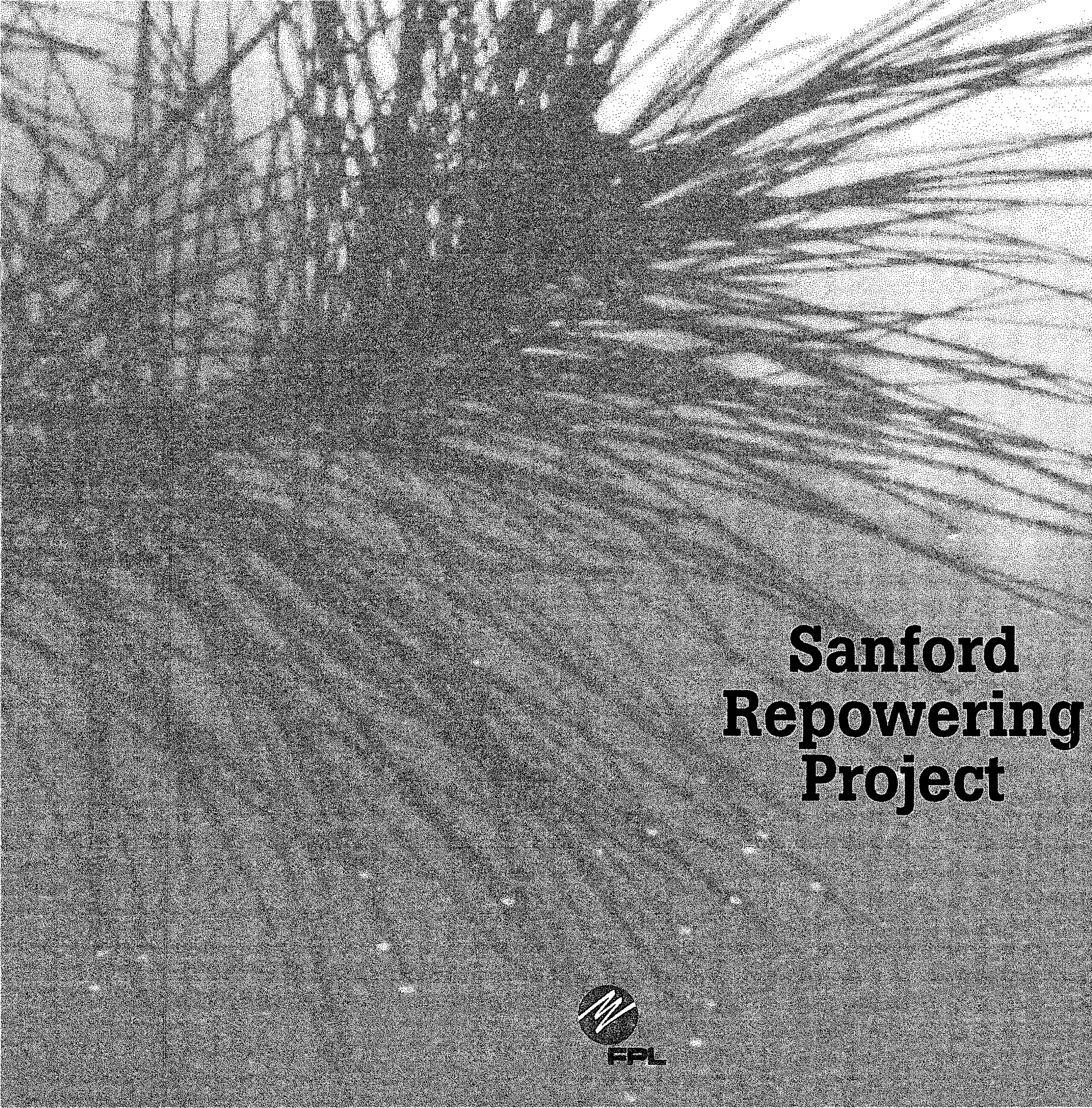

Sanford Repowering Project

FPL

AIR PERMIT APPLICATION
FOR
FLORIDA POWER & LIGHT COMPANY'S
SANFORD REPOWERING PROJECT
VOLUSIA COUNTY, FLORIDA

Prepared For:

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

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

May 1999
9837571Y/F1

EXECUTIVE SUMMARY

The Florida Power & Light Company (FPL) Sanford Plant is located in the City of DeBary, Volusia County, Florida. The plant has been generating electricity for FPL's customers since 1927. Three generating units (Units 3, 4 and 5) are currently in operation at the Plant, the last unit entering service in 1973.

Over the past 10 years, east central Florida has grown steadily. During this time the number of FPL customers in Volusia County has increased by 18 percent, in Seminole County by over 29 percent, and in Brevard County by over 22 percent. FPL serves nearly the entire eastern seaboard of Florida, including growing areas in Flagler, Indian River, and St. Lucie counties.

These population growth rates are reflected in a significant increase in demand for electricity in the area. As a regulated utility, FPL is responsible for anticipating and taking the necessary steps to meet the needs of its customers for reliable electric service. At the same time we want to work to help improve the environment and the overall quality of life in the region.

In order to continue to meet the demands of its customers for reliable electric service, FPL proposes to "repower" Sanford Units 4 and 5. This repowering project is an important part of the plan, announced by FPL in March 1998, to significantly expand its system generating capacity with new equipment at three existing power plant sites.

Repowering of Sanford Units 4 and 5 would meet the electric demand in the region and have the following benefits:

- Modernize the plant with "state-of-the-art" combined cycle generating technology fired with natural gas as the primary fuel.
- More than double the generating capacity of the plant, providing additional electricity for more than 270,000 homes and businesses.
- Increase the efficiency of the generating units by about 40 percent, thus providing more electricity for a given amount of fuel.
- Allow removal of the 175-foot-high boiler structures for Units 4 and 5, along with their two 400 foot smoke stacks.

- Involve installation of new combustion turbines and heat recovery steam generators and associated 125 foot stacks in the already developed "power block" portion of the site, providing a lower, less visible plant profile.
- Require upgrades to existing power lines and the on-site switchyard to allow the additional electricity to be transmitted to our customers.
- Very significantly decrease the use of heavy oil burned at the plant.
- Substantially reduce overall emissions of air pollutants compared to recent years, with corresponding improvement in air quality.
- Dramatically reduce the shipment of heavy oil to the plant on the St. John's River.
- Increase FPL's property taxes paid to local government and the school system.

This application represents on of the environmental approvals required to implement the project. When implemented, the air emissions from the project will decrease by over 35,0000 tons per year from that currently emitted by Units 4 and 5 while increasing generation by 170 percent. In addition, FPL is proposing a plant wide emissions cap for all generating units that limit future emissions. This emissions cap represents a 74 percent reduction in current plant wide emissions; a decrease of 31,000 tons per year over current levels. The emission decreases will be accomplished by using natural gas in the latest combined cycle technology. The emission levels proposed for the project are consistent with what has been determined in Florida as Best Available Control Technology. The result will be more generation, at substantially lower emissions and improved air quality in the vicinity of the plant.

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PART I

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

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: **Sanford Plant**	
3. Facility Identification Number: **1270009**	[ ] Unknown
4. Facility Location Information: Street Address or Other Locator: **950 South Highway 17-92** City: **DeBary** County: **Volusia** Zip Code: **32713**	
5. Relocatable Facility? [ ] Yes [x] No	6. Existing Permitted Facility? [x] Yes [ ] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	June 15, 1999
2. Permit Number:	1270009-004-AC
3. PSD Number (if applicable):	PSD-FL-270
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: **Roxane R. Kennedy, Plant General Manager**	
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: **FPL Sanford Plant** Street Address: **950 South Highway 17-92** City: **DeBary** State: **FL** Zip Code: **32713**	
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: **(407) 575-5211**	Fax: **(407) 575-5233**

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.*

Roxane R. Kennedy
Signature

6/4/99
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	---	4ACT - Combustion Turbine 4A.	AC1A
2R	---	4BCT - Combustion Turbine 4B.	AC1A
3R	---	4CCT - Combustion Turbine 4C.	AC1A
4R	---	4DCT - Combustion Turbine 4D.	AC1A
5R	---	5ACT - Combustion Turbine 5A.	AC1A
6R	---	5BCT - Combustion Turbine 5B.	AC1A
7R	---	5CCT - Combustion Turbine 5C.	AC1A
8R	---	5DCT - Combustion Turbine 5D.	AC1A
9	---	Mechanical Draft Cooling Tower	AC1B
10R	---	Direct Fired Natural Gas Heaters	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: ____________________

1270009-001-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: 7500.00 [x] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations: **Replacement of the existing steam generators designated as Unit 4 (Emission Unit I.D. No. 002) and Unit 5 (Emission Unit I.D. No. 003) with 8 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 : **1 Jan 2000**
3. Projected Date of Completion of Construction : **1 Jan 2003**

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 — 5/13/99

Signature — Date

(seal)

* 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 (Units 4 & 5) currently burning residual oil (incl. provisions for used oil & natural gas) will be replaced with 8 advanced combustion turbines burning primarily 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 greater than the PSD significant emission rates. PSD review will 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): 468.3 North (km): 3190.3			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 28 / 50 / 31 Longitude: (DD/MM/SS): 81 / 19 / 32			
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 Sanford plant consists of 3 Fossil Fuel Fired-Steam Generators (FFFSG) fired with No. 6 residual oil and natural gas. The Steam Generators for Units 4 and 5 will be replaced with 8 combined cycle gas turbines. Unit 3 will remain unchanged. Refer to Part II for discussion.			

Facility Contact

1. Name and Title of Facility Contact: Roxane R. Kennedy, Plant General Manager
2. Facility Contact Mailing Address: Organization/Firm: FPL Sanford Plant Street Address: 950 South Highway 17-92 City: DeBary State: FL Zip Code: 32713
3. Facility Contact Telephone Numbers: Telephone: (407) 575-5211 Fax: (407) 575-5233

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)? [x] Yes [ ] 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): **The new combustion turbines will be subject to NSPS Subpart GG. After repowering project is complete, the facility will not be a major source of HAPs.**

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.)

Facility emissions covered under existing Title V permit, no additional facility applicable requirements except as requested (i.e., emissions cap).

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted		2. Pollutant Classification
PM	Particulate Matter - Total	A
SO2	Sulfur Dioxide	A
NOx	Nitrogen Oxides	A
PM10	Particulate Matter - PM10	A

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Detail Information:

1. Pollutant Emitted: **PM**		**Particulate Matter - Total**	
2. Requested Emissions Cap:	(lb/hr)	**500**	(tons/yr)
3. Basis for Emissions Cap Code: **Other**			
4. Facility Pollutant Comment (limit to 400 characters): **Emissions cap requested by applicant. Includes repowered Units 4 and 5 and existing Unit B. See Part II**			

Facility Pollutant Detail Information:

1. Pollutant Emitted: **SO2**		**Sulfur Dioxide**	
2. Requested Emissions Cap:	(lb/hr)	**4,000**	(tons/yr)
3. Basis for Emissions Cap Code: **Other**			
4. Facility Pollutant Comment (limit to 400 characters): **Emission cap requested by applicant. Includes repowered Units 4 and 5 and existing Unit 3. See Part II**			

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Detail Information:

1. Pollutant Emitted: **NOx**	**Nitrogen Oxides**
2. Requested Emissions Cap: (lb/hr)	**4,500** (tons/yr)
3. Basis for Emissions Cap Code: **Other**	
4. Facility Pollutant Comment (limit to 400 characters): **Emission cap requested by applicant. Includes repowered Units 4 and 5 and existing Unit 3. See Part II**	

Facility Pollutant Detail Information:

1. Pollutant Emitted: **PM10**	**Particulate Matter - PM10**
2. Requested Emissions Cap: (lb/hr)	**500** (tons/yr)
3. Basis for Emissions Cap Code: **Other**	
4. Facility Pollutant Comment (limit to 400 characters): **Emission cap requested by applicant. See Part II**	

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): **4ACT - Combustion Turbine 4A.**		
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 will be operated primarily in combined cycle mode. The CT will be equipped to operate in simple cycle. 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-EU4A-DD
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 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): 468.3 North (km): 3190.3	
14. Emission Point Comment (limit to 200 characters): **Stack conditions for combined cycle operation and turbine inlet of 35 deg F. CT will be capable of operating in simple cycle mode. See Part II for other inlet temperatures, loads and stack parameters.**	

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:	5. Maximum Annual Rate:
1.81	**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 10

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: SO_2
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)]; F.A.C. 62-204.800**	

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** 10
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.**

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.**

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 temperature. Emissions as methane and exclusive of background.**

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** 10

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 2002	
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).	

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	

ATTACHMENT FPL-EU1-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT FPL-EU1-D

Applicable Requirements Listing
(Page 1 of 5)

EMISSION UNIT ID: Combustion Turbine

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)

ATTACHMENT FPL-EU1-D

Applicable Requirements Listing
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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)	- NO_x for Electric Utility CTs
40 CFR 60.332(a)(3)	- NO_x for Electric Utility CTs
40 CFR 60.333	- SO_2 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)

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Applicable Requirements Listing
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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)	- SO_2 Allowances-hold allowances
40 CFR 72.9(c)(2)	- SO_2 Allowances-violation
40 CFR 72.9(c)(3)(iii)	- SO_2 Allowances-Phase II Units (listed)
40 CFR 72.9(c)(4)	- SO_2 Allowances-allowances held in ATS
40 CFR 72.9(c)(5)	- SO_2 Allowances-no deduction for 72.9(c)(1)(i)
40 CFR 72.9(d)	- NO_x 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

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Applicable Requirements Listing
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Monitoring Part 75:	
40 CFR 75.4	- Compliance Dates;
40 CFR 75.5	- Prohibitions
40 CFR 75.10(a)(1)	- Primary Measurement; SO_2;
40 CFR 75.10(a)(2)	- Primary Measurement; NO_x;
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)	- SO_2 Monitoring; Gas- and Oil-fired units
40 CFR 75.11(e)	- SO_2 Monitoring; Gaseous firing
40 CFR 75.12(a)	- NO_x Monitoring; Coal; Non-peaking oil/gas units
40 CFR 75.12(b)	- NO_x Monitoring; Determination of NO_x 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; NO_x
40 CFR 75.30(a)(4)	- General Missing Data Procedures; SO_2
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; SO_2 (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

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Applicable Requirements Listing

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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-SO_2
40 CFR 75.54(d)	- Recordkeeping-NO_x
40 CFR 75.54(e)	- Recordkeeping-CO2
40 CFR 75.54(f)	- Recordkeeping-Opacity
40 CFR 75.55(c)	- 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; SO_2/NO_x for controlled sources
Appendix C-2.	- Missing Data; Load-Based Procedure; NO_x & flow
Appendix D	- Optional SO_2; 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 (SO_2 and NO_x;future)

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): **4BCT - Combustion Turbine 4B.**		
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 will be operated primarily in combined cycle mode. The CT will be equipped to operate in simple cycle. 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-EU4A-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 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): 468.3 North (km): 3190.3	
14. Emission Point Comment (limit to 200 characters): **Stack conditions for combined cycle operation and turbine inlet of 35 deg F. CT will be capable of operating in simple cycle mode. See Part II for other inlet temperatures, loads and stack parameters.**	

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	22.5 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.**			

Emissions Unit Information Section 2 of 10

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)]; F.A.C. 62-204.800**	

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** 10

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.**	

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.**	

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** 10

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.**

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** 10
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 2002	
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).**	

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): **4CCT - Combustion Turbine 4C.**		
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 will be operated primarily in combined cycle mode. The CT will be equipped to operate in simple cycle. 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-EU4A-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 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): 468.3 North (km): 3190.3

14. Emission Point Comment (limit to 200 characters):

Stack conditions for combined cycle operation and turbine inlet of 35 deg F. CT will be capable of operating in simple cycle mode. See Part II for other inlet temperatures, loads and stack parameters.

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 **22.5** 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.**

Emissions Unit Information Section 3 of 10

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)]; F.A.C. 62-204.800**

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.

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.

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 temperature. Emissions as methane and exclusive of background.

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.

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 2002	
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).	

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): **4DCT - Combustion Turbine 4D.**		
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 will be operated primarily in combined cycle mode. The CT will be equipped to operate in simple cycle. 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-EU4A-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 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): **468.3** North (km): **3190.3**

14. Emission Point Comment (limit to 200 characters):

Stack conditions for combined cycle operation and turbine inlet of 35 deg F. CT will be capable of operating in simple cycle mode. See Part II for other inlet temperatures, loads and stack parameters.

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** 10

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)]; F.A.C. 62-204.800

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 10

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.**	

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.**	

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 10

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.**

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** 10
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 2002	
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).	

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): **5ACT - Combustion Turbine 5A.**		
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 primarily natural gas with distillate fuel oil used as back-up. 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): **Water Injection**
2. Control Device or Method Code: **28**

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 for natural gas firing 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)

<u>Rule Applicability Analysis</u> (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 FPL-EU1-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 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): 468.3 North (km): 3190.3		
14. Emission Point Comment (limit to 200 characters): **Stack conditions for natural gas firing and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads and stack parameters.**		

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

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **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. Annual at 8,760 hours/year. Million BTU/SCC as HHV.**	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Distillate Oil**	
2. Source Classification Code (SCC): **2-01-001-01**	
3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **14.3**	5. Maximum Annual Rate: **7,150**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: **0.05**	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **138**	
10. Segment Comment (limit to 200 characters): **Maximum Annual Rate based on 500 hours/year at 32 degree F turbine inlet MMBtu per SCC unit as HHV.**	

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	028	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: **17** lb/hour **45.6** tons/year

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

5. Range of Estimated Fugitive/Other Emissions:

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

6. Emission Factor: **17 lb/hr**

   Reference: **GE 98/99; Golder, 99**

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 oil-firing. tons/year based on 8,260 hours of natural gas-firing and 500 hours of oil-firing.

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: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **20 %Opacity**		
4. Equivalent Allowable Emissions:	**17** lb/hour	**4.3** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 20% Opacity.**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data. Opacity limit proposed in lieu of lb/hr limit.**		

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: 101.5 lb/hour 46.6 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, 1999
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):   Emission Factor also 0.05% S. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

Emissions Unit Information Section 5 of 10

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: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.05 % Sulfur	
4. Equivalent Allowable Emissions: 101.5 lb/hour	25.4 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): Oil Firing. See Part II. NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]; F.A.C. 62-204.800 allows 0.8% sulfur.	

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: **365.2** lb/hour **372.2** 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, 98/99; Golder 99**

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):

   Emission Factor also 42 ppmvd. lb/hr for oil-firing (32 deg F turbine inlet) and tons/yr based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

Emissions Unit Information Section 5 of 10

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):
   Natural gas firing. Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin.

B.

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

2. Future Effective Date of Allowable Emissions:

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

4. Equivalent Allowable Emissions: **365.2** lb/hour **91.3** 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):
   Distillate oil firing. See Part II. Requested allowable emissions is 24-hour block average.

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **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.**	

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: CO
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 75.1 lb/hour 204.2 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, 98/99; Golder 99
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): Emission Factor also 20 ppmvd. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

Emissions Unit Information Section 5 of 10

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): **Natural gas firing. See Part II; Allowable based on manufacturer data with margin.**		

B.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **75.1 lb/hr**		
4. Equivalent Allowable Emissions:	**75.1** lb/hour	**18.8** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10; Compliance Test at full-load.**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Oil firing. See Part II; Allowable based on manufacturer data with margin.**		

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: **16.9** lb/hour **16.6** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr
6. Emission Factor: **1.4 ppmvd** Reference: **GE, 98/99; Golder,99**
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): **Emission Factor also 7 ppmvw. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.**

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): Natural gas firing. See Part II; Allowable based on manufacturer data with margin.		

B.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 7 ppmvw		
4. Equivalent Allowable Emissions:	lb/hour	4.2 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): Oil firing. See Part II; Allowable based on manufacturer data with margin.		

