	260.	2000.	89123124
	1990	2.147	230.	2000.	90123124
	1991	1.937	240.	2000.	91123124
HIGH 24-Hour					
	1987	18.797	180.	2000.	87091824
	1988	21.337	280.	1500.	88072724
	1989	18.319	320.	1500.	89090924
	1990	17.146	50.	2000.	90062024
	1991	32.352	230.	1500.	91062524
HSH 24-Hour					
	1987	16.344	240.	2000.	87052124
	1988	13.885	300.	1500.	88072724
	1989	15.434	320.	2000.	89091424
	1990	14.717	60.	2000.	90090824
	1991	20.248	230.	1500.	91062824
HIGH 3-Hour					
	1987	78.297	140.	1500.	87080512
	1988	130.115	130.	1500.	88070312
	1989	105.817	220.	2000.	89073015
	1990	109.008	60.	1500.	90090812
	1991	142.870	230.	1500.	91062512
HSH 3-Hour					
	1987	62.900	20.	1100.	87092015
	1988	70.938	120.	1500.	88080712
	1989	78.505	260.	1500.	89071612
	1990	72.779	270.	1500.	90070715
	1991	99.371	240.	1500.	91062415

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

**MODELOPTs: CONC RURAL FLAT DFAULT NOCMPL

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

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

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	153.19989	ON 91062512: AT (	-1277.82,	-962.90,	0.00,	0.00)	GP	POL
	HIGH	2ND HIGH VALUE IS	111.90719	ON 91062512: AT (	-1438.07,	-701.39,	0.00,	0.00)	GP	POL

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

**MODELOPTs: CONC   RURAL FLAT   DFAULT   NOCMPL

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

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

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	~~34.46133c~~	ON 91062524: AT (	-1302.28,	-1092.74,	0.00,	0.00)	GP	POL
	HIGH 2ND HIGH VALUE IS	21.19265c	ON 91062824: AT (	-1302.28,	-1092.74,	0.00,	0.00)	GP	POL

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

**MODELOPTs: CONC   RURAL FLAT   DFAULT   NOCMPL

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

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

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	2.53470 AT (	-1916.73,	-1444.36,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	2.53178 AT (	-1941.64,	-1410.69,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	2.50228 AT (	-1965.96,	-1376.58,	0.00,	0.00)	GP	POL
	4TH HIGHEST VALUE IS	2.50000 AT (	-1891.23,	-1477.59,	0.00,	0.00)	GP	POL
	5TH HIGHEST VALUE IS	2.49414 AT (	-1836.86,	-1384.17,	0.00,	0.00)	GP	POL
	6TH HIGHEST VALUE IS	2.48356 AT (	-1860.74,	-1351.91,	0.00,	0.00)	GP	POL
	7TH HIGHEST VALUE IS	2.46994 AT (	-1812.42,	-1416.02,	0.00,	0.00)	GP	POL

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

ISCBOB3 RELEASE 98056

NO$_2$ AAQS PROPOSED
CTs/OTHER SOURCES FUTURE
OPERATIONS
COMBINED-CYCLE SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :hraqnxfu.o87
ISCST3 OUTPUT FILE NUMBER 2 :hraqnxfu.o88
ISCST3 OUTPUT FILE NUMBER 3 :hraqnxfu.o89
ISCST3 OUTPUT FILE NUMBER 4 :hraqnxfu.o90
ISCST3 OUTPUT FILE NUMBER 5 :hraqnxfu.o91
First title for last output file is: 1987 FPL FT. MYERS NOX AAQS ANALYSIS 8/17/98
Second title for last output file is: POST CONSTRUCTION IMPACTS-- HRSG STACKS, 50% LOAD, 35 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	2.349	230.	2000.	87123124
	1988	2.606	240.	2000.	88123124
	1989	2.482	290.	2000.	89123124
	1990	3.643	240.	2000.	90123124
	1991	3.250	240.	2000.	91123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