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: **17** lb/hour **45.6** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **17 lb/hr** Reference: **1999; Golder, 1999**
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 oil-firing. tons/year based on 8,260 hours of natural gas-firing and 500 hous of oil-firing.**

Emissions Unit Information Section 5 **of** 10

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: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **20 %Opacity**		
4. Equivalent Allowable Emissions:	**17** lb/hour	**4.3** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 20% Opacity.**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data. Opacity limit proposed in lieu of lb/hr limit.**		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 3

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): Natural Gas Firing

Visible Emissions Limitations: Visible Emissions Limitation 2 of 3

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: [ ] Rule [X] Other
3.	Requested Allowable Opacity Normal Conditions: 20 % 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): Distillate Oil Firing

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 3 of 3

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.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

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

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 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 2002	
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).**	

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): **5BCT - Combustion Turbine 5B.**		
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 primarily natural gas with distillate fuel oil used as back-up. 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): **Water Injection**	
2. Control Device or Method Code: **28**	

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 for natural gas firing 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 FPL-EU1-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 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): 468.3 North (km): 3190.3

14. Emission Point Comment (limit to 200 characters):

Stack conditions for natural gas firing and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads and stack parameters.

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

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **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. Annual at 8,760 hours/year. Million BTU/SCC as HHV.**	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Distillate Oil**	
2. Source Classification Code (SCC): **2-01-001-01**	
3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **14.3**	5. Maximum Annual Rate: **7,150**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: **0.05**	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **138**	
10. Segment Comment (limit to 200 characters): **Maximum Annual Rate based on 500 hours/year at 32 degree F turbine inlet MMBtu per SCC unit as HHV.**	

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	028	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: 17 lb/hour 45.6 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr
6. Emission Factor: 17 lb/hr Reference: GE 98/99; Golder, 99
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 oil-firing. tons/year based on 8,260 hours of natural gas-firing and 500 hours of oil-firing.**

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: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
   20 %Opacity
4. Equivalent Allowable Emissions: **17** lb/hour **4.3** tons/year
5. Method of Compliance (limit to 60 characters):
   VE Test < 20% Opacity.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   Allowable based on manufacturer data. Opacity limit proposed in lieu of lb/hr limit.

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: 101.5 lb/hour 46.6 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, 1999

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):

   Emission Factor also 0.05% S. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

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: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.05 % Sulfur**	
4. Equivalent Allowable Emissions: **101.5** lb/hour	**25.4** 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): **Oil Firing. See Part II. NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]; F.A.C. 62-204.800 allows 0.8% sulfur.**	

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: 365.2 lb/hour 372.2 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, 98/99; Golder 99

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):

   Emission Factor also 42 ppmvd. lb/hr for oil-firing (32 deg F turbine inlet) and tons/yr based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

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):
   Natural gas firing. Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin.

B.

1. Basis for Allowable Emissions Code: OTHER
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
   42 ppmvd @ 15% O2
4. Equivalent Allowable Emissions: 365.2 lb/hour 91.3 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):
   Distillate oil firing. See Part II. Requested allowable emissions is 24-hour block average.

Emissions Unit Information Section 6 of 10

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **RULE**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **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.**

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: **CO**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **75.1** lb/hour **204.2** 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, 98/99; Golder 99**

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):

   Emission Factor also 20 ppmvd. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

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): **Natural gas firing. See Part II; Allowable based on manufacturer data with margin.**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **75.1 lb/hr**	
4. Equivalent Allowable Emissions: **75.1** lb/hour	**18.8** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10; Compliance Test at full-load.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Oil firing. See Part II; Allowable based on manufacturer data with margin.**	

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: **16.9** lb/hour **16.6** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **1.4 ppmvd** Reference: **GE, 98/99; Golder,99**
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): **Emission Factor also 7 ppmvw. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.**

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): Natural gas firing. See Part II; Allowable based on manufacturer data with margin.		

B.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 7 ppmvw		
4. Equivalent Allowable Emissions:	lb/hour	4.2 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): Oil firing. See Part II; Allowable based on manufacturer data with margin.		

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: **17** lb/hour **45.6** tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ________ to ________ tons/yr
6. Emission Factor: **17 lb/hr** Reference: **1999; Golder, 1999**
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 oil-firing. tons/year based on 8,260 hours of natural gas-firing and 500 hous of oil-firing.**

Emissions Unit Information Section 6 of 10

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: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 20 %Opacity	
4. Equivalent Allowable Emissions: 17 lb/hour	4.3 tons/year
5. Method of Compliance (limit to 60 characters): VE Test < 20% Opacity.	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Allowable based on manufacturer data. Opacity limit proposed in lieu of lb/hr limit.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 3

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): **Natural Gas Firing**

Visible Emissions Limitations: Visible Emissions Limitation 2 of 3

1.	Visible Emissions Subtype: **VE20**
2.	Basis for Allowable Opacity: [ ] Rule [X] Other
3.	Requested Allowable Opacity Normal Conditions: **20** % 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): **Distillate Oil Firing**

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 3 of 3

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.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

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

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 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 2002	
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).**	

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): **5CCT - Combustion Turbine 5C.**		
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 primarily natural gas with distillate fuel oil used as back-up. 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): **Water Injection**
2. Control Device or Method Code: **28**

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 for natural gas firing 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 FPL-EU1-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 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): 468.3 North (km): 3190.3	
14. Emission Point Comment (limit to 200 characters): **Stack conditions for natural gas firing and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads and stack parameters.**	

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

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **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. Annual at 8,760 hours/year. Million BTU/SCC as HHV.**	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Distillate Oil**	
2. Source Classification Code (SCC): **2-01-001-01**	
3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **14.3**	5. Maximum Annual Rate: **7,150**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: **0.05**	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **138**	
10. Segment Comment (limit to 200 characters): **Maximum Annual Rate based on 500 hours/year at 32 degree F turbine inlet MMBtu per SCC unit as HHV.**	

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	028	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: **17** lb/hour **45.6** tons/year

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

5. Range of Estimated Fugitive/Other Emissions:

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

6. Emission Factor: **17 lb/hr**

   Reference: **GE 98/99; Golder, 99**

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 oil-firing. tons/year based on 8,260 hours of natural gas-firing and 500 hours of oil-firing.

Emissions Unit Information Section 7 **of** 10

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: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **20 %Opacity**
4. Equivalent Allowable Emissions: **17** lb/hour **4.3** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 20% Opacity.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data. Opacity limit proposed in lieu of lb/hr limit.**

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: **101.5** lb/hour **46.6** 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, 1999**

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):

   Emission Factor also 0.05% S. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

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: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.05 % Sulfur**
4. Equivalent Allowable Emissions: **101.5** lb/hour **25.4** 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): **Oil Firing. See Part II. NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]; F.A.C. 62-204.800 allows 0.8% sulfur.**

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: 365.2 lb/hour 372.2 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, 98/99; Golder 99
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): Emission Factor also 42 ppmvd. lb/hr for oil-firing (32 deg F turbine inlet) and tons/yr based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

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):
   Natural gas firing. Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin.

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
   42 **ppmvd @ 15% O2**
4. Equivalent Allowable Emissions: **365.2** lb/hour **91.3** 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):
   Distillate oil firing. See Part II. Requested allowable emissions is 24-hour block average.

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 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.

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: **CO**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **75.1** lb/hour **204.2** 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, 98/99; Golder 99**
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): **Emission Factor also 20 ppmvd. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.**

Emissions Unit Information Section 7 of 10

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): **Natural gas firing. See Part II; Allowable based on manufacturer data with margin.**		

B.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **75.1 lb/hr**		
4. Equivalent Allowable Emissions:	**75.1** lb/hour	**18.8** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10; Compliance Test at full-load.**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Oil firing. See Part II; Allowable based on manufacturer data with margin.**		

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: **16.9** lb/hour **16.6** tons/year

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

5. Range of Estimated Fugitive/Other Emissions:

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

6. Emission Factor: **1.4 ppmvd**

   Reference: **GE, 98/99; Golder,99**

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):

   Emission Factor also 7 ppmvw. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

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): **Natural gas firing. See Part II; Allowable based on manufacturer data with margin.**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **7 ppmvw**
4. Equivalent Allowable Emissions: lb/hour **4.2** 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): **Oil firing. See Part II; Allowable based on manufacturer data with margin.**

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: **17** lb/hour **45.6** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ______ to ______ tons/yr
6. Emission Factor: **17 lb/hr** Reference: **1999; Golder, 1999**
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 oil-firing. tons/year based on 8,260 hours of natural gas-firing and 500 hous of oil-firing.**

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: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 20 %Opacity	
4. Equivalent Allowable Emissions: 17 lb/hour	4.3 tons/year
5. Method of Compliance (limit to 60 characters): VE Test < 20% Opacity.	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Allowable based on manufacturer data. Opacity limit proposed in lieu of lb/hr limit.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 3

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): **Natural Gas Firing**

Visible Emissions Limitations: Visible Emissions Limitation 2 of 3

1.	Visible Emissions Subtype: **VE20**
2.	Basis for Allowable Opacity: [ ] Rule [X] Other
3.	Requested Allowable Opacity Normal Conditions: 20 % 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): **Distillate Oil Firing**

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 3 of 3

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.

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

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

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 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 2002	
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).	

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): **5DCT - Combustion Turbine 5D.**		
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 primarily natural gas with distillate fuel oil used as back-up. 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): **Water Injection**
2. Control Device or Method Code: **28**

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 for natural gas firing 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 FPL-EU1-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 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): 468.3 North (km): 3190.3

14. Emission Point Comment (limit to 200 characters):

Stack conditions for natural gas firing and turbine inlet of 35 degrees F. See Part II for other inlet temperatures, loads and stack parameters.

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

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **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. Annual at 8,760 hours/year. Million BTU/SCC as HHV.**	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Distillate Oil**	
2. Source Classification Code (SCC): **2-01-001-01**	
3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **14.3**	5. Maximum Annual Rate: **7,150**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: **0.05**	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **138**	
10. Segment Comment (limit to 200 characters): **Maximum Annual Rate based on 500 hours/year at 32 degree F turbine inlet MMBtu per SCC unit as HHV.**	

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	028	EL
CO			NS
VOC			NS
PM10			NS

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

<u>Pollutant Detail Information</u>:

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **17** lb/hour **45.6** tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ____________ to ____________ tons/yr
6. Emission Factor: **17 lb/hr** Reference: **GE 98/99; Golder, 99**
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 oil-firing. tons/year based on 8,260 hours of natural gas-firing and 500 hours of oil-firing.**

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: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
   20 %Opacity
4. Equivalent Allowable Emissions: **17** lb/hour **4.3** tons/year
5. Method of Compliance (limit to 60 characters):
   VE Test < 20% Opacity.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
   Allowable based on manufacturer data. Opacity limit proposed in lieu of lb/hr limit.

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: **101.5** lb/hour **46.6** 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, 1999**
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): **Emission Factor also 0.05% S. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.**

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: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.05** **% Sulfur**
4. Equivalent Allowable Emissions: **101.5** lb/hour **25.4** 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): **Oil Firing. See Part II. NSPS; 40 CFR Part 60; Subpart GG [60.333(b)]; F.A.C. 62-204.800 allows 0.8% sulfur.**

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: 365.2 lb/hour 372.2 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, 98/99; Golder 99

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):

   Emission Factor also 42 ppmvd. lb/hr for oil-firing (32 deg F turbine inlet) and tons/yr based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

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): **Natural gas firing. Requested Allowable Emissions is 30 day rolling average. See Part II; Allowable based on manufacturer data with margin.**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **42 ppmvd @ 15% O2**	
4. Equivalent Allowable Emissions: **365.2** lb/hour	**91.3** 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): **Distillate oil firing. See Part II. Requested allowable emissions is 24-hour block average.**	

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **RULE**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **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.**

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: **CO**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **75.1** lb/hour **204.2** 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, 98/99; Golder 99**
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): **Emission Factor also 20 ppmvd. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.**

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): **Natural gas firing. See Part II; Allowable based on manufacturer data with margin.**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **75.1 lb/hr**	
4. Equivalent Allowable Emissions: **75.1** lb/hour	**18.8** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10; Compliance Test at full-load.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Oil firing. See Part II; Allowable based on manufacturer data with margin.**	

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: **16.9** lb/hour **16.6** tons/year

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

5. Range of Estimated Fugitive/Other Emissions:

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

6. Emission Factor: **1.4 ppmvd**

   Reference: **GE, 98/99; Golder,99**

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):

   Emission Factor also 7 ppmvw. lb/hr for oil-firing (32 deg F turbine inlet) and tons/year based on 8,260 hrs/yr gas-firing (35 deg F turbine inlet) and 500 hrs/yr oil-firing.

Emissions Unit Information Section 8 of 10

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): **Natural gas firing. See Part II; Allowable based on manufacturer data with margin.**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **7 ppmvw**	
4. Equivalent Allowable Emissions: lb/hour	**4.2** 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): **Oil firing. See Part II; Allowable based on manufacturer data with margin.**	

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: 17 lb/hour 45.6 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 ____ to ____ tons/yr
6. Emission Factor: 17 lb/hr Reference: 1999; Golder, 1999
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 oil-firing. tons/year based on 8,260 hours of natural gas-firing and 500 hous of oil-firing.**

Emissions Unit Information Section 8 of 10

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: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **20 %Opacity**		
4. Equivalent Allowable Emissions:	**17** lb/hour	**4.3** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 20% Opacity.**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Allowable based on manufacturer data. Opacity limit proposed in lieu of lb/hr limit.**		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 3

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): Natural Gas Firing

Visible Emissions Limitations: Visible Emissions Limitation 2 of 3

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: [ ] Rule [X] Other
3.	Requested Allowable Opacity Normal Conditions: 20 % 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): Distillate Oil Firing

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 3 of 3

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.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

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

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 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 2002	
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).	

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:

[ ] 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 water from a cooling pond with a total dissolved solids content up to 40,000 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: **14**

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: **3,400**	5. Maximum Annual Rate: **14,892,000**
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 1,000 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		NS
PM10	014		NS

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): **Direct Fired Natural Gas Heaters**		
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 direct fired heaters. The heater will be used to heat natural gas prior to combustion during simple cycle operation.**		

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: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °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). Based on 3 direct fired heaters.**		

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)

<u>Rule Applicability Analysis</u> (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.)

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:	10 feet
7. Exit Diameter:	2 feet
8. Exit Temperature:	635 °F

9. Actual Volumetric Flow Rate:	13,950 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): 468.3 North (km): 3190.3	
14. Emission Point Comment (limit to 200 characters): **Stack parameters shown per heater.**	

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): **1-01-006-03**	
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): **Rates shown for 3 direct fired heaters.**	

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		NS
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 for 3 heaters.

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: **13.2** lb/hour **57.9** 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): **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):

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 for 3 heaters.			

Emissions Unit Information Section 10 of 10

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: **19.8** lb/hour	**86.8** 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): **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: **20** % 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 _____ of _____

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

Continuous Monitoring System Continuous Monitor _____ of _____

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

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

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

[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 [ ] Attached, Document ID: ____ [x] 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	

PART II

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

1.0 INTRODUCTION

Florida Power & Light Company (FPL) proposes to repower its existing Sanford Plant located in the City of DeBary, Volusia County, Florida (Figures 1-1 and 1-2). The Sanford Plant is located on about 1,700 acres on the St. John's river approximately three (3) miles northwest of Sanford, Florida, and west of Highway 17/92. Currently, the FPL Sanford Plant consists of three fossil-fuel-fired steam-generating units (Units 3, 4 and 5) with a combined nominal generating capacity of 1,023 megawatts (MW). Units 3, 4 and 5 burn residual fuel oil, No. 2 fuel oil, on specification used oil from FPL operations, and natural gas. Propane is utilized primarily for ignition of the main fuel at startup. Fossil fuel fired steam generator Units 3, 4 and 5 began commercial operation in 1959, 1972 and 1973 respectively.

The FPL Sanford Repowering Project will consist of replacing the existing fossil-fuel-fired steam generators for Units 4 and 5, with combustion turbines (CTs) and heat recovery steam generators (HRSGs) operating as a combined-cycle plant. Four "F" Class advanced CTs with associated HRSGs will be installed for each repowered unit. Natural gas will be used as the primary fuel for the CTs. Repowered Unit 5 will have the capability to fire distillate oil. The CTs directly drive electric generators with a nominal capacity of 170 MW [at 59 degrees Fahrenheit (°F) turbine inlet temperature, natural gas firing]. 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 4 and 5. The steam cycle for these existing steam electric generators will be in a configuration that produces the most efficient steam cycle. There will be no duct firing of the HRSGs. Distillate oil firing in the 4 CTs associated with Unit 5 will be limited to 500 hr/yr per turbine. The project also includes a cooling tower.

The repowered plant will have a nominal generating capacity of 2,200 MW (at 59°F turbine inlet temperature).

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"). The Project will be subject to PSD review for one regulated pollutant. PSD review will only be required for volatile organic compounds (VOCs). 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.

Volusia 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 (PM_{10}), 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 PM_{10}, SO_2, and NO_2.

The existing Sanford Plant is a major source of air pollution. The repowering project will result in decreases in emissions of virtually all regulated air pollutants. FPL is proposing a facility-wide emissions cap for the repowered Units 4 and 5, and existing Unit 3. The emissions cap is proposed for PM/PM_{10}, SO_2, and NO_x. The facility-wide emissions cap will reduce the future potential emissions of all of these pollutants while providing flexibility of operation. PM/ PM_{10} emissions will be limited to 500 tons/year, SO_2 emissions will be limited to 4,000 tons/year and NO_x emissions will be limited to 4,500 tons/year. The emissions cap will also affect a cap of CO and VOC emissions. These have been estimated as 2,000 tons/year and 140 tons/year, respectively. This cap will insure a 77 percent average reduction of all pollutants from current actual emissions and a 94 percent average reduction from the existing potential emissions. The cap will effectively be a limit on the future potential emissions from Unit 3. This would be a limitation of approximately 50 percent capacity factor for Unit 3, with about 17 percent operation on residual oil and 33 percent operation on natural gas.

The potential and actual emissions from the existing Units 3, 4, and 5, the proposed facility emission caps, the potential emissions from the new repowered 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 about a 55 TPY increase from actual emissions. PSD review is only required for regulated pollutants having a net emission increase more than the PSD significant emission rate. The PSD significant emission rate for VOCs is 40 TPY; therefore, PSD review is applicable for the project. While PSD review is not required for PM/PM_{10}, SO_2, NO_x, and CO, for informational purposes, this application presents the results of ambient air quality impact analyses. 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.

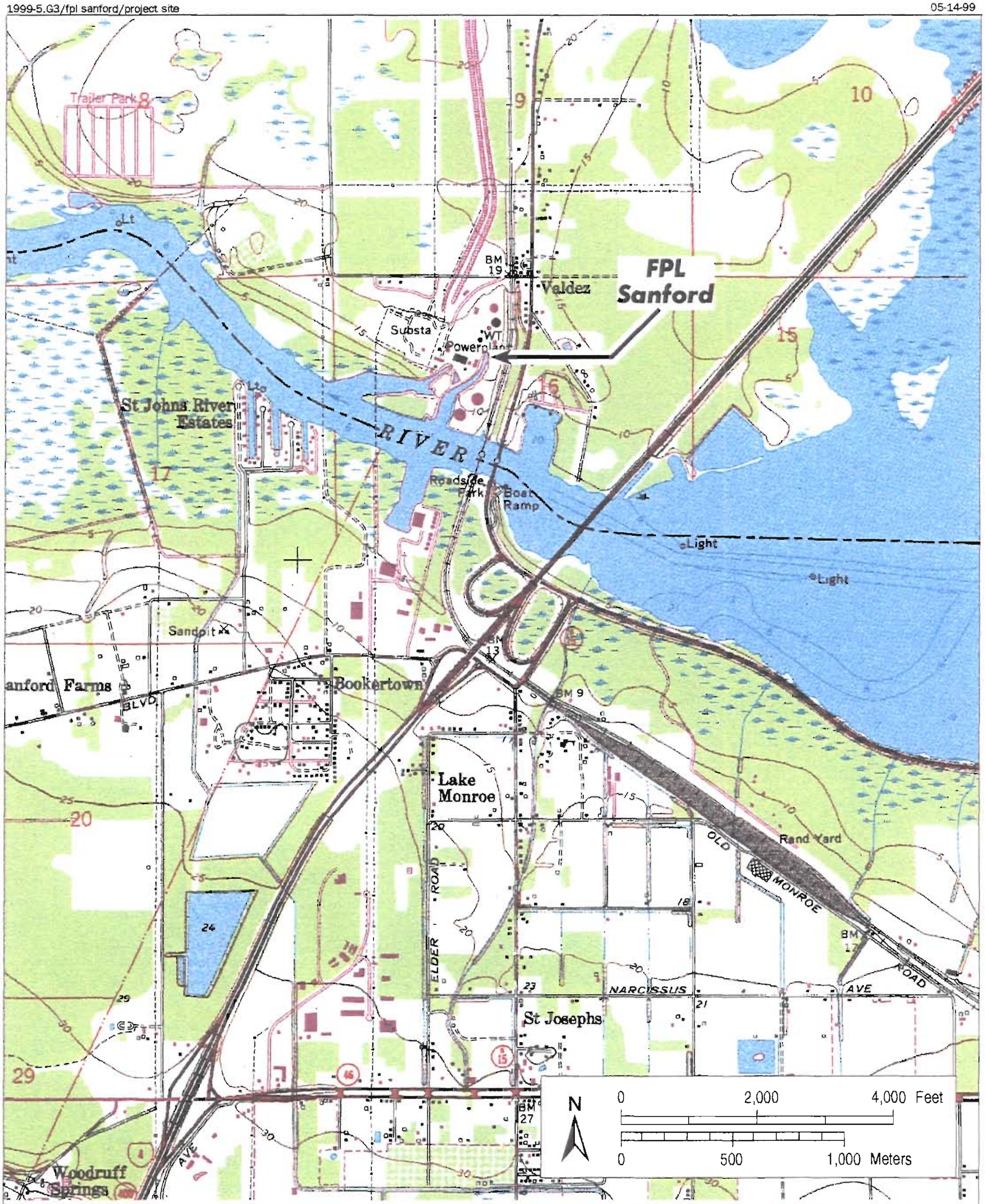
The air permit application is divided into seven major sections.