**MODELOPTs: CONC   RURAL FLAT   DFAULT   NOCMPL

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

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

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	3.76114 AT (	-1576.02,	-1231.32,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	3.76114 AT (	-1597.27,	-1203.63,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	3.73511 AT (	-1618.03,	-1175.57,	0.00,	0.00)	GP	POL
	4TH HIGHEST VALUE IS	3.72074 AT (	-1554.29,	-1258.64,	0.00,	0.00)	GP	POL
	5TH HIGHEST VALUE IS	3.70087 AT (	-1638.30,	-1147.15,	0.00,	0.00)	GP	POL
	6TH HIGHEST VALUE IS	3.67377 AT (	-1658.08,	-1118.39,	0.00,	0.00)	GP	POL
	7TH HIGHEST VALUE IS	3.66154 AT (	-1677.34,	-1089.28,	0.00,	0.00)	GP	POL

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

ISCBOB3 RELEASE 98056

PM10 AAQS PROPOSED
CTs/OTHER SOURCES FUTURE
OPERATIONS
COMBINED-CYCLE SCREENING

ISCST3 OUTPUT FILE NUMBER 1 :hraqpmfu.o87
ISCST3 OUTPUT FILE NUMBER 2 :hraqpmfu.o88
ISCST3 OUTPUT FILE NUMBER 3 :hraqpmfu.o89
ISCST3 OUTPUT FILE NUMBER 4 :hraqpmfu.o90
ISCST3 OUTPUT FILE NUMBER 5 :hraqpmfu.o91
First title for last output file is: 1987 FPL FT. MYERS PM10 AAQS ANALYSIS 8/17/98
Second title for last output file is: POST CONSTRUCTION IMPACTS-- HRSG STACKS, 50% LOAD, 95 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
Annual					
	1987	0.381	230.	919.	87123124
	1988	0.434	260.	558.	88123124
	1989	0.416	280.	300.	89123124
	1990	0.550	230.	919.	90123124
	1991	0.465	230.	919.	91123124
HIGH 24-Hour					
	1987	4.271	130.	700.	87041724
	1988	4.438	130.	700.	88050624
	1989	4.257	280.	700.	89082924
	1990	4.339	120.	700.	90061124
	1991	5.693	130.	500.	91021524
HSH 24-Hour					
	1987	3.670	230.	919.	87081724
	1988	3.940	130.	700.	88070124
	1989	3.703	320.	700.	89091424
	1990	3.478	220.	906.	90042424
	1991	3.942	130.	500.	91042124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

GENERIC IMPACTS
PROPOSED CTs FUTURE
OPERATIONS CLASS I AREA
SIMPLE-CYCLE

ISCST3 OUTPUT FILE NUMBER 1 :BYPSLDF1.087
ISCST3 OUTPUT FILE NUMBER 2 :BYPSLDF1.088
ISCST3 OUTPUT FILE NUMBER 3 :BYPSLDF1.089
ISCST3 OUTPUT FILE NUMBER 4 :BYPSLDF1.090
ISCST3 OUTPUT FILE NUMBER 5 :BYPSLDF1.091
First title for last output file is: 1987 FPL FT. MYERS GENERIC IMPACTS, AT EVERGLADES NP 8/16/98
Second title for last output file is: GE FRAME 7FA CTS -- BYPASS STACKS, POST CONSTRUCTION

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: BASE95					
Annual					
	1987	0.00197	454000.	2863200.	87123124
	1988	0.00161	550300.	2848600.	88123124
	1989	0.00177	459500.	2863200.	89123124
	1990	0.00148	459500.	2863200.	90123124
	1991	0.00144	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.05428	464000.	2860000.	87021224
	1988	0.04811	454000.	2863200.	88012324
	1989	0.05065	514500.	2843000.	89012324
	1990	0.03812	488500.	2845500.	90032024
	1991	0.03586	520000.	2848600.	91020924
HIGH 8-Hour					
	1987	0.11739	459500.	2863200.	87091824
	1988	0.14645	495000.	2832500.	88121324
	1989	0.13491	514500.	2843000.	89012308
	1990	0.10719	459500.	2863200.	90051108
	1991	0.09527	500000.	2832500.	91022524
HIGH 3-Hour					
	1987	0.20951	459500.	2863200.	87013124
	1988	0.26679	454000.	2863200.	88012303
	1989	0.26108	514500.	2848600.	89102903
	1990	0.22449	454000.	2863200.	90010824
	1991	0.20399	488500.	2845500.	91022521
HIGH 1-Hour					
	1987	0.48108	469000.	2860000.	87080907
	1988	0.47178	473500.	2857000.	88110118
	1989	0.47597	473500.	2857000.	89120419
	1990	0.50290	464000.	2860000.	90081221
	1991	0.47413	459500.	2863200.	91053023
SOURCE GROUP ID: BASE35					
Annual					
	1987	0.00190	454000.	2863200.	87123124
	1988	0.00153	550300.	2848600.	88123124
	1989	0.00169	459500.	2863200.	89123124
	1990	0.00140	459500.	2863200.	90123124
	1991	0.00133	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.05175	464000.	2860000.	87021224
	1988	0.04663	454000.	2863200.	88012324
	1989	0.04898	514500.	2843000.	89012324
	1990	0.03701	488500.	2845500.	90032024
	1991	0.03425	520000.	2848600.	91020924
HIGH 8-Hour					
	1987	0.11088	459500.	2863200.	87091824

	1988	0.14099	495000.	2832500.	88121324
	1989	0.13039	514500.	2843000.	89012308
	1990	0.10212	459500.	2863200.	90051108
	1991	0.09240	500000.	2832500.	91022524
HIGH 3-Hour					
	1987	0.20288	459500.	2863200.	87013124
	1988	0.25825	454000.	2863200.	88012303
	1989	0.24572	514500.	2848600.	89102903
	1990	0.21604	454000.	2863200.	90010824
	1991	0.19762	488500.	2845500.	91022521
HIGH 1-Hour					
	1987	0.46137	469000.	2860000.	87080907
	1988	0.45276	473500.	2857000.	88110118
	1989	0.45672	473500.	2857000.	89120419
	1990	0.47940	464000.	2860000.	90081221
	1991	0.45411	459500.	2863200.	91053023
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.00226	454000.	2863200.	87123124
	1988	0.00174	550300.	2848600.	88123124
	1989	0.00200	459500.	2863200.	89123124
	1990	0.00169	459500.	2863200.	90123124
	1991	0.00160	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.06040	464000.	2860000.	87021224
	1988	0.05145	454000.	2863200.	88012324
	1989	0.05361	514500.	2843000.	89012324
	1990	0.04152	488500.	2845500.	90032024
	1991	0.03847	520000.	2848600.	91020924
HIGH 8-Hour					
	1987	0.13337	459500.	2863200.	87091824
	1988	0.15915	495000.	2832500.	88121324
	1989	0.14276	514500.	2843000.	89012308
	1990	0.11945	459500.	2863200.	90051108
	1991	0.10880	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.23306	459500.	2863200.	87091824
	1988	0.28607	454000.	2863200.	88012303
	1989	0.29840	514500.	2848600.	89102903
	1990	0.24398	454000.	2863200.	90010824
	1991	0.21853	488500.	2845500.	91022521
HIGH 1-Hour					
	1987	0.52736	469000.	2860000.	87080907
	1988	0.51612	473500.	2857000.	88110118
	1989	0.52046	473500.	2857000.	89120419
	1990	0.55869	464000.	2860000.	90081221
	1991	0.52104	459500.	2863200.	91053023
SOURCE GROUP ID:	LD7535				
Annual					
	1987	0.00215	454000.	2863200.	87123124
	1988	0.00169	550300.	2848600.	88123124
	1989	0.00191	459500.	2863200.	89123124
	1990	0.00164	459500.	2863200.	90123124
	1991	0.00156	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.05859	464000.	2860000.	87021224
	1988	0.05049	454000.	2863200.	88012324
	1989	0.05244	514500.	2843000.	89012324
	1990	0.04078	488500.	2845500.	90032024
	1991	0.03784	520000.	2848600.	91020924