- 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 Increase/Decrease for FPL Sanford Repowering Project

Pollutant	Emissions Rate (TPY)						
	Potential (Permitted) for Unit 3, 4 and 5	Proposed Plant-Wide Emissions Cap	Units 4 and 5 Actual 1997-1998	Repowered Units[a]	Net Decrease (-) or Increase (+) from Actual and Repowered only	Change (+) or (-) from Actual and All Units[b]	Change (+) or (-) from Potential and All Units[b]
PM as TSP	5,338	500	538	382	-156	-38	-4,838
PM10	5,338	500	538	370	-168	-38	-4,838
NO_x	29,662	4,500	9,984	2,680	-7,304	-5,484	-25,162
SO_2	117,439	4,000	28,729	276	-28,453	-24,729	-113,439

[a] Cooling tower and natural gas direct fired heaters not included in proposed emissions unit.



SANFORD REPOWERING PROJECT	Figure 1-1 Project Site Location Sources: USGS, 1988; Golder Associates Inc., 1999.	FPL

SANFORD
REPOWERING
PROJECT

Figure 1-2
Aerial of FPL Sanford Plant

Sources: FPL, 1999; Golder Associates Inc., 1999.

FPL

2.0 PROJECT DESCRIPTION

2.1 SITE DESCRIPTION

The existing Sanford Plant site, shown in Figure 2-1, consists of about 1,700 acres. The repowered plant elevation will be approximately 20 feet above mean sea level (ft-msl). The terrain surrounding the site is flat.

2.2 EXISTING SANFORD PLANT

Units 3, 4 and 5 are existing fossil-fuel-fired steam generators firing residual oil and natural gas. Unit 3 has a permitted maximum heat input of 1,650 million British thermal units per hour (mmBtu/hr) for oil firing and 1762 mmBtu/hr (gas firing). Units 4 and 5 have a permitted maximum heat input of 4,050 mmBtu/hr each (oil fired) and a heat input of 4,230 mmBtu/hr fired with natural gas. 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 repowering project will replace Units 4 and 5 with 8 combined cycle gas turbines. The project involves no change to, and will have no effect upon, existing fossil fuel fired steam generator Unit 3. However, a facility-wide emissions cap has been proposed that will limit the potential emissions for Unit 3.

The short-term (i.e., hourly) and long-term (annual) operation of Units 4 and 5 has resulted in emissions of regulated pollutants. Although Units 4 and 5 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 Sanford 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 4 and 5 has been reviewed, and the last 2 calendar years prior to the submittal of this application, i.e., 1997 and 1998, are considered representative of normal operation. To determine the actual emissions during 1997 and 1998, 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 particulate matter (PM) compliance test data were used to estimate actual emissions.

The actual emissions for CO were estimated using test data from similar units. During the period of 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, design, and operating conditions) as Sanford Units 4 and 5. The FPL Turkey Point Unit 1, which began commercial operation in 1967, is an oil- and gas-fired unit of the same size as Sanford Units 4 and 5; the CO emissions for this unit were determined to be 0.22 lb/mmBtu for natural gas firing and 0.15 for fuel oil firing. These CO emission rates and the corresponding annual heat input rates from CEM data for 1997 and 1998 were used to calculate actual emissions for Sanford Units 4 and 5. 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.

Table 2-1 presents a summary of the potential and actual emissions of Units 4 and 5, potential emissions from the new emission units, and the net changes in emissions directly resulting from the repowering project.

2.3 SANFORD REPOWERING PROJECT

The proposed project will consist of replacing the existing steam generators for Units 4 and 5 with eight 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 primary fuel will be natural gas. Table 2-2 presents natural gas specifications. Repowered Unit 5 will have the capabilities of firing No. 2 distillate oil with a sulfur content of 0.05 percent. Fuel oil firing will be limited to 500 hr/yr per CT. FPL requests a limitation on the aggregate fuel usage on an annual basis (i.e., 28,600,000 gal/yr). Table 2-3 presents distillate oil specifications.

Water for the inlet fogger cooler, potable uses, other service, and fire protection will be supplied by existing 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 when firing natural gas by introducing fuel primarily to the pre-mix zones. When firing distillate oil, water injection will be used. 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 2-4 through 2-6 for natural gas firing. Tables 2-7 through 2-9 present data for distillate oil firing. 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 for gas and 32, 59, and 95°F for oil. 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 low turbine inlet temperatures (e.g., 35°F) and are presented in Table 2-10 for one and eight 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 when firing natural gas is presented in Figure 2-2. Figure 2-3 presents a similar flow diagram for oil firing.

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 (e.g., 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:

Scenarios 1-3	A base operating load for a turbine inlet temperature of 35°F (gas) and 32°F (oil), 59°F, and 95°F;
Scenarios 3a-6	A 75 percent operating load for a turbine inlet temperature of 35°F (gas) and 32°F (oil), 59°F, and 95°F; and
Scenarios 7-9	A 50 percent operating load for a turbine inlet temperature of 35°F (gas) and 32°F (oil), 59°F, and 95°F.

The combined-cycle units will begin operation by December 2002. The CTs for repowered Unit 4 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 2002 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 4 and/or 5 during high-power demand periods could be possible. In 2001, the steam generators for Units 4 and 5 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 4 and 5 will be dismantled 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 Sanford 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 Fort Myers Repowering Air Construction Permit (refer to Permit No. 0710002-004-AC; Condition 24) is requested. The requested condition is as follows:

- Excess emissions resulting from startup, shutdown, or malfunction of the *combustion turbines and heat recovery steam generators* shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed two hours in any 24-hour period except during both "cold startup" to, or shutdowns from, combined cycle operation. During cold startup to combined cycle operation, up to four hours of excess emissions are allowed. During shutdowns from combined cycle operation, up to three hours of excess emissions are allowed. Cold startup is defined as a startup to combined cycle operation following a complete shutdown lasting at least 48 hours.
- Excess emissions from the combustion turbines resulting from startup of the *steam turbines system* shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed 12 hours per cold startup of the steam turbine system."

The Sanford Repowering Project may also include the installation of a cooling tower for reducing the discharge temperature of the pond 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 2-11 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 PM_{10}. 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.

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 in Unit 4 and during cold starts, by installing 3 direct-fired natural gas heaters. Table 2-12 presents the performance, stack parameters, and emissions data for a steam boiler that takes into account those factors for direct-fired heaters. The

NSPS for Subpart Db do not apply to direct-fired heaters. Only natural gas would be used in the direct-fired heaters.

An emergency fire protection diesel-powered pump will also be installed. The diesel engine will normally be operated about 1-hour per month for testing. This engine would meet the categorical exemption in FDEP Rule 62-210.300(3)(a)22 F.A.C.

2.4 SITE LAYOUT, STRUCTURES, AND STACK SAMPLING FACILITIES

A plot plan of the proposed facility was presented in Figure 2-1, 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 Sanford Units 4 and 5

Case	Year	Unit	Emission Rate (TPY) SO_2 [a]	NO_x [a]	PM[b]	CO[c]	VOC[d]
Existing	1997	4	11,831	4,302	274	1,235	36.7
		5	12,738	3,574	255	1,389	21.9
		Total	24,569	7,876	529	2,624	58.6
	1998	4	15,719	6,116	235	1,534	37.6
		5	17170	5977	310.9	1655	37.9
		Total	32,889	12,093	546	3,189	75.5
	Average	4	13,775	5,209	254	1,385	37.2
		5	14,954	4,776	283	1,522	29.9
		Total Actual	28,729	9,984	538	2,907	67.1
Repowered Units							
Eight CTs[e]			277	2,680	357	1,603	119
Cooling Tower[f]			- -	--	25	--	--
Direct-Fired Natural Gas Heaters[g]			1.6	57.9	3.5	86.8	3.5
Total			279	2,738	386	1,691	123
Net Emissions Change			-28,450	-7,247	-151	-1,216	56

[a] SO2, NO_x based on 1997/1998 CEM emission data.

[b] PM based on 1997/1998 CEM heat input rates and 1997/1998 PM stack test data assuming 21 hours and 3 hours of steady-state and soot-blowing, respectively.

[c] CO based on 1997/1998 CEM heat input rates and assuming emission rates for Units 4 and 5 of 0.22 for gas firing and 0.15 lb/MMBtu for oil firing.

[d] VOC based on AP-42.

[e] Proposed emissions based on eight CTs operating at 100 percent load at ambient temperature of 35°F for gas and 32oF for oil using following emission rates (see Table 2-6):

SO_2 - 1 grain/ 100 cubic ft of gas and 0.05% sulfur oil.

NO_x - 9 parts per million volume dry (ppmvd) for gas and 42 ppmvd for oil, corrected to 15% oxygen (O_2)

PM - 10 lb/hr for gas and 17 lb/hr for oil (excludes H_2SO_4)

CO - 12 ppmvd for gas and 20 ppmvd for oil

VOC - 1.4 ppmvd (exclusive of background VOCs) for gas and 7 ppmvw for oil.

Oil limited to 500 hr/yr turbine on Unit 5

[f] 24.8 tons PM from drift (half as PM10); see Table 2-11.

[g] See Table 2-12.

Table 2-2. Representative Natural Gas Specification for Sanford Repowering Project

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	–

Note: 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. Representative Distillate Fuel Oil Specification for Sanford Repowering Project

Parameter	Specification
Specific Gravity, 60°F	0.82 - 0.86
Heating Value (HHV)	19,398 Btu/lb
Carbon	87% by weight
Oxygen	0% by weight
Sulfur	0.05% (maximum) by weight
Nitrogen	<0.015 by weight
Hydrogen	12.5% by weight
Ash	0.01% (maximum) by weight
Water and Sediment	0.05% (maximum) by volume
Trace metal contaminants (untreated)	
Sodium plus potassium	0.5 ppm (maximum)
Vanadium	0.5 ppm (maximum)
Lead	0.5 ppm (maximum)
Calcium	0.5 ppm (maximum)

Note: Btu/lb = British thermal units per pound.
ppm = parts per million.
HHV = High heating value.

Source: ASTM D2880-94

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--Base Load

Parameter		Operating and Emission Data[a] for Turbine Inlet Temperature		
		35°F	59°F	95°F
Stack Data (ft) (SC/CC)[b]				
Height		60/125	60/125	60/125
Diameter		22/19	22/19	22/19
Operating Data (SC/CC)[b]				
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[c]				
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/PM_{10}	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] Only Repowered Unit 4 will be equipped to operate in simple-cycle mode.
[c] 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–75 Percent Load

Parameter		Operating and Emission Data[a] for Turbine Inlet Temperature 35°F	59°F	95°F
Stack Data (ft) (SC/CC)[b]				
Height		60/125	60/125	60/125
Diameter		22/19	22/19	22/19
Operating Data (SC/CC)[b]				
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[c]				
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/PM_{10}	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] Only Repowered Unit 4 will be equipped to operate in simple-cycle mode.

[c] 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. 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 35°F	59°F	95°F
Stack Data (ft) (SC/CC)[b]				
Height		60/125	60/125	60/125
Diameter		22/19	22/19	22/19
Operating Data (SC/CC)[b]				
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[c]				
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/PM_{10}	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] Only Repowered Unit 4 will be equipped to operate in simple-cycle mode.

[c] 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 2-7. Stack, Operating, and Emission Data for the Proposed GE Frame 7FA Combustion Turbine with Dry Low-NO_x Combustors Firing Distillate Oil with Water Injection-- Base Load

Parameter		Operating and Emission Data[a] for Turbine Inlet Temperature 32 °F	59 °F	95 °F
Stack Data (ft) (SC/CC)				
Height		125	125	125
Diameter		19	19	19
Operating Data (SC/CC)				
Temperature(°F)		220	220	220
Velocity (ft/sec)		73.3	70.0	66.9
Maximum Hourly Emission per Unit[b]				
SO_2	lb/hr	101.5	99.5	93.4
	Basis	0.05%S	0.05%S	0.05%S
PM/PM_{10}	lb/hr	17	17	17
	Basis	Dry filterables	Dry filterables	Dry filterables
NO_x	lb/hr	365.2	354.6	334.1
	Basis	42 ppmvd at 15% O_2	42 ppmvd at 15% O_2	42 ppmvd at 15% O_2
CO	lb/hr	75.1	71.6	66.8
	Basis	20 ppmvd	20 ppmvd	20 ppmvd
VOC (as methane)	lb/hr	16.9	16.1	15.4
	Basis	7 ppmvw	7 ppmvw	7 ppmvw

Note: SC = simple cycle; CC = combined cycle; ppmvd = parts per million by volume dry; O_2 = oxygen; S = sulfur; CF = cubic feet, ppmvw = parts per million by volume net

[a] Repowered Unit 5 only. Refer to Attachment B for detailed information.

[b] See attachment B for information on other regulated pollutants. 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 2-8. Stack, Operating, and Emission Data for the Proposed GE Frame 7FA Combustion Turbine with Dry Low-NO_x Combustors Firing Distillate Oil with Water Injection-- 75 Percent Load

Parameter		Operating and Emission Data[a] for Turbine Inlet Temperature 32 °F	59 °F	95 °F
Stack Data (ft) (SC/CC)				
Height		125	125	125
Diameter		19	19	19
Operating Data (SC/CC)				
Temperature(°F)		220	220	220
Velocity (ft/sec)		57.0	53.7	54.2
Maximum Hourly Emission per Unit[b]				
SO_2	lb/hr	82.6	80.9	74.8
	Basis	0.05%S	0.05%S	0.05%S
PM/PM_{10}	lb/hr	17	17	17
	Basis	Dry filterables	Dry filterables	Dry filterables
NO_x	lb/hr	299.4	285.2	270.3
	Basis	42 ppmvd at 15% O_2	42 ppmvd at 15% O_2	42 ppmvd at 15% O_2
CO	lb/hr	58.1	54.8	54.4
	Basis	20 ppmvd	20 ppmvd	20 ppmvd
VOC (as methane)	lb/hr	13.1	12.4	12.5
	Basis	7 ppmvw	7 ppmvw	7 ppmvw

Note: SC = simple cycle; CC = combined cycle; ppmvd = parts per million by volume dry; O_2 = oxygen; S = sulfur; CF = cubic feet , ppmvw = parts per million by volume net

[a] Repowered Unit 5 only. Refer to Attachment B for detailed information.

[b] See attachment B for information on other regulated pollutants. 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 2-9. Stack, Operating, and Emission Data for the Proposed GE Frame 7FA Combustion Turbine with Dry Low-NO_x Combustors Firing Distillate Oil with Water Injection-- 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		125	125	125
Diameter		19	19	19
Operating Data (SC/CC)				
Temperature(°F)		220	220	220
Velocity (ft/sec)		47.1	45.6	44.8
Maximum Hourly Emission per Unit[b]				
SO_2	lb/hr			
	Basis	0.05%S	0.05%S	0.05%S
PM/PM_{10}	lb/hr	17	17	17
	Basis	Dry filterables	Dry filterables	Dry filterables
NO_x	lb/hr	231.4	221.9	208.8
	Basis	42 ppmvd at 15% O_2	42 ppmvd at 15% O_2	42 ppmvd at 15% O_2
CO	lb/hr	73.9	70.9	69.0
	Basis	30 ppmvd	30 ppmvd	30 ppmvd
VOC (as methane)	lb/hr	10.9	10.5	10.3
	Basis	7 ppmvw	7 ppmvw	7 ppmvw

Note: SC = simple cycle; CC = combined cycle; ppmvd = parts per million by volume dry; O_2 = oxygen; S = sulfur; CF = cubic feet , ppmvw = parts per million by volume net

[a] Repowered Unit 5 only. Refer to Attachment B for detailed information.

[b] See attachment B for information on other regulated pollutants. 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 2-10. Maximum Potential Emissions for the FPL Sanford Repowering Project-Tons/Year

		Natural Gas Firing[a] Load at 35 °F Turbine Inlet				Distillate Oil Firing[b] Load at 32 °F Turbine Inlet			Maximum Emissions
Pollutant	Units	100%	75%	50%	Units	100%	75%	50%	w/ oil-firing[c]
PM	1	43.8	43.8	43.8	1	4.3	4.3	4.3	45.6
SO_2	1	22.5	18.0	14.2	1	25.4	20.7	16.4	46.6
NO_x	1	297.8	238.0	188.3	1	91.3	74.9	57.8	372.2
CO	1	196.6	158.6	130.8	1	18.8	14.5	18.4	204.2
VOC	1	13.1	10.6	8.7	1	4.2	3.3	2.7	16.6
PM	8	350.4	350.4	350.4	4	17.0	17.0	17.0	357.4
SO_2	8	180.2	143.9	113.9	4	101.5	82.6	65.6	276.6
NO_x	8	2,382.7	1,904.1	1,506.4	4	365.2	299.4	231.4	2,680.0
CO	8	1,573.1	1,268.6	1,046.2	4	75.1	58.1	73.6	1,603.3
VOC	8	104.9	84.6	69.7	4	16.9	13.1	10.9	118.8

Notes: [a] 8,760 hours per year operation.
[b] 500 hours per year operation.
[c] applies on to Repowered Unit 5 with 8,260 hours of gas firing and 500 hours of oil firing.

Table 2-11. Physical, Performance and Emissions Data for FPL Sanford Cooling Tower

Physical Data	
Tower Type:	Mechanical Draft Wooden Rectangular
Number of Cells:	4
Deck Dimensions, ft:	
Length:	200
Width:	50.00
Height:	31
Stack Dimensions:	
Height, ft:	45
Stack Top Effective Inner Diameter, per cell, ft:	32.00
Effective Diameter, all cells, ft.	110.85
Performance Data	
Discharge Velocity, ft/min	1,600
Circulating Water Flow Rate (CWFR), gpm :	56,667
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
L/G Ratio:	1.3
Emission Data	
Drift Rate[a] (DR), percent:	0.001
TDS Concentration[b] ,maximum, ppm:	40,000
Solution Drift[c] (SD), lb/hr:	283.56
PM Drift[d] , lb/hr:	11.34
, tons/year	24.84
PM10 Drift[e] , tons/year	12.42

Notes: a - drift rate is the percent of circulating water
b - maximum TDS in Sanford Cooling Pond under worst case assumptions
c - Includes water
d - PM calculated based on TDS and drift rates (CWFR x DR x SD x TDS)
56,667 gpm x 0.001/100 x 8.34 lb/g x 40,000ppm/1,000,000 x 60 min/hr = 11.43 lb/hr
annual emissions based on 6 months operation at maximum potential TDS.
e - PM10 emissions assumed to be 1/2 of total PM (based on typical particle size the assumption is very conservative).

Table 2-12. Performance, Stack Parameters, and Emissions for Direct-Fired 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	3
Stack Parameters	
Diameter (ft)	2
Height (ft)	10
Temperature (°F)	635
Velocity (ft/sec)	74
Flow (acfm/unit)	13,949
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.

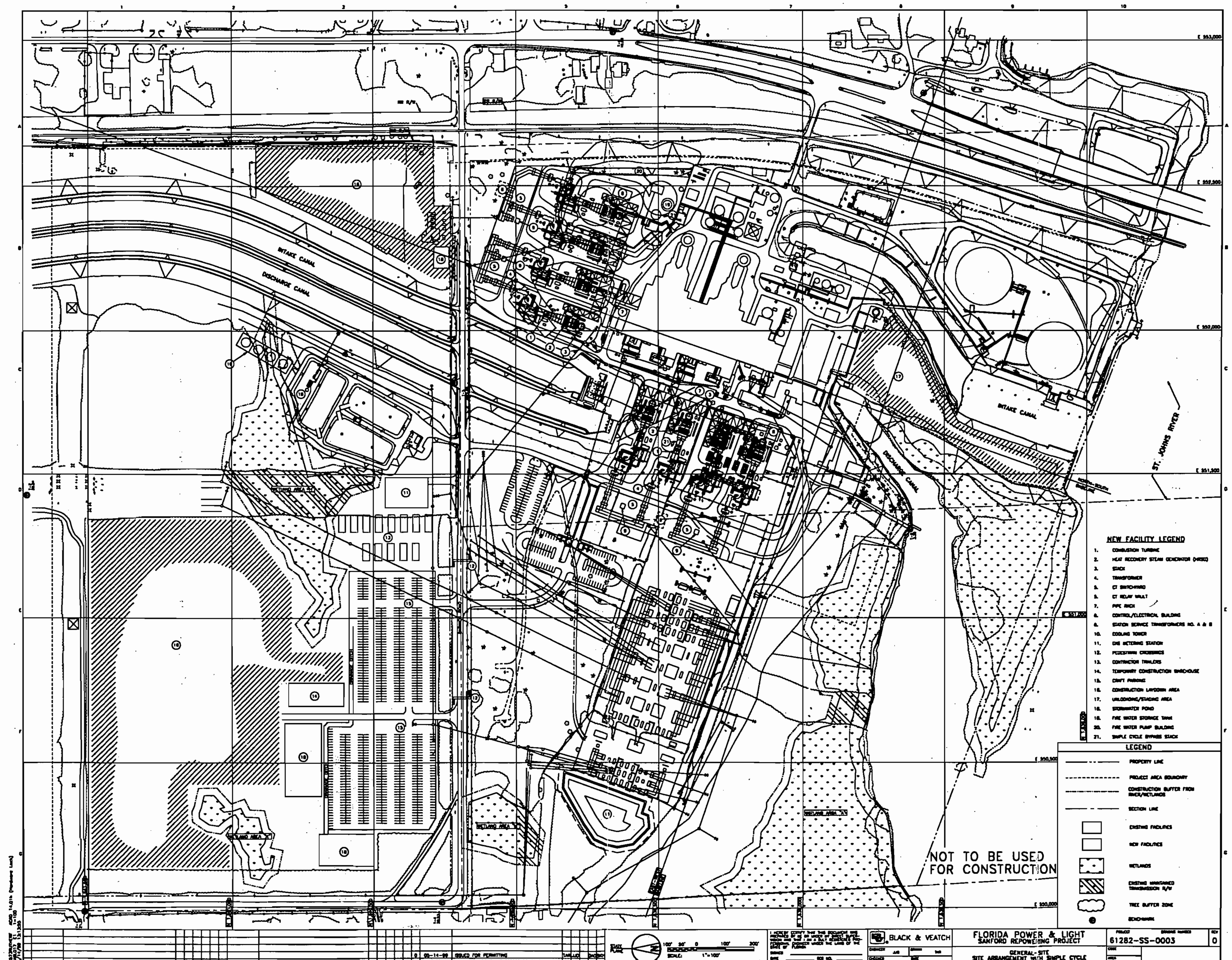
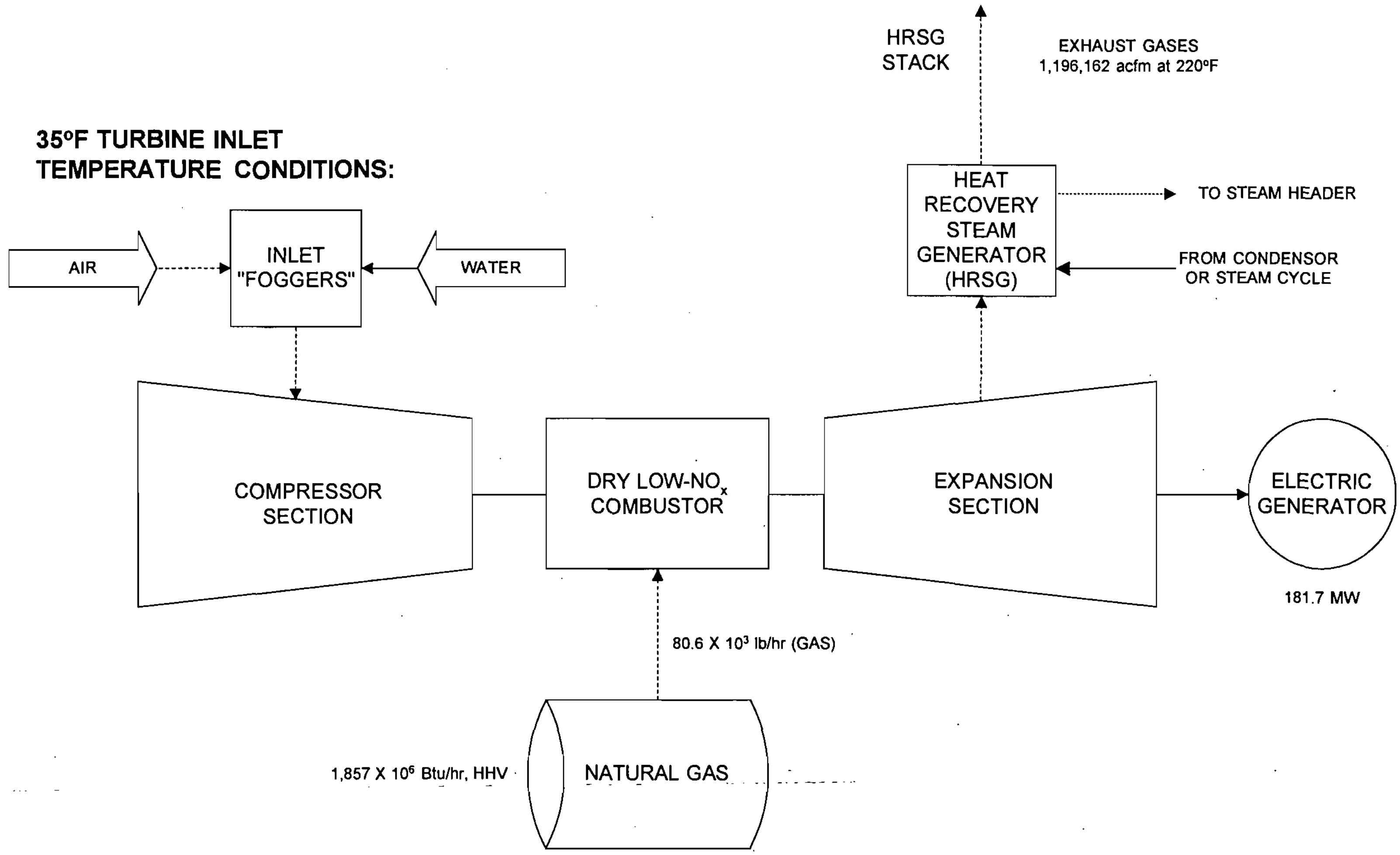


Figure 2-1. Site Plan - Sanford Repowering Project

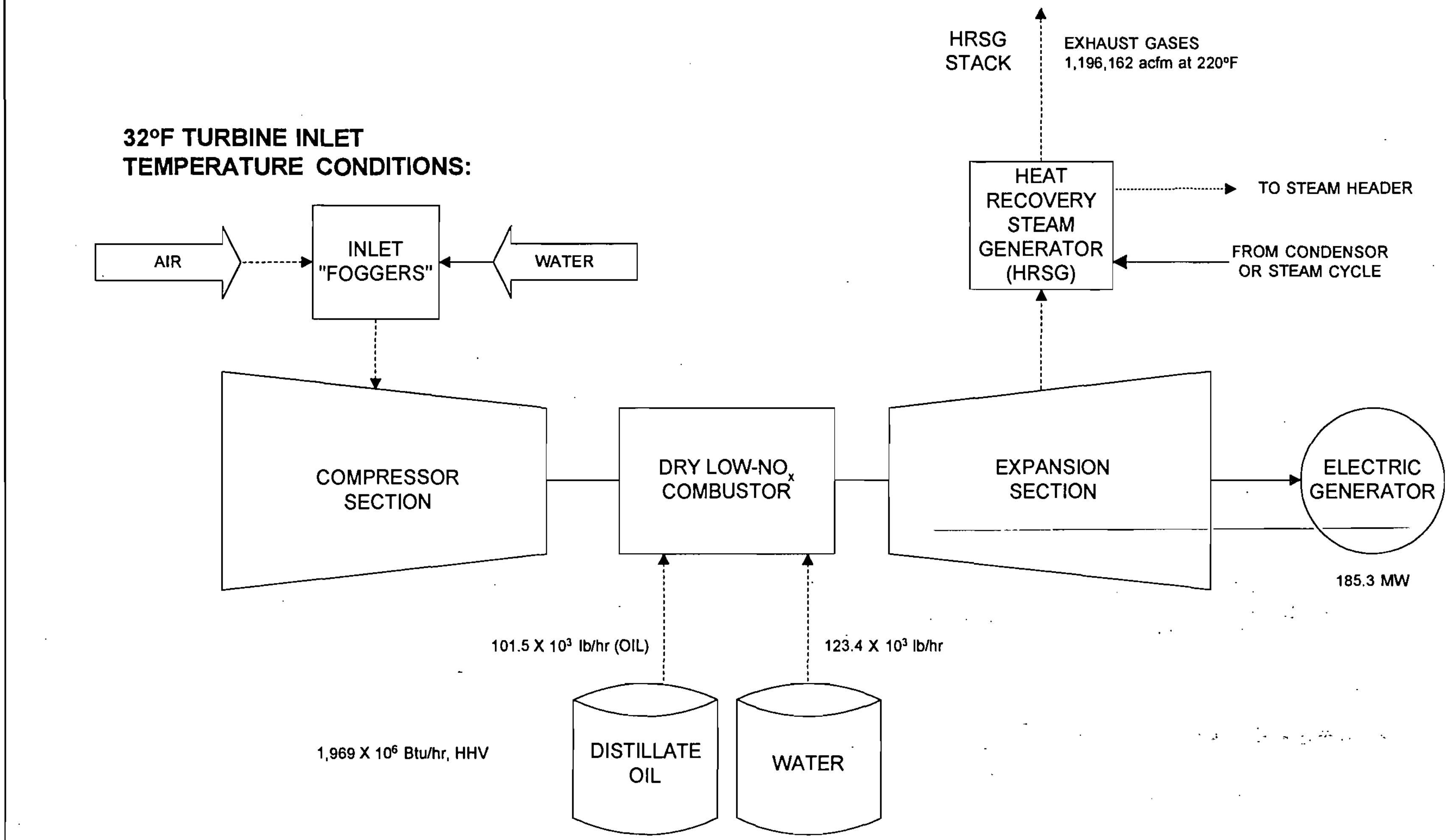


NOTE: SEE ATTACHMENT B FOR DESIGN INFORMATION AND STACK PARAMETERS.
BASED ON DATA PROVIDED BY GENERAL ELECTRIC CORPORATION.

SANFORD REPOWERING PROJECT

Figure 2-2
Simplified Flow Diagram of GE Frame 7FA
Natural Gas Firing
Sanford Repowering Project

FPL



NOTE: SEE ATTACHMENT B FOR DESIGN INFORMATION AND STACK PARAMETERS.
BASED ON DATA PROVIDED BY GENERAL ELECTRIC CORPORATION.

SANFORD REPOWERING PROJECT

Figure 2-3
Simplified Flow Diagram of GE Frame 7FA
Distillate Oil Firing
Sanford Repowering Project

FPL

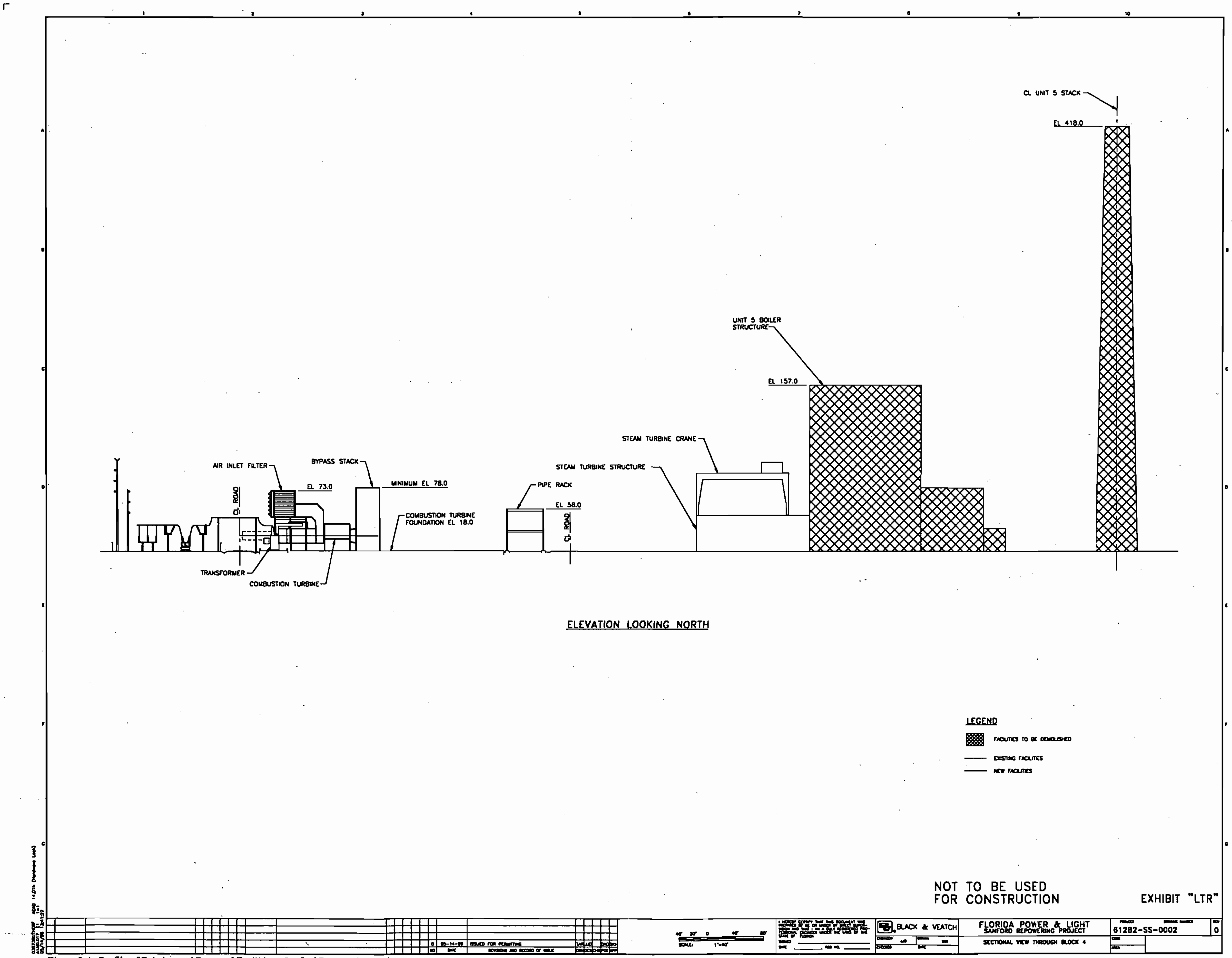


Figure 2-4. Profile of Existing and Proposed Facilities - Sanford Repowering Project

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 Sanford 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, PM_{10}, 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, PM_{10}, 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 as being "inappropriate". 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 levels are as follows:

Pollutant	Averaging Time	Proposed EPA PSD Class I Significant Impact Levels ($\mu g/m^3$)
SO_2	3-hour	1
	24-hour	0.2
	Annual	0.1
PM_{10}	24-hour	0.3
	Annual	0.2
NO_2	Annual	0.1

$\mu g/m^3$ = 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 are used 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 PM_{10}.

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).

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. The ARCs are currently not used in permitting decisions.

3.4.5 Local Air Regulations

Volusia County does not have specific regulations regarding ambient air quality or air pollutant emissions. The county follows all FDEP Air Rules to 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 Sanford Plant site is located in Volusia County, which has been designated by EPA and FDEP as an attainment area for all criteria pollutants. Volusia 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 Chassahowitzka National Wildlife Refuge located about 130 km (81 miles) west of the site.

3.5.2 PSD Review

Pollutant Applicability

The existing Sanford 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 4 and 5 do not trigger PSD review for all regulated pollutants except VOCs. PSD review is required for VOCs.

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 by volume-dry (ppmvd) on gas (corrected to 15 percent oxygen); 101.7 ppmvd on oil. 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 Sanford Repowering Project in lieu of previous custom fuel monitoring schedules. The FPL Fort Myers Repowering project was approved with the new EPA guidance, and it is FPL's understanding that EPA Region IV concurred with this approach.

Ambient Monitoring

Based on the estimated pollutant emissions from the Project, a preconstruction ambient monitoring analysis is not required for any regulated pollutant. The net emissions increase of VOCs are less than *de minimis* monitoring level of 100 tons/yr. Therefore, inventory is except by Rule 62-212.400(3)(e) F.A.C.

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 Volusia 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 4 and 5.

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 Sanford Repowering Project, CEM systems will be used to determine emissions for NO_x. The procedures in 40 CFR Part 75, Appendix D, will be used to monitor SO_2 emissions.

Table 3-1. National and State AAQS, Allowable PSD Increments, and Significant Impact Levels

Pollutant	Averaging Time	AAQS ($\mu g/m^3$) Primary Standard	Secondary Standard	Florida	PSD Increment ($\mu g/m^3$) Class I	Class II	Significant Impact Level ($\mu g/m^3$) [b]
Particulate Matter[c] (PM_{10})	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 (PM_{10}) = 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, $PM_{2.5}$ 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 (PM_{10})	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	$3.5x10^{-6}$	NM
MWC Metals	NSPS	15	NM
MWC Acid Gases	NSPS	40	NM
MSW Landfill Gases	NSPS	50	NM

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 Sanford Repowering Project Compared to the PSD Significant Emission Rates

Pollutant	Pollutant Emissions (TPY) from Repowered Facility				PSD Review
	Actual Emissions Units 4 and 5	Potential Emissions[a]	Net Emissions Change	Significant Emission Rate	
Sulfur Dioxide	28,729	279	-23,450	40	No
Particulate Matter [PM(TSP)]	538	386	-152	25	No
Particulate Matter (PM_{10})	538	373	-165	15	No
Nitrogen Dioxide	9,984	2,738	-7,247	40	No
Carbon Monoxide	2,906	1,691	-1,216	100	No
Volatile Organic Compounds	67	123	+56	40	Yes
Lead	0.087	0.021	-0.066	0.6	No
Sulfuric Acid Mist	1,276	42.3	-1,234	7	No
Total Fluorides	96	0.064	-96	3	No
Total Reduced Sulfur	NEG	NEG	–	10	No
Reduced Sulfur Compounds	NEG	NEG	–	10	No
Hydrogen Sulfide	NEG	NEG	–	10	No
Mercury	0.0124	0.0013	-0.0111	0.1	No
MWC Organics (as 2,3,7,8-TCDD)	2.94×10^{-7}	8.24×10^{-7}	0.53×10^{-6}	3.5×10^{-6}	No
MWC Metals (as Be and Cd)	0.0257	0.007	-0.019	15	No
MWC Acid Gases (HCl)[c]	47.3	0.42	-47	40	No

Note: NEG = Negligible; MWC= Municipal Waste Combustor

[a] Repowering Project. Refer to Tables 2-1 and 2-10.