HIGH 8-Hour					
	1987	0.12871	459500.	2863200.	87091824
	1988	0.15544	495000.	2832500.	88121324
	1989	0.13959	514500.	2843000.	89012308
	1990	0.11586	459500.	2863200.	90051108
	1991	0.10395	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.22349	459500.	2863200.	87091824
	1988	0.28049	454000.	2863200.	88012303
	1989	0.28738	514500.	2848600.	89102903
	1990	0.23838	454000.	2863200.	90010824
	1991	0.21440	488500.	2845500.	91022521
HIGH 1-Hour					
	1987	0.51417	469000.	2860000.	87080907
	1988	0.50341	473500.	2857000.	88110118
	1989	0.50756	473500.	2857000.	89120419
	1990	0.54264	464000.	2860000.	90081221
	1991	0.50758	459500.	2863200.	91053023
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.00245	454000.	2863200.	87123124
	1988	0.00194	550300.	2848600.	88123124
	1989	0.00225	459500.	2863200.	89123124
	1990	0.00192	459500.	2863200.	90123124
	1991	0.00181	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.06693	464000.	2860000.	87021224
	1988	0.05490	454000.	2863200.	88012324
	1989	0.05872	514500.	2843000.	89012324
	1990	0.04416	488500.	2845500.	90032024
	1991	0.04065	520000.	2848600.	91020924
HIGH 8-Hour					
	1987	0.14865	459500.	2863200.	87091824
	1988	0.17269	495000.	2832500.	88121324
	1989	0.15683	514500.	2843000.	89012308
	1990	0.13106	459500.	2863200.	90051108
	1991	0.12470	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.26487	459500.	2863200.	87091824
	1988	0.30299	454000.	2863200.	88012303
	1989	0.29577	514500.	2848600.	89102903
	1990	0.26136	454000.	2863200.	90010824
	1991	0.23127	488500.	2845500.	91022521
HIGH 1-Hour					
	1987	0.56903	469000.	2860000.	87080907
	1988	0.55596	473500.	2857000.	88110118
	1989	0.56041	473500.	2857000.	89120419
	1990	0.60978	464000.	2860000.	90081221
	1991	0.56343	459500.	2863200.	91053023
SOURCE GROUP ID:	LD5035				
Annual					
	1987	0.00240	454000.	2863200.	87123124
	1988	0.00188	550300.	2848600.	88123124
	1989	0.00217	459500.	2863200.	89123124
	1990	0.00183	459500.	2863200.	90123124
	1991	0.00177	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.06452	464000.	2860000.	87021224
	1988	0.05404	454000.	2863200.	88012324
	1989	0.05747	514500.	2843000.	89012324

	1990	0.04311	488500.	2845500.	90032024
	1991	0.03998	520000.	2848600.	91020924
HIGH 8-Hour					
	1987	0.14420	459500.	2863200.	87091824
	1988	0.16752	495000.	2832500.	88121324
	1989	0.15340	514500.	2843000.	89012308
	1990	0.12767	459500.	2863200.	90051108
	1991	0.11996	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.25554	459500.	2863200.	87091824
	1988	0.29814	454000.	2863200.	88012303
	1989	0.28328	514500.	2848600.	89102903
	1990	0.25638	454000.	2863200.	90010824
	1991	0.22765	488500.	2845500.	91022521
HIGH 1-Hour					
	1987	0.55713	469000.	2860000.	87080907
	1988	0.54455	473500.	2857000.	88110118
	1989	0.54890	473500.	2857000.	89120419
	1990	0.59509	464000.	2860000.	90081221
	1991	0.55127	459500.	2863200.	91053023

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PM10/CLASS I PROPOSED CTs
AND COOLING TOWER
FUTURE OPERATIONS
SIMPLE-CYCLE