[b] Assumes one-half of the cooling tower drift emissions is PM_{10}.

[c] Also includes SO_2; see SO_2 above.

4.0 CONTROL TECHNOLOGY DESCRIPTION AND BACT EVALUATION

4.1 NITROGEN OXIDES

PSD review including an evaluation of BACT is not required for NO_x. Nonetheless, the proposed emission levels proposed for NO_x are consistent with emission levels established as BACT by the FDEP in recent projects. 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 when firing natural gas and 42 ppmvd corrected to 15 percent O_2 when firing distillate oil (only Unit 5 will be equipped with oil firing capability).

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 injection of water or steam in the combustion zone of CTs reduces the flame temperature with a corresponding decrease of NO_x emissions. The amount of NO_x reduction possible depends on the combustor design and the water-to-fuel ratio employed. An increase in the water-to-fuel ratio will cause a concomitant decrease in NO_x emissions until flame instability occurs. Wet injection historically has been the primary method of reducing NO_x emissions from CTs in the 1970s and 1980s. Indeed, this method of control was first mandated by the NSPS to reduce NO_x levels to 75 parts per million by volume, dry (ppmvd) (corrected to 15 percent O_2 and heat rate). The NO_x emission level when firing distillate oil at baseload conditions is 42 ppmvd (corrected to 15% O_2) which is guaranteed by the selected vendor (General Electric).

The permitting trend for advanced (i.e., Frame "F" class) combustion turbines is the use of dry low-NO_x combustors. At least seven projects in Florida (Florida Power & Light Company's Martin Units 3 and 4 and Fort Myers Repowering Project; Orlando Cogeneration Project; Tiger Bay Cogeneration Project, City of Tallahassee Purdom Unit 8 Project, Duke New Smyrna Beach Power Project in review, and the Kissimmee Utilities Authority Cane Island Project in review) 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 Sanford 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 when firing natural gas 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 when firing natural gas and 20 ppmvd when firing distillate oil (baseload conditions). While BACT is not applicable to CO, the proposed emissions levels are at or lower than 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 when firing gas for the Sanford Repowering Project. The requested limit provides additional margin while still reducing CO emissions from the facility.

4.3 VOLATILE ORGANIC COMPOUNDS-BACT EVALUATION

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 and 7 ppmvw with distillate oil firing. These emission levels are similar to the BACT emission levels established for other similar sources.

Emissions of VOCs are dependent upon the combustion design, which is a result of the manufacturer's operating specifications, including the air-to-fuel ratio, staging of combustion, and the amount of water injected (i.e., for oil firing). The CT proposed for the project have designs to optimize combustion efficiency and minimize VOC as well as NO_x emissions.

For the project, the following alternatives were evaluated as BACT:

1. Combustion controls at 1.4 ppmvd when firing natural gas (at baseload) and 7 ppmvw when firing oil. The evaluation was based on 8,260 hours per year of natural gas at baseload and 500 hours per year at baseload on oil; and
2. Oxidation catalyst with 70 percent removal.

Combined cycle facilities that have primarily been installed with an oxidation catalyst were required for controlling CO and VOC emissions for LAER.

Proposed BACT and Rationale

Combustion design is proposed as BACT as a result of the technical and economic consequences of using catalytic oxidation on CT. The proposed BACT emission rates for VOC will not exceed 1.4 ppmvd when firing natural gas and 7 ppmvw when firing distillate oil at baseload conditions. Catalytic oxidation is considered unreasonable for the following reasons:

1. Catalytic oxidation has not been required for CT emitting at the proposed VOC emission level;
2. Catalytic oxidation will not produce measurable reduction in the air quality impacts;
3. The economic impacts are significant (i.e., the capital cost is about $1.34 million per unit, with an analyzed cost of $664,000 per year per unit; and
4. Recent projects in Florida and EPA Region IV have been authorized with BACT emission limits equal to and higher than that proposed. Indeed, 1.4 ppmvd at base load on gas is equivalent to 0.0016 lb/mmBtu and much lower than that permitted for the Alabama Power Projects (Barry Plant and Theodore Cogeneration Facility) of 0.016 lb/mmBtu for VOCs.

Combustion design is proposed as BACT as a result of the technical and economic consequences of using catalytic oxidation on CT. Catalytic oxidation is considered unreasonable and "inappropriate" since it will not produce a measurable reduction in the air quality impacts. Indeed, recent BACT decisions for similar advanced CT have set limits in the same range and higher. The cost of an oxidation catalyst would be significant and not be cost effective given the maximum proposed emission limits. Appendix B contains cost calculations and a summary of BACT/LAER decisions on VOCs. As shown in Table B-25, BACT for VOCs is in the range of 0.0017 to 0.006 lb/mmBtu for recent projects. Combustion controls have overwhelmingly been selected as the control technology for limiting VOCs from turbines.

4.3.1 Impact Analysis

Economic

The estimated annualized cost of an oxidation catalyst is $736,000/unit, resulting in a cost effectiveness of about $63,400 per ton of VOC removed (see Tables B-26 and B-27 in Appendix B). The cost effectiveness is based on 8,260 hours per year per CT on natural gas and 500 hours on distillate oil.

This high cost effectiveness is clearly inappropriate as BACT. When lost energy and the formation of other pollutants are considered the cost effectiveness is over $100,000 per tons of VOC removed. No costs are associated with combustion techniques, since they are inherent in the design.

Environmental

No significant environmental benefit would be realized by the installation of an oxidation catalyst. Indeed, additional particulate and secondary emissions as a result of an oxidation catalyst could be up to 6 TPY. The particulate would result from the conversion of SO_2 to sulfates, and the secondary emissions would result from the heat rate reduction.

Energy

An energy penalty would result from the pressure drop across the catalyst bed. A pressure drop of about 2 inches water gauge would be expected. At a catalyst back pressure of about 2 inches, an energy penalty of about 3,183,400 kWh/yr per unit would result at 100 percent load. This energy penalty is sufficient to supply the electrical needs of about 265 residential customers for a year. To replace this lost energy, about 31 x 10^9 Btu/yr or about 31 million ft^3/yr of natural gas would be required.

4.4 PM/PM_{10}, SO_2, AND OTHER REGULATED AND NONREGULATED POLLUTANT EMISSIONS

PSD review and an evaluation of BACT is not required for PM/PM_{10}, SO_2 or any other regulated air pollutant. The proposed emission levels and control techniques are at levels similar to those established as BACT by the FDEP for recent projects.

The PM/PM_{10} 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. SO_2 emissions are minimized by the use of natural gas and 0.05 percent sulfur distillate oil.

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 Sanford Repowering Project

Pollutant	Proposed Limit	Averaging Time	Compliance Method
Nitrogen Oxides	9 ppmvd (corrected to 15% O_2 gas)	30-day rolling average	Part 75 CEM
	42 ppmvd (corrected to 15% O_2 oil)	24-hour block average	Part 75 CEM
Carbon Monoxide	12 ppmvd - Gas 20 ppmvd - Oil	Initial compliance test	EPA Method 10
Sulfur Dioxide	1 grain per 100 scf - Gas 0.05% S - Oil	Annual average	Supplier analyses
Volatile Organic Compounds	1.4 ppmvd - Gas 7 ppmvw - Oil	Initial compliance test	EPA Method 25A
Particulate Matter	10% opacity or less - Gas 20% opacity or less - Oil	6-minute average	EPA Method 9

Note: ppmvd = parts per million (volume), dry

5.0 AMBIENT MONITORING DATA

The FPL Sanford Plant is located in a rural area of Volusia County which has a minimal number of air pollution sources. A number of air monitoring stations have operated in the county and in nearby counties the past several years to measure air concentrations from existing sources. A summary of the maximum pollutant concentrations measured in Volusia County and nearby counties from 1996 to 1998 is presented in Table 5-1. These data indicate that the maximum SO_2, NO_2, PM_{10}, and O_3 concentrations measured in the county and nearby counties are below applicable standards.

The nearest SO_2 and NO_2 monitors to the plant site are located in Winter Park, Orange County. For SO_2, during 1998, the highest and second-highest 3-hour average concentrations were 76 $\mu g/m^3$ (0.029 ppm) and 71 $\mu g/m^3$ (0.027 ppm), respectively, while the highest and second-highest 24-hour average concentrations were 21 $\mu g/m^3$ (0.008 ppm) and 18 $\mu g/m^3$ (0.007 ppm), respectively. The annual average concentration was 5 $\mu g/m^3$ (0.002 ppm). These SO_2 measured values are well 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.

For NO_2, the annual average concentration was 29 $\mu g/m^3$ (0.011 ppm). The NO_2 measured value is well below the NO_2 AAQS of 100 $\mu g/m^3$ for the annual averaging period.

The nearest PM_{10} monitor to the plant site is located in Sanford, Seminole County. During 1998, the highest and second-highest 24-hour average concentrations were 154 and 105 $\mu g/m^3$, respectively. The annual average concentration was 23 $\mu g/m^3$. The highest 24-hour average PM_{10} concentrations are considered anomalous since they include air quality levels associated with the wildfires that occurred in Florida during the spring and summer of 1998. In reviewing the third and fourth highest 24-hour average values of 49 and 36 $\mu g/m^3$, respectively, for 1998 as well as the maximum measured values of 39 and 74 $\mu g/m^3$, respectively, for 1996 and 1997, these values are very similar to one another and well below the PM_{10} AAQS of 150 $\mu g/m^3$, for the 24-hour averaging times. The annual average concentration of 23 $\mu g/m^3$ was also well below the PM_{10} AAQS of 50 $\mu g/m^3$ for the annual averaging time.

The nearest O_3 monitor to the plant site is located in Seminole County. During 1998, the highest and second-highest 8-hour average concentrations were 0.095 and 0.092 ppm, respectively. Compliance with the O_3 AAQS of 0.080 ppm is based on the 3-year average of the fourth highest 8-hour average concentrations. Using data for the period of 1996 to 1998, the 3-year average of the fourth highest 8-

hour average concentrations is 0.077 ppm. Similar to the highest 24-hour average PM_{10} concentrations, the highest O_3 concentrations for 1998 are also considered anomalous since they include air quality levels associated with the wildfires that occurred in Florida during the spring and summer.

Given the lack of industrial development in the vicinity of the plant, existing concentrations of other criteria pollutants, i.e., 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 Sulfur Dioxide, PM10, Nitrogen Dioxide, and Ozone Concentrations Measured from 1996 to 1998 near the FPL Sanford Plant

County	Site Number and Location		Measurement Period Year	Measurement Period Months	Number of Observation	Measured Concentration ($\mu g/m^3$) (a)					
Sulfur Dioxide		Florida AAQS				3-Hour Average			24-Hour Average		Annual
						NA	1300		NA	260	60
						1st	2nd		1st	2nd	Average
Orange	12-095-2002	Winter Park, Morris Boulevard	1998	Jan-Dec	8,625	76	71		21	18	5
			1997	Jan-Dec	8,657	75	52		18	18	4
		Winter Park, Lake Isle Estates	1996	Jan-Dec	8,650	126	75		31	30	4
PM10		Florida AAQS				24-Hour Average				Annual	
						NA	NA		150	50	
						1st	2nd	4th	3-year Average 4th (b)	Average	
Seminole	12-117-0003	Sanford, 300 North Park Ave.	1998	Jan-Dec	58	154	105	49	36	23	
			1997	Jan-Dec	59	39	37	29	30	18	
			1996	Jan-Dec	59	74	49	31	NA	18	
Seminole		Altamonte Springs, 2150 Sand Lake Road	1998	NA	NA	NA	NA	NA	NA	NA	
			1997	Jan-Dec	57	42	37	NA	NA	21	
			1996	Jan-Dec	61	73	47	NA	NA	19	
Orange	12-095-0004	Orlando, E. Washington St., Zellwood Elem.	1998	Jan-Dec	61	68	67	48	37	22	
			1997	Jan-Dec	61	43	37	36	31	19	
			1996	Jan-Dec	61	68	42	28	NA	17	
Orange	12-095-0007	Orlando, 2401 W. 33rd St., Sheriffs Dept.	1998	Jan-Dec	61	85	62	54	46	30	
			1997	Jan-Dec	62	53	52	44	41	26	
			1996	Jan-Dec	63	77	56	41	NA	26	
Orange	12-095-1003	Orlando, West Central and Paramore	1998	Jan-Dec	25	37	35	31	NA	25	
			1997	Jan-Dec	58	47	46	NA	NA	23	
			1996	Jan-Dec	61	79	56	NA	NA	22	
Orange	12-095-1004	Orlando, 595 N. Primrose Ave.	1998	Jan-Dec	61	85	68	54	41	25	
			1997	Jan-Dec	61	40	40	36	34	21	
			1996	Jan-Dec	59	76	53	33	NA	21	
Orange	12-095-2002	Winter Park, Morris Boulevard	1998	Jan-Dec	61	83	68	48	45	23	
		Lake Isle Estates	1997	Jan-Dec	61	40	38	35	38	20	
			1996	Jan-Dec	59	81	67	51	NA	22	

Table 5-1. Summary of Maximum Sulfur Dioxide, PM10, Nitrogen Dioxide, and Ozone Concentrations Measured from 1996 to 1998 near the FPL Sanford Plant

County	Site Number and Location		Measurement Period Year	Measurement Period Months	Number of Observation	Measured Concentration ($\mu g/m^3$) (a)			
Nitrogen Dioxide		Florida AAQS				Annual 100 Average			
Orange	12-095-2002	Winter Park, Morris Boulevard	1998	Jan-Dec	8,408	29			
		Winter Park, Lake Isle Estates	1997	Jan-Dec	8,306	24			
			1996	Jan-Dec	8,343	24			
Ozone		Florida AAQS				8-Hour Average NA	NA		80
						1st	2nd	4th	3-year Average 4th (b)
Seminole	12-117-1002	County Homes Rd	1998	Jan-Dec	364	95	92	89	77
			1997	Jan-Dec	364	82	81	76	72
			1996	Jan-Dec	366	74	73	68	71
Orange	12-095-0008	Orlando, 7055 Winegard Rd.	1998	Jan-Dec	353	99	97	96	84
			1997	Jan-Dec	364	101	89	79	78
			1996	Jan-Dec	366	88	82	78	79
Orange	12-095-2002	Winter Park, Morris Boulevard	1998	Jan-Dec	360	108	97	88	80
			1997	Jan-Dec	364	85	85	78	75
			1996	Jan-Dec	366	89	82	76	76
Osceola	12-097-2002	Kissimmee, 8706 West 192	1998	Jan-Dec	363	98	94	91	79
			1997	Jan-Dec	364	89	82	75	72
			1996	Jan-Dec	366	83	76	73	73

Note: NA= not applicable; AAQS= ambient air quality standard.

(a) For ozone, concentrations reported in parts per billion (ppb).
(b) Concentration value is the 3-year average of the 4th highest concentration.

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 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 emission sources and the repowered sources at the Sanford 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: Unit 3, Unit 4, and Unit 5. These plant impacts were added to a non-modeled background concentration (see Section 6.1.8) to produce a total air quality impact that was then compared to the AAQS for SO_2, NO_2, and PM_{10}.

For the repowered plant, air quality impacts were predicted for the proposed units during construction activities and for future operations. In these analyses, pollutant concentrations were predicted for the CTs firing natural gas and distillate fuel to address the operations when either: (1) all eight CTs are firing natural gas for repowered Units 4 and 5; or (2) four CTs are firing natural gas for repowered Unit 4 while four CTs are firing distillate fuel oil for repowered Unit 5.

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 Unit 3. For modeling purposes, during the construction phase, the boiler buildings for existing Units 4 and 5 were assumed to be in existence. As a result, the stacks for the proposed CTs, proposed cooling tower, and existing Unit 3 would be potentially under the influence of building downwash effects from those buildings. For these analyses, the CTs for repowered Unit 4 and Unit 5 were assumed to operate in combined cycle modes. Further, additional analyses were performed in which the CTs for repowered Unit 4 were also assumed to operate in simple cycle mode. Total air quality impacts from all sources were then estimated and compared to AAQS for SO_2, NO_2, and PM_{10}.

For future operations, the air quality impacts were estimated for the proposed CTs, proposed cooling tower, and Unit 3. For these operations, the buildings for Units 4 and 5 would not be in existence. The CTs for repowered Unit 4 and Unit 5 were assumed to operated in combined cycle mode. The maximum impacts due to all sources were compared to the AAQS for SO_2, NO_2, and PM_{10}.

6.1.2 General Procedures

To develop the maximum concentrations for the existing Sanford 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. 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. No refined modeling was performed if the maximum concentrations were predicted in the screening receptor grid in which receptors are spaced apart by 100 m or less. 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 98356) dispersion model (EPA, 1998) 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 Sanford Power Plant site varies little from the stack base elevation of 20 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 National Weather Service (NWS) station located at the Orlando International Airport and the NWS station located in Ruskin, respectively. Concentrations were predicted using 5 years of hourly meteorological data from 1987 through 1991. The NWS station at Orlando is located approximately 48 km (30 miles) to the south of the plant site. The NWS station at Ruskin is located approximately 160 km (100 miles) to the southwest of the plant site. The surface meteorological data from Orlando 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 or modified sources locating in this area of Volusia 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

Existing Plant

The emissions and stack parameters for the existing plant are presented in Table 6-2. As discussed in Section 2.0, Units 4 and 5 will not be operated after the combined cycle configuration for the repowered plant is complete. Unit 3 will continue to operate.

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 2-4 through 2-9. The PM_{10} emission rates, physical tower, and operating parameters for the proposed cooling tower used in the air modeling analysis are presented in Table 2-11. The emission and stack operating parameters presented for 35°F, 59°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.

Nine modeling scenarios per fuel type were considered:

Scenarios 1-3	Base operating load for the ambient temperatures of 35°F, 59°F, and 95°F
Scenarios 4-6	75 percent operating load for the ambient temperatures of 35°F, 59°F, and 95°F
Scenarios 7-9	50 percent operating load for the ambient temperatures of 35°F, 59°F, and 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. During construction, the proposed CTs for repowered Unit 4 will operate in simple cycle mode and have CT stacks with a height of 60 ft and an inner stack diameter of 22 ft.

The typical cooling tower dimensions are as follows: deck height of 31 ft, length of 200 ft, and width of 50 ft. The cooling tower will consist of 4 cells; each cell will have a height of 45 ft and a diameter of 32 ft.

To address impacts when the proposed CTs for the repowered Units 4 and 5 are firing natural gas, a generic emission rate of 10 grams per second (g/s) was used as an emission rate for each CT. The modeled emission rate of 10 g/s was divided among all the CTs assuming all units were operating in combined cycle mode. During construction, the CTs for repowered Unit 4 were also assumed to operate in simple cycle mode. As a result, the modeled emission rate of 10 g/s was divided among the four CTs for repowered Unit 4 operating in simple cycle mode and the four CTs for repowered Unit 5 operating in combined cycle mode. 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, PM_{10} concentrations were predicted using PM_{10} emission rates for the cooling tower.

To address impacts when the proposed CTs for the repowered Unit 4 are firing natural gas and the proposed CTs for the repowered Unit 5 are firing distillate fuel oil, the specific pollutant emission rates were used for each CT.

Other Emission Sources

The air emission sources that could potentially interact with the proposed project are the Florida Power Corporation's (FPC) DeBary and Turner Plants located about 7 km to the north and 6 km to the east-northeast of the Sanford Plant. As discussed in Section 6.1.8, the air quality impacts from these sources are not expected to interact significantly with those from the repowered plant. As a result, these sources were not explicitly modeled. The contributions of other emission sources to air quality levels around the Sanford Plant were assumed to be included in background concentrations developed from ambient monitoring data.

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 665 receptors. These receptors included 36 receptors located on radials extending out from the HRSG stack location of the northern-most CT for the repowered Unit 4. Along each radial, receptors were located at the plant property and distances of 0.2, 0.3, 0.4, 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 HRSG stack location. However, concentrations were predicted only at receptors located off plant property that would be considered ambient air locations. As a result, because the plant property extends a minimum of about 200m in several directions and more than 400 m in other directions, receptors were not modeled at certain distances (e.g., 300 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 used to assess compliance with AAQS were performed using polar grids that extended out to 10 km or less.