ISCST3 OUTPUT FILE NUMBER 1 :BYSGpmF1.o87
ISCST3 OUTPUT FILE NUMBER 2 :BYSGpmF1.o88
ISCST3 OUTPUT FILE NUMBER 3 :BYSGpmF1.o89
ISCST3 OUTPUT FILE NUMBER 4 :BYSGpmF1.o90
ISCST3 OUTPUT FILE NUMBER 5 :BYSGpmF1.o91
First title for last output file is: 1987 FPL FT. MYERS PM10 SIGNIF. IMPACT AT EVERGLADES NP 8/19/98
Second title for last output file is: BYPASS STACKS AT 50%L/95 DEG, POST CONSTRUCTION

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	0.003	459500.	2863200.	87123124
	1988	0.002	550300.	2848600.	88123124
	1989	0.003	459500.	2863200.	89123124
	1990	0.003	459500.	2863200.	90123124
	1991	0.003	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.127	459500.	2863200.	87091824
	1988	0.067	514500.	2843000.	88042824
	1989	0.073	514500.	2848600.	89102924
	1990	0.078	459500.	2863200.	90061224
	1991	0.075	473500.	2860000.	91021024

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PROPOSED CTs FUTURE OPERATIONS CLASS I AREA COMBINED-CYCLE GENERIC IMPACTS

ISCST3 OUTPUT FILE NUMBER 1 :HRSGLDF1.087
ISCST3 OUTPUT FILE NUMBER 2 :HRSGLDF1.088
ISCST3 OUTPUT FILE NUMBER 3 :HRSGLDF1.089
ISCST3 OUTPUT FILE NUMBER 4 :HRSGLDF1.090
ISCST3 OUTPUT FILE NUMBER 5 :HRSGLDF1.091
First title for last output file is: 1987 FPL FT. MYERS GENERIC IMPACTS, AT EVERGLADES NP 8/16/98
Second title for last output file is: GE FRAME 7FA CTS -- HRSG STACKS, POST CONSTRUCTION

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: BASE95					
Annual					
	1987	0.00454	454000.	2863200.	87123124
	1988	0.00322	459500.	2863200.	88123124
	1989	0.00467	459500.	2863200.	89123124
	1990	0.00356	459500.	2863200.	90123124
	1991	0.00346	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.15313	459500.	2863200.	87091824
	1988	0.08026	514500.	2843000.	88042824
	1989	0.09425	469000.	2860000.	89102924
	1990	0.08694	459500.	2863200.	90061224
	1991	0.10186	473500.	2860000.	91021024
HIGH 8-Hour					
	1987	0.31573	459500.	2863200.	87091824
	1988	0.25539	495000.	2832500.	88121324
	1989	0.24943	514500.	2848600.	89102908
	1990	0.30429	459500.	2863200.	90061208
	1991	0.30512	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.64062	459500.	2863200.	87091824
	1988	0.45994	514500.	2843000.	88042803
	1989	0.66514	514500.	2848600.	89102903
	1990	0.60858	459500.	2863200.	90061203
	1991	0.46546	530000.	2848600.	91081803
HIGH 1-Hour					
	1987	1.06172	459500.	2863200.	87082905
	1988	1.12857	550300.	2848600.	88042501
	1989	1.29430	459500.	2863200.	89112101
	1990	1.06882	464000.	2860000.	90081221
	1991	1.18615	464000.	2860000.	91011421
SOURCE GROUP ID: BASE35					
Annual					
	1987	0.00445	454000.	2863200.	87123124
	1988	0.00312	459500.	2863200.	88123124
	1989	0.00453	459500.	2863200.	89123124
	1990	0.00347	459500.	2863200.	90123124
	1991	0.00329	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.14691	459500.	2863200.	87091824
	1988	0.07754	514500.	2843000.	88042824
	1989	0.09157	469000.	2860000.	89102924
	1990	0.08262	459500.	2863200.	90061224
	1991	0.09655	473500.	2860000.	91021024
HIGH 8-Hour					
	1987	0.30220	459500.	2863200.	87091824

	1988	0.24802	495000.	2832500.	88121324
	1989	0.23873	514500.	2848600.	89102908
	1990	0.28918	459500.	2863200.	90061208
	1991	0.28744	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.60905	459500.	2863200.	87091824
	1988	0.44146	514500.	2843000.	88042803
	1989	0.63660	514500.	2848600.	89102903
	1990	0.57837	459500.	2863200.	90061203
	1991	0.44471	530000.	2848600.	91081803
HIGH 1-Hour					
	1987	1.00597	459500.	2863200.	87082905
	1988	1.06080	550300.	2848600.	88042501
	1989	1.20069	459500.	2863200.	89112101
	1990	1.03773	464000.	2860000.	90081221
	1991	1.11459	464000.	2860000.	91011421
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.00467	454000.	2863200.	87123124
	1988	0.00340	459500.	2863200.	88123124
	1989	0.00491	459500.	2863200.	89123124
	1990	0.00370	459500.	2863200.	90123124
	1991	0.00362	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.16277	459500.	2863200.	87091824
	1988	0.08443	514500.	2843000.	88042824
	1989	0.11364	514500.	2848600.	89102924
	1990	0.09368	459500.	2863200.	90061224
	1991	0.11513	530000.	2848600.	91081824
HIGH 8-Hour					
	1987	0.33674	459500.	2863200.	87091824
	1988	0.26662	495000.	2832500.	88121324
	1989	0.32949	514500.	2848600.	89102908
	1990	0.32789	459500.	2863200.	90061208
	1991	0.33313	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.68992	459500.	2863200.	87091824
	1988	0.48836	514500.	2843000.	88042803
	1989	0.70922	514500.	2848600.	89102903
	1990	0.65578	459500.	2863200.	90061203
	1991	0.49760	530000.	2848600.	91081803
HIGH 1-Hour					
	1987	1.14921	459500.	2863200.	87082905
	1988	1.23617	550300.	2848600.	88042501
	1989	1.44626	459500.	2863200.	89112101
	1990	1.15200	454000.	2863200.	90050124
	1991	1.29990	464000.	2860000.	91011421
SOURCE GROUP ID:	LD7535				
Annual					
	1987	0.00461	454000.	2863200.	87123124
	1988	0.00328	459500.	2863200.	88123124
	1989	0.00476	459500.	2863200.	89123124
	1990	0.00363	459500.	2863200.	90123124
	1991	0.00356	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.15807	459500.	2863200.	87091824
	1988	0.08241	514500.	2843000.	88042824
	1989	0.09679	459500.	2863200.	89112124
	1990	0.09039	459500.	2863200.	90061224
	1991	0.10614	473500.	2860000.	91021024