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.

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 tower. To address air quality impacts for the existing plant as well as impacts during construction of the repowered plant, the boiler buildings for Unit 4 and Unit 5 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
Unit 3 Boiler Building	132	68.5	75
Cooling Tower	31	50	200
Construction–Same as Future Operations with the addition of:			
Unit 4 Boiler Building	161.7	75.7	102
Unit 5 Boiler Building	161.7	75.7	102

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 Sanford 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.

Because the project's maximum concentrations were generally predicted for building downwash conditions and occurred within 1 km of the plant site, the impacts from other sources are not likely to contribute significantly to these maximum concentrations even if they were included in the modeling. As a result, other sources were not explicitly modeled but assumed to be included in ambient concentrations measured at nearby air quality monitoring stations.

The non-modeled background concentrations were obtained from air quality monitoring data and are as follows:

Pollutant	Averaging Period	Background Concentration ($\mu g/m^3$)
PM_{10}	24-hour	49
	Annual	23
SO_2	3-hour	71
	24-hour	18
	Annual	5
NO_2	Annual	29

These data were obtained from the ambient monitoring stations that are closest to the plant site (see Section 5.0). Background PM_{10} concentrations were based on the highest annual and third-highest 24-hour average concentrations measured in Seminole County during 1998 (see Section 5.0). The background concentrations for SO_2 and NO_2 were obtained from concentrations measured in Orange County during 1998. Background SO_2 concentrations were based on the measured highest annual, second-highest 24-hour, and second-highest 3-hour average concentrations while background NO_2 concentrations were based on the measured highest annual concentration.

The PM_{10} concentrations are conservative since they include air quality levels associated with the wildfires in Florida during the spring and summer of 1998. The third highest 24-hour average concentration was used to represent background concentrations reported in other years and was less influenced by the wildfires, unlike the highest or second-highest concentration reported. The SO_2 and NO_2 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 Sanford 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 PM_{10} air quality impacts from the existing FPL Sanford facility. A summary of the maximum SO_2, NO_x, and PM_{10} impacts predicted from the existing Sanford Plant sources for the 5-year meteorological dataset is presented in Table 6-3. A summary of the total air quality concentrations predicted for the existing Sanford Plant and background sources is presented in Table 6-4. The highest predicted SO_2 annual, HSH 24-hour, and HSH 3-hour concentrations are 14, 137, and 763 $\mu g/m^3$, 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_2 concentration is 31 $\mu g/m^3$, which is below the annual NO_2 AAQS of 100 $\mu g/m^3$.

The highest predicted PM_{10} annual and HSH 24-hour concentrations are 23 and 54 $\mu g/m^3$, respectively. These concentrations are below the PM_{10} AAQS of 50 and 150 $\mu g/m^3$ for the annual and 24-hour averaging times, respectively. It should be noted that the contribution from background sources accounts for more than 90 percent of the maximum predicted total PM_{10} air quality levels.

6.2.2 Repowered Plant

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 6-9. For this modeling, the buildings for existing Units 4 and 5 were assumed to remain and, therefore, used in assessing potential effects of building downwash conditions on predicted concentrations.

The maximum pollutant concentrations for a single CT firing natural gas for repowered Units 4 or 5 is presented in Table 6-5. These results indicate that the maximum concentrations are predicted when all CTs are operating in combined cycle mode. As a result, subsequent analyses addressed the impacts for the proposed CTs operating in combined cycle mode only.

The maximum pollutant concentrations for eight CTs firing natural gas for repowered Units 4 and 5 and, alternatively, for four CTs firing natural gas for repowered Unit 4 and four CTs firing distillate fuel oil for repowered Unit 5 are presented in Table 6-6. Maximum PM_{10} concentrations due to PM_{10} emissions from the cooling tower are included in Table 6-6.

The maximum SO_2, NO_2, and PM_{10} concentrations due to all modeled sources for the construction phase for the screening analysis are presented in Table 6-7. The results of the analyses that compare predicted total air quality impacts to AAQS are presented in Table 6-8. These results show that, during the construction phase, the repowering project will be in compliance with the AAQS.

Based on these results, the maximum SO_2, NO_2, PM_{10}, 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.

Future Operations

The maximum SO_2, NO_2, PM 10, and CO concentrations for the proposed CTs and cooling tower predicted during operation of the repowered plant are presented in Tables 6-9 through 6-12. For this modeling, the buildings for existing Units 4 and 5 were eliminated and not used in assessing potential effects of building downwash conditions on predicted concentrations.

The maximum pollutant concentrations for a single CT firing natural gas for repowered Units 4 or 5 is presented in Table 6-9. The maximum pollutant concentrations for eight CTs firing natural gas for repowered Units 4 and 5 and, alternatively, for four CTs firing natural gas for repowered Unit 4 and four CTs firing distillate fuel oil for repowered Unit 5 are presented in Table 6-10. Maximum PM_{10} concentrations due to PM_{10} emissions from the cooling tower are included in Table 6-10.

The maximum SO_2, NO_2, and PM_{10} concentrations due to all modeled sources for the operation phase for the screening analysis are presented in Table 6-11. The results of the refined analyses that compare predicted total air quality to AAQS are presented in Table 6-12. These results show that, during the operation phase, the repowering project will be in compliance with the AAQS.

Based on these results, the maximum SO_2, NO_2, PM_{10}, and CO impacts predicted during the operation 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.

6.2.3 Summary

A summary of the maximum SO_2, NO_2, PM_{10}, and CO concentrations predicted for the project only is presented in Table 6-13. A summary of the maximum total air quality SO_2, NO_2, and PM_{10} concentrations predicted for comparison to the AAQS is presented in Table 6-14.

These results show that the maximum SO_2, NO_2, and PM_{10} impacts predicted for the repowered plant for future operations are less than the AAQS. As a result, the maximum 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, 1998.

Table 6-2. Stack, Operating, and Emissions Data for the Existing FPL Sanford Plant

Parameter	Unit 3	Unit 4	Unit 5
Stack Data			
Height (ft)	302	400	400
Diameter (ft)	12.5	21.4	21.4
Height (m)	92.1	121.9	121.9
Diameter (m)	3.81	6.52	6.52
Operating Data			
Temperature (°F)	350	300	300
Velocity (ft/sec)	85.6	66.3	66.3
Temperature (K)	450	422	422
Velocity (m/sec)	26.1	20.2	20.2
Emission Data			
Emission rates (lb/hr)			
Sulfur Dioxide	4,538	11,138	11,138
Nitrogen Oxides	790	3,289	2,693
PM10	206	506	506
Emission rates (g/s)			
Sulfur Dioxide	571.8	1,403	1,403
Nitrogen Oxides	99.5	414.4	339.3
PM10	26.0	63.8	63.8

Table 6-3. Maximum SO_2, NO_2, and PM_{10} Impacts Due to Modeled Existing Sources

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	7.9	240	4,000	87123124
		8.5	240	4,000	88123124
		8.3	360	4,000	89123124
		9.0	240	5,000	90123124
		9.3	360	4,000	91123124
24-Hour	HSH	93	40	4,000	87080524
		117	30	1,150	88072724
		105	230	2,000	89072624
		119	220	1,100	90082024
		114	120	1,500	91070824
HSH 3-hour	HSH	627	120	1,500	87072312
		583	290	900	88071215
		551	320	1,100	89082212
		599	120	4,000	90073012
		692	130	1,500	91051612
NO_2					
Annual	Highest	1.8	240	4,000	87123124
		2.0	240	4,000	88123124
		1.9	360	4,000	89123124
		2.1	240	5,000	90123124
		2.2	360	4,000	91123124
PM_{10}					
Annual	Highest	0.36	240	4,000	87123124
		0.39	240	4,000	88123124
		0.38	360	4,000	89123124
		0.41	240	5,000	90123124
		0.42	360	4,000	91123124
24-Hour	HSH	4.2	40	4,000	87080524
		5.3	30	1,500	88072724
		4.8	230	2,000	89072624
		5.4	220	1,100	90082024
		5.2	120	1,500	91070824

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.
[a] Relative to the proposed HRSG stack for the northern-most CT for the repowered Unit 4.

Table 6-4. Summary of Maximum SO_2, NO_2, and PM_{10} Impacts Predicted for Existing Total Air Quality Compared to AAQS

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	14	9.3	5	360	4,000	91123124	60
24-hour	HSH	137	119	18	220	1,100	90082024	260
3-hour	HSH	763	692	71	130	1,500	91051612	1,300
NO_2								
Annual	Highest	31	2.2	29	360	4,000	91123124	100
PM_{10}								
Annual	Highest	23	0.42	23	360	4,000	91123124	50
24-Hour	HSH	54	5.4	49	220	1,100	90082024	150

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.

[a] Relative to the proposed HRSG stack for the northern-most CT for repowered Unit 4.

Table 6-5. Maximum Pollutant Concentrations Predicted for One Proposed Combustion Turbine firing Natural Gas in Combined and Simple Cycle Modes During the Construction Phase

	Maximum Emission Rates (lb/hr) by Operating Load and Air Inlet Temperature										Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Inlet Temperature (1)								
	Base Load			75% Load			50% Load			Averaging	Base Load			75% Load			50% Load		
Pollutant	32°F	59°F	95°F	32°F	59°F	95°F	32°F	59°F	95°F	Time	32°F	59°F	95°F	32°F	59°F	95°F	32°F	59°F	95°F
Combined Cycle Mode																			
Generic	79.37	79.37	79.37	79.37	79.37	79.37	79.37	79.37	79.37	Annual	1.77	1.97	2.32	2.86	3.04	3.34	3.94	4.06	4.32
(10 g/s)										24-Hour	26.09	27.56	27.78	29.91	30.75	31.30	34.41	35.56	37.92
										8-Hour	42.28	44.19	47.31	50.68	51.58	50.25	52.80	53.13	56.05
										3-Hour	52.00	53.48	55.14	63.19	66.48	70.95	79.54	81.14	83.79
										1-Hour	61.97	69.23	80.89	100.78	108.15	107.07	121.82	124.67	126.12
SO_2	5.1	4.9	4.4	4.1	4.0	3.6	3.2	3.1	2.9	Annual	0.114	0.122	0.129	0.148	0.153	0.151	0.159	0.158	0.158
										24-Hour	1.68	1.70	1.54	1.55	1.55	1.42	1.39	1.39	1.39
										3-Hour	3.34	3.30	3.06	3.26	3.35	3.22	3.21	3.17	3.06
NO_x	68.0	65.0	58.9	54.3	52.4	47.9	43.0	41.6	38.3	Annual	1.51	1.61	1.72	1.96	2.01	2.02	2.14	2.13	2.09
PM10	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	Annual	0.223	0.248	0.292	0.361	0.384	0.421	0.497	0.511	0.545
										24-Hour	3.29	3.47	3.50	3.77	3.87	3.94	4.34	4.48	4.78
CO	44.9	42.6	38.8	36.2	34.9	32.2	29.9	29.0	27.2	8-Hour	23.9	23.7	23.1	23.1	22.7	20.4	19.9	19.4	19.2
										1-Hour	35.1	37.2	39.5	46.0	47.6	43.4	45.9	45.6	43.2
Simple Cycle /Combined Cycle Mode																			
Generic	79.37	79.37	79.37	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.68	0.77	0.87	1.26	1.41	1.39	1.79	1.89	1.94
(10 g/s)										24-Hour	12.55	13.32	14.10	16.99	17.93	17.79	20.33	20.67	21.61
										8-Hour	31.33	32.48	32.11	34.44	34.70	35.46	37.23	37.35	37.81
										3-Hour	39.01	40.59	42.74	50.31	52.88	52.23	61.98	63.25	64.16
										1-Hour	60.67	68.91	76.75	100.78	108.15	107.07	121.82	124.67	126.12
SO_2	5.1	4.9	4.4	4.1	4.0	3.6	3.2	3.1	2.9	Annual	0.044	0.048	0.048	0.065	0.071	0.063	0.072	0.074	0.071
										24-Hour	0.81	0.82	0.78	0.88	0.90	0.81	0.82	0.81	0.79
										3-Hour	2.51	2.51	2.37	2.60	2.67	2.37	2.50	2.47	2.34
NO_x	68.0	65.0	58.9	54.3	52.4	47.9	43.0	41.6	38.3	Annual	0.58	0.63	0.64	0.86	0.93	0.84	0.97	0.99	0.94
PM10	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	Annual	0.086	0.097	0.109	0.158	0.178	0.175	0.226	0.238	0.245
										24-Hour	1.58	1.68	1.78	2.14	2.26	2.24	2.56	2.60	2.72
CO	44.9	42.6	38.8	36.2	34.9	32.2	29.9	29.0	27.2	8-Hour	17.7	17.4	15.7	15.7	15.3	14.4	14.0	13.6	13.0
										1-Hour	34.3	37.0	37.5	46.0	47.6	43.4	45.9	45.6	43.2

(1) Concentrations are based on highest predicted concentrations using five years of meteorological for 1987 to 1991 of surface and upper air data from the National Weather Service stations in Orlando 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.

For combined cycle mode, the modeled emission rate of 10 g/s was divided among the four CTs for repowered Unit 4 and four CTs for repowered Unit 5 assuming all units were operating in combined cycle mode.
For simple cycle/ combined cycle mode, the modeled emission rate of 10 g/s was divided among the four CTs for repowered Unit 4 operating in simple cycle model and four CTs for repowered Unit 5 operating in combined cycle mode.

Table 6.6. Maximum Pollutant Concentrations Predicted for Eight Combustion Turbines for Repowered Units 4 and 5 during the Construction Phase-Scenarios for Combined Cycle Mode with Natural Gas- and Distillate Fuel Oil-Firing

		Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)								
	Averaging	Base Load			75% Load			50% Load		
Pollutant	Time	32°F	59°F	95°F	32°F	59°F	95°F	32°F	59°F	95°F
Natural Gas-Firing Only (2)										
SO_2	Annual	0.91	0.97	1.03	1.18	1.23	1.21	1.27	1.27	1.26
	24-Hour	13.4	13.6	12.3	12.4	12.4	11.4	11.1	11.1	11.1
	3-Hour	27	26	24	26	27	26	26	25	24
NO_2	Annual	12.1	12.9	13.8	15.7	16.1	16.1	17.1	17.0	16.7
PM10	Annual	1.78	1.98	2.34	2.89	3.07	3.37	3.97	4.09	4.36
	24-Hour	26.3	27.8	28.0	30.2	31.0	31.6	34.7	35.8	38.2
CO	8-Hour	191	190	185	185	181	163	159	155	154
	1-Hour	280	297	316	368	380	348	367	364	346
Natural Gas- and Oil-Firing (2)										
SO_2	Annual	6.9	7.7	8.1	10.4	11.5	10.4	11.8	12.1	11.5
	24-Hour	127	133	132	141	146	134	131	132	124
	3-Hour	382	403	402	419	435	398	411	409	385
NO_2	Annual	25	28	29	38	41	38	42	42	41
PM10	Annual	1.9	2.1	2.5	3.1	3.3	3.6	4.3	4.4	4.7
	24-Hour	28	30	30	33	34	34	36	37	39
CO	8-Hour	202	200	197	196	192	175	261	254	251
	1-Hour	459	497	517	590	597	587	904	891	877
Proposed Cooling Tower										
PM10	Annual	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	24-Hour	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

(1) Concentrations are based on highest predicted concentrations using five years of meteorological for 1987 to 1991 of surface and upper air data from the National Weather Service stations in Orlando and Ruskin, respectively.

(2) For the scenario with natural gas-firing only, all eight CTs for repowered Units 4 and 5 are assumed to fire natural gas in combined cycle mode. For the scenario with natural gas- and oil-firing, the four CTs for repowered Unit 4 are assumed to fire natural gas while the four CTs for repowered Unit 5 are assumed to fire distillate fuel oil in combined cycle mode.

Table 6-7. Maximum SO_2, NO_2, and PM_{10} Impacts Due to Modeled Sources During Construction - Screening Analysis

Averaging Time	Value	Concentration[b] ($\mu g/m^3$)	Receptor Location[a] Direction (degrees)	Receptor Location[a] Distance (m)	Period Ending (YYMMDDHH)
SO_2					
Annual	Highest	11	20	300	87123124
		10	20	300	88123124
		12	20	300	89123124
		10	20	300	90123124
		15	20	300	91123124
24-hour	HSH	123	20	300	87072924
		168	20	300	88012124
		121	20	300	89061324
		148	20	300	90033124
		160	20	300	91011124
HSH 3-hour	HSH	453	10	400	87081724
		421	20	300	88092303
		378	10	300	89060903
		441	20	300	90021615
		426	20	300	91030206
NO_2					
Annual	Highest	29	20	300	87123124
		27	20	300	88123124
		35	20	300	89123124
		30	20	300	90123124
		43	20	300	91123124
PM_{10}					
Annual	Highest	4.5	240	230	87123124
		4.5	240	230	88123124
		3.9	20	300	89123124
		4.8	240	230	90123124
		4.5	240	230	91123124
24-Hour	HSH	30	240	230	87032324
		37	240	230	88091124
		28	240	230	89051824
		34	240	230	90041924
		32	20	300	91032224

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.

[a] Relative to the HRSG stack for the northern-most CT for repowered Unit 4.

[b] Based on four CTs firing natural gas for repowered Unit 4 and four CTs firing distillate fuel oil for repowered Unit 5 in combined cycle mode; and Unit 3 firing residual fuel oil.

Table 6-8. Maximum SO_2, NO_2, and PM_{10} Impacts Predicted for All Sources During Construction Compared to AAQS--Refined Analysis

		Concentration (μg/m³)			Receptor Location[a]			
Averaging Time	Value	Total	Modeled Sources[b]	Background	Direction (degrees)	Distance (m)	Period Ending (YYMMDDHH)	Florida AAQS (μg/m³)
SO_2								
Annual	Highest	20	15	5	20	300	91123124	60
24-hour	HSH	186	168	18	20	300	88012124	260
3-hour	HSH	524	453	71	10	400	87081724	1,300
NO_2								
Annual	Highest	72	43	29	20	300	91123124	100
PM_{10}								
Annual	Highest	28	4.8	23	240	230	90123124	50
24-Hour	HSH	86	37	49	240	230	88091124	150

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.

[a] Relative to the HRSG stack for the northern-most CT for repowered Unit 4.

[b] Based on four CTs firing natural gas for repowered Unit 4 and four CTs firing distillate fuel oil for repowered Unit 5 in combined cycle mode; and Unit 3 firing residual fuel oil.

Table 6-9. Maximum Pollutant Concentrations Predicted for One Proposed Combustion Turbine Firing Natural Gas in Combined Cycle Mode During Future Operations

	Maximum Emission Rates (lb/hr) by Operating Load and Air Inlet Temperature										Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Inlet Temperature (1)								
	Base Load			75% Load			50% Load			Averaging	Base Load			75% Load			50% Load		
Pollutant	32°F	59°F	95°F	32°F	59°F	95°F	32°F	59°F	95°F	Time	32°F	59°F	95°F	32°F	59°F	95°F	32°F	59°F	95°F
Generic (10 g/s)	79.37	79.37	79.37	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.073	0.077	0.083	0.099	0.114	0.141	0.205	0.222	0.254
										24-Hour	1.964	2.125	2.347	2.969	3.245	3.361	4.137	4.439	4.871
										8-Hour	4.655	5.035	4.572	6.962	7.532	7.590	9.217	9.699	10.741
										3-Hour	7.317	7.973	9.038	11.252	12.258	12.500	14.652	15.249	15.792
										1-Hour	16.016	16.429	17.111	18.929	19.446	20.525	23.668	24.873	25.526
SO_2	5.1	4.9	4.4	4.1	4.0	3.6	3.2	3.1	2.9	Annual	0.005	0.005	0.005	0.005	0.006	0.006	0.008	0.009	0.009
										24-Hour	0.126	0.131	0.130	0.153	0.164	0.152	0.167	0.173	0.178
										3-Hour	0.470	0.492	0.501	0.581	0.618	0.567	0.591	0.596	0.577
NO_x	68.0	65.0	58.9	54.3	52.4	47.9	43.0	41.6	38.3	Annual	0.063	0.063	0.062	0.068	0.075	0.085	0.111	0.116	0.123
PM10	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	Annual	0.009	0.010	0.010	0.012	0.014	0.018	0.026	0.028	0.032
										24-Hour	0.247	0.268	0.296	0.374	0.409	0.423	0.521	0.559	0.614
CO	44.9	42.6	38.8	36.2	34.9	32.2	29.9	29.0	27.2	8-Hour	2.63	2.70	2.24	3.18	3.31	3.08	3.47	3.54	3.68
										1-Hour	9.06	8.82	8.37	8.63	8.55	8.33	8.92	9.09	8.75

(1) Concentrations are based on highest predicted concentrations using five years of meteorological for 1987 to 1991 of surface and upper air data from the National Weather Service stations in Orlando 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 Eight Combustion Turbines for Repowered Units 4 and 5 during Future Operations-Scenarios for Combined Cycle Mode with Natural Gas- and Distillate Fuel Oil-Firing

Pollutant	Averaging Time	Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Temperature (1)								
		Base Load			75% Load			50% Load		
		32°F	59°F	95°F	32°F	59°F	95°F	32°F	59°F	95°F
Natural Gas-Firing Only (2)										
SO_2	Annual	0.04	0.04	0.04	0.04	0.05	0.05	0.07	0.07	0.07
	24-Hour	1.01	1.05	1.04	1.23	1.31	1.22	1.33	1.39	1.42
	3-Hour	3.76	3.94	4.01	4.65	4.94	4.54	4.73	4.77	4.62
NO_x	Annual	0.50	0.50	0.49	0.54	0.60	0.68	0.89	0.93	0.98
PM10	Annual	0.07	0.08	0.08	0.10	0.11	0.14	0.21	0.22	0.26
	24-Hour	1.98	2.14	2.37	2.99	3.27	3.39	4.17	4.47	4.91
CO	8-Hour	21.1	21.6	17.9	25.4	26.5	24.6	27.8	28.4	29.4
	1-Hour	72.5	70.5	66.9	69.1	68.4	66.6	71.3	72.7	70.0
Natural Gas- and Oil-Firing (2)										
SO_2	Annual	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5
	24-Hour	14	16	16	20	22	20	24	25	25
	3-Hour	72	77	79	91	97	88	95	97	93
NO_2	Annual	1.6	1.6	1.6	1.7	1.7	1.6	2.0	2.1	2.1
PM10	Annual	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3
	24-Hour	2.8	3.1	3.4	4.6	5.1	5.1	6.4	6.9	7.2
CO	8-Hour	32	33	33	37	38	38	59	59	59
	1-Hour	95	97	96	104	106	104	176	178	178
Proposed Cooling Tower										
PM10	Annual	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	24-Hour	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

(1) Concentrations are based on highest predicted concentrations using five years of meteorological for 1987 to 1991 of surface and upper air data from the National Weather Service stations in Orlando and Ruskin, respectively.

(2) For the scenario with natural gas-firing only, all eight CTs for repowered Units 4 and 5 are assumed to fire natural gas in combined cycle mode. For the scenario with natural gas- and oil-firing, the four CTs for repowered Unit 4 are assumed to fire natural gas while the four CTs for

Table 6-11. Maximum SO_2, NO_2, and PM_{10} Impacts Due to Modeled Sources During Future Operations - Screening Analysis

Averaging Time	Value	Concentration ($\mu g/m^3$)[b]	Receptor Location[a] Direction (degrees)	Distance (m)	Period Ending (YYMMDDHH)
SO_2					
Annual	Highest	2.5	240	4000	87123124
		2.7	240	4000	88123124
		2.7	360	3000	89123124
		2.9	240	4000	90123124
		3.0	360	3000	91123124
24-hour	HSH	34	120	2500	87043024
		35	30	1000	88072724
		35	230	2000	89072624
		33	10	3000	90040624
		36	360	3000	91072824
HSH 3-hour	HSH	163	250	900	87070915
		181	20	900	88060612
		183	220	1100	89081212
		165	120	2500	90073012
		162	130	1100	97053112
NO_2					
Annual	Highest	1.9	80	300	87123124
		1.8	240	3000	88123124
		1.7	360	3000	89123124
		2.1	240	3000	90123124
		1.9	360	3000	91123124
PM10					
Annual	Highest	0.25	240	4000	87123124
		0.26	240	3000	88123124
		0.25	360	3000	89123124
		0.30	340	230	90123124
		0.28	360	3000	91123124
24-Hour	HSH	3.8	240	300	87032324
		4.7	90	300	88021224
		3.0	90	400	89022324
		3.9	330	233	90031624
		4.0	80	300	91030424

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.
[a] Relative to the HRSG stack for the northern-most CT for repowered Unit 4.
[b] Based on four CTs firing natural gas for repowered Unit 4 and four CTs firing distillate fuel oil for repowered Unit 5 in combined cycle mode; and Unit 3 firing residual fuel oil.

Table 6-12. Maximum SO_2, NO_2, and PM_{10} Impacts Predicted for All Sources During Future Operations Compared to AAQS--Refined Analysis

Averaging Time	Value	Concentration (µg/m³) Total	Modeled Sources[b]	Background	Receptor Location[a] Direction (degrees)	Distance (m)	Period Ending (YYMMDDHH)	Florida AAQS (µg/m³)
SO_2								
Annual	Highest	8	3.0	5	2	3100	91123124	60
24-hour	HSH	55	37	18	32	1000	88072724	260
3-hour	HSH	269	198	71	24	1000	88060612	1,300
NO_2								
Annual	Highest	31	2.2	29	238	3200	90123124	100
PM10								
Annual	Highest	23	0.3	23	340	230	90123124	50
24-Hour	HSH	54	4.7	49	90	300	88021224	150

Note: YY=Year, MM=Month, DD=Day, HH=Hour, HSH=Highest, Second-Highest.

[a] Relative to the HRSG stack for the northern-most CT for repowered Unit 4.
[b] Based on four CTs firing natural gas for repowered Unit 4 and four CTs firing distillate fuel oil for repowered Unit 5 in combined yccle mode; and Unit 3 firing residual fuel oil.

Table 6-13. Summary of Maximum SO_2, NO_2, PM_{10}, and CO Concentrations Predicted for the Project Only in Combined Cycle Mode

		Maximum Predicted Concentrations (ug/m^3) (1)				
		Construction		Future Operation		Proposed Cooling Tower
Pollutant	Averaging Time	NG/NG	NG/FO	NG/NG	NG/FO	
SO_2	Annual	1.3	12.1	0.07	0.5	NA
	24-Hour	13.6	146	1.4	25	NA
	3-Hour	27	435	5	97	NA
NO_2	Annual	19.7	42.0	0.98	2.1	NA
PM10	Annual	4.4	4.7	0.26	0.30	0.09
	24-Hour	38.2	39.0	4.9	7.2	2.1
CO	8-Hour	191	261	29	59	NA
	1-Hour	380	904	73	178	NA

(1) NG/NG = natural gas-firing only for all eight CTs for repowered Units 4 and 5 in combined cycle mode.
NG/FO = natural gas- and fuel oil-firing; the four CTs for repowered Unit 4 are assumed to fire natural gas while the four CTs for repowered Unit 5 are assumed to fire distillate fuel oil in combined cycle mode.

Table 6-14. Summary of Maximum Total Air Qualtity SO_2, NO_2, and PM10 Concentrations Predicted for Comparison to AAQS

Pollutant	Averaging Time	Maximum Predicted Concentrations (ug/m^3) Existing Plant	Construction for Repowered Plant (1)	Future Operations (1)	Florida AAQS (ug/m^3)
SO_2	Annual	14	20	8	60
	24-Hour	137	186	55	260
	3-Hour	763	524	269	1,300
NO_2	Annual	31	72	31	100
PM10	Annual	23	28	23	50
	24-Hour	54	86	54	150

(1) Based on the four CTs for repowered Unit 4 are firing natural gas while the four CTs for repowered Unit 5 are firing distillate fuel oil. Maximum concentration also includes impacts from Unit 3 and background concentrations developed from monitoring data.

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ATTACHMENT A

CEMS DATA, COMPLIANCE DATA, CO TEST DATA, AND EMISSION FACTORS

Table A-1. Potential and Actual (1997/1998) Emissions for FPL Sanford Units 3. 4 and 5

Data	Potential Emissions				Actual Emissions (1997-98 Average Annual)			
	Unit 3	Unit 4		Unit 5	Unit 3	Unit 4		Unit 5
Oil Firing								
Maximum Heat Input (10^6 Btu/hr)	1,650	4,050		4,050	1,650	4,050		4,050
Capacity Factor (percent)[b]	100.00%	100.00%		100.00%	35%	46%		51%
Fuel Heat Content (Btu/lb)	18,300	18,300		18,300	18,300	18,300		18,300
(Btu/gal)	150,000	150,000		150,000	150,000	150,000		150,000
Fuel Sulfur Content, Maximum (percent)	2.5	2.5		2.5	2.0	2.0		2.0
Maximum Fuel Flow (lb/hr)	90,164	221,311		221,311	90,164	221,311		221,311
(gal/hr)	11,000	27,000		27,000	11,000	27,000		27,000
Natural Gas Firing								
Maximum Heat Input (10^6 Btu/hr)	1,762	4,230		4,230	1,762	4,230		4,230
Capacity Factor (percent)[b]	100.00%	100.00%		100.00%	35%	46%		
Fuel Heat Content (Btu/SCF)	1,020	1,020		1,020	1,020	1,020		1,020
Fuel Sulfur Content, Maximum (gr/100scf)	1.0	1.0		1.0	1.0	1.0		1.0
Maximum Fuel Flow (MMCF/HR)	1.727	4.147		4.147	1.727	4.147		4.147
Sulfur Dioxide								
Emissions Basis	Permit	Permit		Permit	CEM[c]	CEM[c]		CEM[c]
Uncontrolled EF (lb/10^6 Btu)	2.75	2.75		2.75	1.48	1.69		1.66
Removal Efficiency	NA	NA		NA	NA	NA		NA
Controlled EF (lb/10^6 Btu)	NA	NA		NA	NA	NA		NA
Emission Rate (lb/hour)	4,538	11,138		11,138	2,442	6,839		6,706
(TPY)	19,874	48,782		48,782	3,701	13,775		14,954
			Units 4 and 5	Units 3, 4 and 5			Units 4 and 5	Units 3, 4 and 5
Particulate Matter			97,565	117,439			28,729	32,430
Residual Oil Firing								
Emissions Basis-Maximum	Permit	Permit		Permit	Stack Tests	Stack Tests		Stack Tests
Uncontrolled EF (lb/10^6 Btu)[d]	0.125	0.125		0.125	0.077	0.050		0.055
Emission Rate (lb/hour)	206	506		506	128	204		223
(TPY)	903	2,217		2,217	115	251		280
Particulate Matter								
Natural Gas								
Emissions Basis-Maximum	AP-42	AP-42		AP-42	AP-42	AP-42		AP-42
Uncontrolled EF (lb/MMcf)e	1.9	1.9		1.9	1.9	1.9		1.9
Emission Rate (lb/hour)	3.3	7.9		7.9	3.3	7.9		7.9
(TPY)	14.4	34.5	49	34.5	1.1	3.9		3.6
TOTAL PM (TPY)	903	2,217	0	2,217	116.5	254.4		283.1
			Units 4 and 5	Units 3, 4 and 5			Units 4 and 5	Units 3, 4 and 5
Nitrogen Oxides			4,435	5,338			538	654
Emissions Basis	CEM	CEM		CEM	CEM	CEM		CEM
Uncontrolled EF (lb/10^6 Btu)f	0.479	0.812		0.665	0.38	0.64		0.53
Emission Rate (lb/hour)	790	3,289		2,693	601	2,572		2,108
(TPY)	3,462	14,404	17,866	11,796	954	5,209		4,775
			Units 4 and 5	Units 3, 4 and 5			Units 4 and 5	Units 3, 4 and 5
Carbon Monoxide			26,201	29,662			9,984	10,938
Natural Gas								
Emissions Basis	Tests	Tests		Tests	Tests	Tests		Tests
EF (lb/MMBtu)	0.0900	0.2200		0.2200	0.0900	0.2200		0.2200
Heat Input (MMBtu/hr) or MMBtu/yr	1762	4230		4230	982,320	3,060,881		3,183,541
Emission Rate (lb/hour)	159	931		931	159	931		931
(TPY)	695	4,076		4,076	66	505		525
Carbon Monoxide								
Residual Oil Combustion								
Emissions Basis	Tests	Tests		Tests	Tests	Tests		Tests
EF (lb/MMBtu)	0.12	0.15		0.15	0.12	0.15		0.15
Heat Input (MMBtu/hr) or MMBtu/yr	1650	4050		4050	2,352,942	7,816,676		8,858,298
Emission Rate (lb/hour)	198	608		608	198	608		608
(TPY)	867	2,661		2,661	212	879		997
TOTAL CO (TPY)	867	4,076		4,076	278	1,384		1,522
			Units 4 and 5	Units 3, 4 and 5			Units 4 and 5	Units 3, 4 and 5
Volatile Organic Compounds			8,152	9,019			2,906	3,184
BASED ON ANNUAL FUEL USAGE								
Natural Gas								
Emissions Basis	AP-42	AP-42		AP-42	AOR/AP-42	AOR/AP-42		AOR/AP-42
Emission Factor (lb/MMcf[g]	5.5	5.5		5.5	5.5	5.5		5.5
Emission Rate (lb/hour)	9.5	22.8		22.8	10	23		6
(TPY)	41.6	99.9		99.9	3	11		3

Table A-1. Potential and Actual (1997/1998) Emissions for FPL Sanford Units 3, 4 and 5

Data	Potential Emissions				Actual Emissions (1997-98 Average Annual)			
	Unit 3	Unit 4		Unit 5	Unit 3	Unit 4		Unit 5
Volatile Organic Compounds								
BASED ON ANNUAL FUEL USAGE								
Fuel Oil								
Emissions Basis	AP-42	AP-42		AP-42	AOR/AP-42	AOR/AP-42		AOR/AP-42
Emission Factor (lb/1,000 gal)[g]	0.76	0.76		0.76	0.76	0.76		0.76
EF (lb/MMBtu)	0.0051	0.0051		0.0051	0.0051	0.0051		0.0051
Emission Rate (lb/hour)	8.4	20.5		20.5	8	21		21
(TPY)	37	90		90	7	26		27
TOTAL VOC (TPY)	78.2	189.8		189.8	10.3	37.1		29.9
			Units 4 and 5	Units 3, 4 and 5			Units 4 and 5	Units 3, 4 and 5
			380	458			67	77

Notes:

a - 1997 Q1-4, 1998 Q1-4
b - actual calculated from heat input CEM data
c - lb/hr based on lb/MMbtu calculated from CEM data and maximum heat input.
d - Actual emission factor based on test data (21 hours steady-state and 3 hours soot blowing) ;
e - PM emission factor for gas from AP-42 Table 1.4-2, filterable only.
f - potential based on maximum quarterly data from CEM and actual based on annual averages
g - VOC Gas/oil emission factors from AP-42 Table 1.4-2 and Table 1.3-3 fr gas and oil respectively. AP-42 Section 1.3 "Fuel Oil Combustion" updated 9/98, AP-42 Section 1.4 "Natural Gas Combustion" updated 3/98

Table A-2. 1997 and 1998 Actual Emissions for FPL Sanford Units 3, 4 and 5

Data	1997 Actual Emissions				1998 Actual Emissions			
	Unit 3	Unit 4		Unit 5	Unit 3	Unit 4		Unit 5
Oil Firing								
Maximum Heat Input (10^6 Btu/hr)								
Capacity Factor (percent)[b]								
Fuel Heat Content (Btu/lb)								
(Btu/gal)								
Fuel Sulfur Content, Maximum (percent)								
Maximum Fuel Flow (lb/hr)								
(gal/hr)								
Natural Gas Firing								
Maximum Heat Input (10^6 Btu/hr)								
Capacity Factor (percent)[b]								
Fuel Heat Content (Btu/SCF)								
Fuel Sulfur Content, Maximum (gr/100scf)								
Maximum Fuel Flow (MMCF/HR)								
Sulfur Dioxide								
Emissions Basis	CEM	CEM		CEM	CEM	CEM		CEM
Uncontrolled EF (lb/10^6 Btu)	1.213	1.675		1.579	1.578	1.699		1.718
Removal Efficiency	NA	NA		NA	NA	NA		NA
Controlled EF (lb/10^6 Btu)	NA	NA		NA	NA	NA		NA
Emission Rate (lb/hour)	2,001	6,784		6,395	2,604	6,881		6,958
(TPY)	1,631	11,831		12,738	5,771	15,719		17,170
			Units 4 and 5				Units 4 and 5	
Particulate Matter			24,568				32,889	
Residual Oil Firing								
Emissions Basis-Maximum	Stack Tests	Stack Tests		Stack Tests	Stack Tests	Stack Tests		Stack Tests
Uncontrolled EF (lb/10^6 Btu)[d]	0.068	0.059		0.066	0.087	0.041		0.044
Emission Rate (lb/hour)	112	240		266	143	167		180
(TPY)	44	269		252	186	232		307
			Units 4 and 5				Units 4 and 5	
Particulate Matter			521				539	
Natural Gas								
Emissions Basis-Maximum	AP-42	AP-42		AP-42	AP-42	AP-42		AP-42
Uncontrolled EF (lb/MMcf)e	1.9	1.9		1.9	1.9	1.9		1.9
Emission Rate (lb/hour)	3.3	7.9		7.9	3.3	7.9		7.9
(TPY)	0.8	4.7		3.4	1.4	3.1		3.8
			Units 4 and 5				Units 4 and 5	
TOTAL PM (TPY)	45.3	273.6	529.0	255.3	187.8	235.3	546.2	310.9
Nitrogen Oxides								
Emissions Basis	CEM	CEM		CEM	CEM	CEM		CEM
Uncontrolled EF (lb/10^6 Btu)f	0.328	0.609		0.443	0.401	0.661		0.598
Emission Rate (lb/hour)	541	2,466	Units 4 and 5	1,794	662	2,677	Units 4 and 5	2,422
(TPY)	441	4,302	7,876	3,574	1,467	6,116	12,093	5,977
Carbon Monoxide								
Natural Gas								
Emissions Basis	Tests	Tests		Tests	Tests	Tests		Tests
EF (lb/MMBtu)	0.0900	0.2200		0.2200	0.0900	0.2200		0.2200
Heat Input (MMBtu/hr) or MMBtu/yr	1,050,566	5,022,449		5,098,948	1,896,394	4,160,193		4,451,674
Emission Rate (lb/hour)	159	931		931	159	931		931
(TPY)	47	552		561	85	458		490
			Units 4 and 5				Units 4 and 5	
Carbon Monoxide			1,113				947	
Residual Oil Combustion								
Emissions Basis	Tests	Tests		Tests	Tests	Tests		Tests
EF (lb/MMBtu)	0.12	0.15		0.15	0.12	0.15		0.15
Heat Input (MMBtu/hr) or MMBtu/yr	1,639,481	9,104,611		11,037,294	5,419,345	14,345,417		15,537,600
Emission Rate (lb/hour)	198	608		608	198	608		608
(TPY)	98	683		828	325	1,076		1,165

Table A-2. 1997 and 1998 Actual Emissions for FPL Sanford Units 3, 4 and 5

Data	1997 Actual Emissions				1998 Actual Emissions			
	Unit 3	Unit 4		Unit 5	Unit 3	Unit 4		Unit 5
TOTAL CO (TPY)	146	1,235		1,389	410	1,534		1,655
			Units 4 and 5				Units 4 and 5	
Volatile Organic Compounds			2,624				3,189	
BASED ON ANNUAL FUEL USAGE								
Natural Gas								
Emissions Basis	AOR/AP-42	AOR/AP-42		AOR/AP-42	AOR/AP-42	AOR/AP-42		AOR/AP-42
Emission Factor (lb/MMcf)[g]	5.5	5.5		1.41	5.5	5.5		1.41
Emission Rate (lb/hour)	9.5	22.8		5.8	9.5	22.8		5.8
(TPY)	2.3	13.7		2.5	4.1	9.0		2.8
			Units 4 and 5				Units 4 and 5	
Volatile Organic Compounds			16				12	
BASED ON ANNUAL FUEL USAGE								
Fuel Oil								
Emissions Basis	AOR/AP-42	AOR/AP-42		AOR/AP-42	AOR/AP-42	AOR/AP-42		AOR/AP-42
Emission Factor (lb/1,000 gal)[g]	0.76	0.76		0.76	0.76	0.76		0.76
EF (lb/MMBtu)	0.0051	0.0051		0.0051	0.0051	0.0051		0.0051
Emission Rate (lb/hour)	8.4	20.5		20.5	8.4	20.5		20.5
(TPY)	3.3	22.9		19.4	10.9	28.6		35.1
TOTAL VOC (TPY)	5.6	36.7		21.9	15.1	37.6		37.9
			Units 4 and 5				Units 4 and 5	
			59				75	