HIGH 8-Hour					
	1987	0.32650	459500.	2863200.	87091824
	1988	0.26118	495000.	2832500.	88121324
	1989	0.25792	514500.	2848600.	89102908
	1990	0.31637	459500.	2863200.	90061208
	1991	0.31941	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.66586	459500.	2863200.	87091824
	1988	0.47455	514500.	2843000.	88042803
	1989	0.68778	514500.	2848600.	89102903
	1990	0.63274	459500.	2863200.	90061203
	1991	0.48196	530000.	2848600.	91081803
HIGH 1-Hour					
	1987	1.10646	459500.	2863200.	87082905
	1988	1.18340	550300.	2848600.	88042501
	1989	1.37124	459500.	2863200.	89112101
	1990	1.10903	454000.	2863200.	90050124
	1991	1.24410	464000.	2860000.	91011421
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.00480	454000.	2863200.	87123124
	1988	0.00365	459500.	2863200.	88123124
	1989	0.00511	459500.	2863200.	89123124
	1990	0.00382	459500.	2863200.	90123124
	1991	0.00379	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.17140	459500.	2863200.	87091824
	1988	0.08812	514500.	2843000.	88042824
	1989	0.11859	514500.	2848600.	89102924
	1990	0.09978	459500.	2863200.	90061224
	1991	0.11993	530000.	2848600.	91081824
HIGH 8-Hour					
	1987	0.35560	459500.	2863200.	87091824
	1988	0.27653	495000.	2832500.	88121324
	1989	0.34425	514500.	2848600.	89102908
	1990	0.34922	459500.	2863200.	90061208
	1991	0.35883	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.73445	459500.	2863200.	87091824
	1988	0.51375	514500.	2843000.	88042803
	1989	0.74856	514500.	2848600.	89102903
	1990	0.69844	459500.	2863200.	90061203
	1991	0.52899	464000.	2860000.	91121821
HIGH 1-Hour					
	1987	1.22866	459500.	2863200.	87082905
	1988	1.33509	550300.	2848600.	88042501
	1989	1.58946	459500.	2863200.	89112101
	1990	1.23186	454000.	2863200.	90050124
	1991	1.40465	464000.	2860000.	91011421
SOURCE GROUP ID:	LD5035				
Annual					
	1987	0.00475	454000.	2863200.	87123124
	1988	0.00361	459500.	2863200.	88123124
	1989	0.00501	459500.	2863200.	89123124
	1990	0.00377	459500.	2863200.	90123124
	1991	0.00375	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.16800	459500.	2863200.	87091824
	1988	0.08666	514500.	2843000.	88042824
	1989	0.11665	514500.	2848600.	89102924

	1990	0.09738	459500.	2863200.	90061224
	1991	0.11804	530000.	2848600.	91081824
HIGH 8-Hour					
	1987	0.34818	459500.	2863200.	87091824
	1988	0.27265	495000.	2832500.	88121324
	1989	0.33845	514500.	2848600.	89102908
	1990	0.34081	459500.	2863200.	90061208
	1991	0.34866	473500.	2860000.	91021008
HIGH 3-Hour					
	1987	0.71690	459500.	2863200.	87091824
	1988	0.50371	514500.	2843000.	88042803
	1989	0.73311	514500.	2848600.	89102903
	1990	0.68163	459500.	2863200.	90061203
	1991	0.51530	464000.	2860000.	91121821
HIGH 1-Hour					
	1987	1.19730	459500.	2863200.	87082905
	1988	1.29591	550300.	2848600.	88042501
	1989	1.53235	459500.	2863200.	89112101
	1990	1.20034	454000.	2863200.	90050124
	1991	1.36314	464000.	2860000.	91011421

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PM10/CLASS I PROPOSED CTs AND COOLING TOWER FUTURE OPERATIONS COMBINED-CYCLE

ISCST3 OUTPUT FILE NUMBER 1 :hrSGpmF1.o87
ISCST3 OUTPUT FILE NUMBER 2 :hrSGpmF1.o88
ISCST3 OUTPUT FILE NUMBER 3 :hrSGpmF1.o89
ISCST3 OUTPUT FILE NUMBER 4 :hrSGpmF1.o90
ISCST3 OUTPUT FILE NUMBER 5 :hrSGpmF1.o91
First title for last output file is: 1987 FPL FT. MYERS PM10 SIGNIF IMPACT ANALYSIS AT ENP 8/19/98
Second title for last output file is: POST CONSTRUCTION IMPACTS-- HRSG STACKS, 50% LOAD, 95 DEG F

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	0.005	454000.	2863200.	87123124
	1988	0.004	459500.	2863200.	88123124
	1989	0.005	459500.	2863200.	89123124
	1990	0.004	459500.	2863200.	90123124
	1991	0.004	459500.	2863200.	91123124
HIGH 24-Hour					
	1987	0.207	459500.	2863200.	87091824
	1988	0.100	514500.	2843000.	88042824
	1989	0.133	514500.	2848600.	89102924
	1990	0.126	459500.	2863200.	90061224
	1991	0.139	530000.	2848600.	91081824

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PROPOSED BOILER
SOUTH LOCATION
GENERIC IMPACTS

ISCST3 OUTPUT FILE NUMBER 1 :BLRSCN30.087
ISCST3 OUTPUT FILE NUMBER 2 :BLRSCN30.088
ISCST3 OUTPUT FILE NUMBER 3 :BLRSCN30.089
ISCST3 OUTPUT FILE NUMBER 4 :BLRSCN30.090
ISCST3 OUTPUT FILE NUMBER 5 :BLRSCN30.091
First title for last output file is: 1987 FPL FT. MYERS BOILER SOUTH GENERIC IMPACTS (30 ft) 8/31/98
Second title for last output file is: BOILER DURING CONSTRUCTION

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	4.006	200.	1500.	87123124
	1988	4.552	200.	1500.	88123124
	1989	3.792	210.	941.	89123124
	1990	5.509	200.	1500.	90123124
	1991	4.773	200.	1500.	91123124
HIGH 24-Hour					
	1987	56.571	180.	2000.	87100124
	1988	45.448	170.	500.	88022024
	1989	38.543	210.	1100.	89082924
	1990	48.242	190.	1500.	90051124
	1991	59.369	160.	1500.	91021524
HIGH 8-Hour					
	1987	101.750	160.	467.	87022224
	1988	102.297	200.	1100.	88091416
	1989	87.312	190.	900.	89091416
	1990	104.385	190.	1500.	90051116
	1991	86.465	170.	700.	91122316
HIGH 3-Hour					
	1987	140.723	170.	492.	87012515
	1988	139.132	210.	1100.	88090312
	1989	121.942	170.	700.	89032218
	1990	134.019	190.	1500.	90090512
	1991	145.323	150.	900.	91022315
HIGH 1-Hour					
	1987	226.278	160.	500.	87022113
	1988	233.304	210.	1100.	88043011
	1989	217.565	180.	700.	89060609
	1990	190.417	180.	900.	90112012
	1991	214.674	150.	1500.	91071216

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

PROPOSED BOILER
NORTH LOCATION
GENERIC IMPACTS

ISCST3 OUTPUT FILE NUMBER 1 :BLRNCN30.087
ISCST3 OUTPUT FILE NUMBER 2 :BLRNCN30.088
ISCST3 OUTPUT FILE NUMBER 3 :BLRNCN30.089
ISCST3 OUTPUT FILE NUMBER 4 :BLRNCN30.090
ISCST3 OUTPUT FILE NUMBER 5 :BLRNCN30.091
First title for last output file is: 1987 FPL FT. MYERS BOILER NORTH GENERIC IMPACTS (30 ft) 8/31/98
Second title for last output file is: BOILER DURING CONSTRUCTION

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1987	18.514	290.	1100.	87123124
	1988	26.857	290.	1100.	88123124
	1989	27.703	290.	1100.	89123124
	1990	23.174	290.	1100.	90123124
	1991	25.544	290.	1100.	91123124
HIGH 24-Hour					
	1987	212.053	290.	900.	87111724
	1988	210.716	290.	1100.	88071124
	1989	251.759	290.	900.	89021424
	1990	226.764	290.	900.	90052624
	1991	273.702	290.	1100.	91052324
HIGH 8-Hour					
	1987	438.913	290.	900.	87122108
	1988	661.891	290.	900.	88011908
	1989	507.529	290.	1100.	89042908
	1990	514.538	290.	900.	90081508
	1991	697.158	290.	1100.	91100608
HIGH 3-Hour					
	1987	804.350	290.	1100.	87081703
	1988	875.826	290.	900.	88011906
	1989	987.913	290.	1100.	89073106
	1990	820.448	290.	900.	90011903
	1991	1394.315	290.	1100.	91100603
HIGH 1-Hour					
	1987	2119.020	290.	900.	87072703
	1988	2123.831	290.	900.	88071024
	1989	2123.831	290.	900.	89061421
	1990	2116.667	290.	900.	90051523
	1991	2121.408	290.	900.	91083123

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00