Table A-3. Heat Input - From CEM Annual Heat Input Data

		Unit 3	Unit 4	Unit 5
1997	(MMBtu/yr)	2,690,047	14,127,060	16,136,242
1998	(MMBtu/yr)	7,315,739	18,505,610	19,989,274
Average	(MMBtu/yr)	5,002,893	16,316,335	18,062,758
MAX - mmBtu/hr		1,650	4,050	4,050
MAX - mmBtu/yr		14,454,000	35,478,000	35,478,000
Avg CF		35%	46%	51%
Total heat In (2yr)	(MMBtu)	10,005,786	32,632,670	36,125,516

Table A-4. Potential and Actual (1997/1998) HAP Emissions for FPL Sanford Units 3, 4 and 5

	Potential Emissions			Actual Emissions (Average Annual (1997-1998))			
	Unit 3	Unit 4	Unit 5	Unit 3	Unit 4	Unit 5	Unit 4 and 5
Oil Firing							
Maximum Heat Input (10^6 Btu/hr)	1,650	4,050	4,050	1,650	4,050	4,050	
Capacity Factor (percent)	100.00%	100.00%	100.00%	35%	46%	51%	
Fuel Heat Content (Btu/lb)	18,300	18,300	18,300	18,300	18,300	18,300	
(Btu/gal)	150,000	150,000	150,000	150,000	150,000	150,000	
Fuel Sulfur Content, Maximum (percent)	2.5	2.5	2.5	2.0	2.0	2.0	
Maximum Fuel Flow (lb/hr)	90,164	221,311	221,311	90,164	221,311	221,311	
(gal/hr)	11,000	27,000	27,000	11,000	27,000	27,000	
Natural Gas Firing							
Maximum Heat Input (10^6 Btu/hr)	1,762	4,230	4,230	1,762	4,230	4,230	
Capacity Factor (percent)	100.00%	100.00%	100.00%	35%	46%		
Fuel Heat Content (Btu/SCF)	1,020	1,020	1,020	1,020	1,020	1,020	
Fuel Sulfur Content, Maximum (gr/100scf)	1.0	1.0	1.0	1.0	1.0	1.0	
Maximum Fuel Flow (MMCF/HR)	1.727	4.147	4.147	1.727	4.147	4.147	
Lead							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	7.00E-06	7.00E-06	7.00E-06	7.00E-06	7.00E-06	7.00E-06	
Emission Rate (lb/hr)	1.16E-02	2.84E-02	2.84E-02	1.16E-02	2.84E-02	2.84E-02	
(TPY)	5.06E-02	1.24E-01	1.24E-01	1.18E-02	4.05E-02	4.62E-02	8.67E-02
Sulfuric Acid Mist							
Emissions Basis	AP-42	AP-42	AP-42	AP-42	AP-42	AP-42	
Emission Factor (lb/1,000 gal)	17.456	17.456	17.456	14.108	14.108	14.108	
EF (lb/MMBtu)	0.116	0.116	0.116	0.094	0.094	0.094	
Emission Rate (lb/hr)	192	471	471	155	381	381	
(TPY)[a]	841	2,064	2,064	164	612	664	1,276
Total Fluorides							
Emissions Basis	KBN (1995)	KBN (1995)	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	8.42E-01	8.42E-01	
EF (lb/MMBtu)	0.006	0.006	0.006	0.006	0.006	0.006	
Emission Rate (lb/hr)	9	23	23	9	23	23	
(TPY)	41	100	100	14	46	51	96
Mercury							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	
Emission Rate (lb/hr)	1.65E-03	4.05E-03	4.05E-03	1.65E-03	4.05E-03	4.05E-03	
(TPY) [b]	7.23E-03	1.77E-02	1.77E-02	1.69E-03	5.79E-03	6.60E-03	1.24E-02
Beryllium							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	2.00E-07	2.00E-07	2.00E-07	2.00E-07	2.00E-07	2.00E-07	
Emission Rate (lb/hr)	3.30E-04	8.10E-04	8.10E-04	3.30E-04	8.10E-04	8.10E-04	
(TPY)	1.45E-03	3.55E-03	3.55E-03	5.00E-04	1.63E-03	1.81E-03	3.44E-03
Arsenic							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	5.50E-06	5.50E-06	5.50E-06	5.50E-06	5.50E-06	5.50E-06	
Emission Rate (lb/hr)	9.08E-03	2.23E-02	2.23E-02	9.08E-03	2.23E-02	2.23E-02	
(TPY)	3.97E-02	9.76E-02	9.76E-02	1.38E-02	4.49E-02	4.97E-02	9.45E-02
Antimony							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	3.50E-05	3.50E-05	3.50E-05	3.50E-05	3.50E-05	3.50E-05	
Emission Rate (lb/hr)	5.78E-02	1.42E-01	1.42E-01	5.78E-02	1.42E-01	1.42E-01	
(TPY)	2.53E-01	6.21E-01	6.21E-01	8.76E-02	2.86E-01	3.16E-01	6.02E-01
Benzene							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	
Emission Rate (lb/hr)	1.82E-03	4.46E-03	4.46E-03	1.82E-03	4.46E-03	4.46E-03	
(TPY) [b]	7.95E-03	1.95E-02	1.95E-02	2.51E-03	8.26E-03	9.20E-03	1.75E-02

Table A-4. Potential and Actual (1997/1998) HAP Emissions for FPL Sanford Units 3, 4 and 5

	Potential Emissions			Actual Emissions (Average Annual (1997-1998))			
	Unit 3	Unit 4	Unit 5	Unit 3	Unit 4	Unit 5	Unit 4 and 5
Cadmium							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	1.30E-06	1.30E-06	1.30E-06	1.30E-06	1.30E-06	1.30E-06	
Emission Rate (lb/hr)	2.15E-03	5.27E-03	5.27E-03	2.15E-03	5.27E-03	5.27E-03	
(TPY)	9.40E-03	2.31E-02	2.31E-02	3.25E-03	1.06E-02	1.17E-02	2.23E-02
Chromium							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	5.20E-06	5.20E-06	5.20E-06	5.20E-06	5.20E-06	5.20E-06	
Emission Rate (lb/hr)	8.58E-03	2.11E-02	2.11E-02	8.58E-03	2.11E-02	2.11E-02	
(TPY)	3.76E-02	9.22E-02	9.22E-02	1.30E-02	4.24E-02	4.70E-02	1.02E-01
Colbalt							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	3.70E-05	3.70E-05	3.70E-05	3.70E-05	3.70E-05	3.70E-05	
Emission Rate (lb/hr)	6.11E-02	1.50E-01	1.50E-01	6.11E-02	1.50E-01	1.50E-01	
(TPY)	2.67E-01	6.56E-01	6.56E-01	9.26E-02	3.02E-01	3.34E-01	7.29E-01
Formaldehyde							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	
Emission Rate (lb/hr)	3.30E-02	8.10E-02	8.10E-02	3.30E-02	8.10E-02	8.10E-02	
(TPY) [b]	1.45E-01	3.55E-01	3.55E-01	6.14E-02	1.96E-01	2.15E-01	4.72E-01
Hydrochloric Acid							
Emissions Basis	EPRI(1994)	EPRI(1994)	EPRI(1994)	EPRI(1994)	EPRI(1994)	EPRI(1994)	
EF (lb/MMBtu)	2.40E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	
Emission Rate (lb/hr)	3.96E+00	9.72E+00	9.72E+00	3.96E+00	9.72E+00	9.72E+00	
(TPY)	1.73E+01	4.26E+01	4.26E+01	6.00E+00	1.96E+01	2.17E+01	4.73E+01
Maganese							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	1.30E-05	1.30E-05	1.30E-05	1.30E-05	1.30E-05	1.30E-05	
Emission Rate (lb/hr)	2.15E-02	5.27E-02	5.27E-02	2.15E-02	5.27E-02	5.27E-02	
(TPY)	9.40E-02	2.31E-01	2.31E-01	3.25E-02	1.06E-01	1.17E-01	2.56E-01
Nickel							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	7.20E-04	7.20E-04	7.20E-04	7.20E-04	7.20E-04	7.20E-04	
Emission Rate (lb/hr)	1.19E+00	2.92E+00	2.92E+00	1.19E+00	2.92E+00	2.92E+00	
(TPY)	5.20E+00	1.28E+01	1.28E+01	1.80E+00	5.87E+00	6.50E+00	1.24E+01
Selenium							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	2.00E-06	2.00E-06	2.00E-06	2.00E-06	2.00E-06	2.00E-06	
Emission Rate (lb/hr)	3.30E-03	8.10E-03	8.10E-03	3.30E-03	8.10E-03	8.10E-03	
(TPY)	1.45E-02	3.55E-02	3.55E-02	5.00E-03	1.63E-02	1.81E-02	3.44E-02
2,3,7,8 TCDD Equivalent							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	8.30E-12	8.30E-12	8.30E-12	8.30E-12	8.30E-12	8.30E-12	
Emission Rate (lb/hr)	1.37E-08	3.36E-08	3.36E-08	1.37E-08	3.36E-08	3.36E-08	
(TPY) [b]	6.00E-08	1.47E-07	1.47E-07	6.00E-08	1.47E-07	1.47E-07	2.94E-07
Toluene							
Emissions Basis	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	KBN (1995)	
EF (lb/MMBtu)	9.90E-06	9.90E-06	9.90E-06	9.90E-06	9.90E-06	9.90E-06	
Emission Rate (lb/hr)	1.63E-02	4.01E-02	4.01E-02	1.63E-02	4.01E-02	4.01E-02	
(TPY) [b]	7.15E-02	1.76E-01	1.76E-01	2.48E-02	8.10E-02	8.97E-02	1.71E-01

[a] actual emissions were based on actual SO_2 emissions for 1997/98 and AP-42; 0.0444 lb H_2SO_4 /lb SO_2 x SO_2 tons/yr

[b] Actual annual emissions based on both oil and gas firing using the following emission factors for gas:

Emission Factors (lb/mmBtu)				
Mercury	Benzene	Formaldehyde	Toluene	2,3,7,8 TCDD
7.80E-10	8.00E-07	3.40E-05	1.00E-05	1.2E-12

(Note: all emission factors shown and emission estimates are for oil firing with the exception noted above. Source: KBN, 1995)

Table A-5. FPL Sanford Units 3, 4 and 5 Annual Summary CEM Data for SO_2, NO_x and Heat Input for Calandar Years 1997 and 1998

Unit	Quarter	Pollutant Emissions SO_2 (lb/MMbtu) (a)	SO_2 (Tons/yr) (b)	NO_x (lb/MMbtu) (b)	NO_x (Tons/yr) (a)	Heat Input (MMBtu/yr) (b)
CEM QUARTERLY SUMMARIES						
Unit 3	Qtr 1-97	1.078	114.4	0.270	28.6	212,176
	Qtr 2-97	0.807	432.1	0.315	168.7	1,071,068
	Qtr 3-97	1.567	1023.9	0.382	249.6	1,306,797
	Qtr 4-97	1.208	60.4	0.285	14.3	100,006
Unit 3	Qtr 1-98	1.596	710.0	0.376	167.2	889,616
	Qtr 2-98	1.724	1994.0	0.479	554.1	2,313,777
	Qtr 3-98	1.440	1771.3	0.395	486.0	2,460,606
	Qtr 4-98	1.568	1294.8	0.325	268.4	1,651,740
Unit 4	Qtr 1-97	1.506	2403.3	0.578	922.4	3,191,659
	Qtr 2-97	1.216	1397.5	0.510	585.9	2,297,820
	Qtr 3-97	2.074	4428.2	0.729	1556.2	4,269,363
	Qtr 4-97	1.637	3574.6	0.579	1264.6	4,368,218
Unit 4	Qtr 1-98	1.590	3714.3	0.552	1289.7	4,672,974
	Qtr 2-98	1.937	6221.6	0.812	2607.8	6,423,107
	Qtr 3-98	1.531	5247.7	0.602	2063.4	6,855,048
	Qtr 4-98	1.931	535.3	0.718	199.1	554,481
Unit 5	Qtr 1-97	1.304	1854.6	0.366	520.5	2,844,402
	Qtr 2-97	1.246	2370.3	0.341	648.7	3,804,889
	Qtr 3-97	1.864	5683.6	0.559	1704.2	6,097,187
	Qtr 4-97	1.669	2829.2	0.484	820.3	3,389,764
Unit 5	Qtr 1-98	1.770	3201.4	0.584	1056.3	3,617,336
	Qtr 2-98	1.806	4587.2	0.662	1681.3	5,079,526
	Qtr 3-98	1.497	4053.9	0.496	1343.1	5,415,528
	Qtr 4-98	1.813	5327.5	0.665	1954.1	5,876,884
CUMMULATIVE ANNUAL TOTALS						
Unit 3	1997	1.213	1630.9	0.328	441.2	2,690,047
Unit 3	1998	1.578	5770.9	0.401	1466.8	7,315,739
Unit 4	1997	1.675	11830.6	0.609	4301.7	14,127,060
Unit 4	1998	1.699	15719.0	0.661	6116.1	18,505,610
Unit 5	1997	1.579	12737.7	0.443	3574.2	16,136,242
Unit 5	1998	1.718	17170.0	0.598	5976.8	19,989,274

Footnotes:

(a) Calculated value based on cummulative annual CEM monitoring data provided by FPL.

(b) CEM Quarterly Cummulative Emissions Data File.

Table A-6. FPL Sanford Units 3, 4 and 5 Annual PM Test Results for 1997 and 1998

	PM EMISSIONS LB/MMBTU					
	Steady State			Soot Blowing		
Unit	No. 3	No 4.	No. 5	No. 3	No 4.	No. 5
Date	5/26/98	7/8/98	6/16/98	5/26/98	7/8/98	6/16/98
	0.078	0.031	0.043	0.142	0.050	0.063
	0.086	0.053	0.04	0.100	0.040	0.065
	0.075	0.037	0.041	0.153	0.056	0.076
1998 Average	0.080	0.040	0.041	0.132	0.049	0.068
Date	4/22/97	6/3/97	7/9/97	4/22/97	6/3/97	7/9/97
	0.079	0.053	0.062	0.059	0.059	0.097
	0.055	0.064	0.067	0.108	0.104	0.089
	0.064	0.051	0.061	0.081	0.086	0.069
1997 Average	0.066	0.056	0.063	0.083	0.083	0.085

Stack tests performed by Florida power and light GPA - Technical Services - Juno Beach, FL.

Calculation of CO Emission Rates for Sanford Units 4 and 5
from Similar FPL Unit (400 MW Class Oil and Gas Fired Unit)

Plant	Unit	Fuel	ppm	$\%O_2$	lb/mmBtu
Turkey Point	1	Gas	284.5	2.9	0.22
Turkey Point	1	Oil	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
$C_d = 0.727 \times 10^{-7}$ x ppm CO

PTF 1 NO_X TEST DATA

UNIT #: 1 TEST #: 7 DATE: 4/23/92

TEST CONDITIONS: 100% GAS ~ 90% LOAD NORMAL O_2

NORTH DUCT

OPERATING PARAMETERS

FUEL GAS MW GROSS 390 NET 371

NUMBER OF BURNERS IN SERVICE 18 THROTTLE PRESSURE 2400 PSIG

F.O. (GAS) SUPPLY PRESSURE 60 PSIG F.O. RETURN PRESSURE — PSIG

F.O. ΔP — PSIG GAS BURNER PRESSURE 26 PSIG

F.O. TEMP — °F FUEL FLOW 84 % AIR FLOW 93 %

EXCESS O_2 NORTH 0.4 % SOUTH 0.4 %

WINDBOX PRESSURE EAST 27.5 " H_2O

FURNACE PRESSURE 19.1 " H_2O

FURNACE/WINDBOX PRESSURE Δ P 8.4 " H_2O

S.H. TEMP 995 °F STEAM FLOW 2440 lbs/Hr x 1000

REHEAT TEMP 994 °F F.W. FLOW 2420 lbs/Hr x 1000

F.D. FAN SPEED A 1100 RPM B 1091 RPM

F.D. FAN AMPS A 360 B 350

AIR FROM APH A 599 °F B 603 °F

GAS TO APH A 737 °F B 734 °F

OPACITY 5 %

NO_X EAST OR WEST 386 PPM 0.46 #/BTU 6

LOWER SPRAY FLOW 155.6 lbs/HR x 1000 UPPER SPRAY FLOW 100.9 lbs/HR x 1000

R.H. SPRAY FLOW 0.94 lbs/HR x 1000

TEST VAN DATA: CO 394 PPM; CO_2 10.6 % O_2 2.8 %

COMMENTS: F.O. FAN DISCHARGE PRES 35 A 35 B

GAS FLOW = 3.689 MIL cu FT. 3

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PTF 1 NO_X TEST DATA

UNIT #: 1 TEST #: 9

TEST CONDITIONS: 100% GAS ~ 90% LOAD

NORTH

SOUTH

OPERATING PARAMETERS

FUEL GAS MW GROSS 397 NET —

NUMBER OF BURNERS IN SERVICE 18 THROTTLE PRESSURE — PSIG

F.O. (GAS) SUPPLY PRESSURE 60 PSIG F.O. RETURN PRESSURE — PSIG

F.O. ΔP — PSIG GAS BURNER PRESSURE — PSIG

F.O. TEMP — °F FUEL FLOW 86 % AIR FLOW — %

EXCESS O_2 NORTH 0.6 % SOUTH 0.4 %

WINDBOX PRESSURE EAST 29.0 " H_2O

FURNACE PRESSURE 20.2 " H_2O

FURNACE/WINDBOX PRESSURE Δ P 8.8 " H_2O

S.H. TEMP 1000 °F STEAM FLOW 2440 lbs/Hr x 1000

REHEAT TEMP 1000 °F F.W. FLOW 2430 lbs/Hr x 1000

F.D. FAN SPEED A 1135 RPM B 1124 RPM

F.D. FAN AMPS A 380 B 370

AIR FROM APH A 596 °F B 599 °F

GAS TO APH A 731 °F B 729 °F

OPACITY 3 %

NO_X EAST OR WEST 393 PPM 0.477 #/BTU

LOWER SPRAY FLOW 156.7 lbs/HR x 1000 UPPER SPRAY FLOW 154.9 lbs/HR x 1000

R.H. SPRAY FLOW 16.5 lbs/HR x 1000

TEST VAN DATA: CO 175 PPM; CO_2 10.6 % O_2 — %

COMMENTS: F.O. FAN DISCHARGE PRES 36 A 37 B

GAS FLOW = 3.739 MIL cu FT. 3 (207722 FT^3 / BURNER

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 #/BTU^6

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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

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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.

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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
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

		PC/ DB-WF			PC/ DB-TF			PC/ WB			
			Equation			Equation			Equation		
Pollutant	Units	Value	a	b	Value	a	b	Value	a	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

Pollutant	Units	FCG- Recommendation 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
- Tangential firing	0.775	0.65	--	0.25

Table SUM-4. Oil Combustion for Industrial Boilers- Summary of Recommended Emission Factors, Uncontrolled and Controlled

Pollutant	Units	No. 6	No. 5	No. 4	No. 2	Basis
		FCG- Recommendation				
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
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	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
NOx- 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 Sanford 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)	60	60	60	60
Diameter (ft)	22	22	22	22
HRSG- Stack height (ft)	125	125	125	125
Diameter (ft)	19	19	19	19
Turbine Flow Conditions (CT Stack-Unit 4 only)				
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 Sanford 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
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 Sanford 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 Sanford 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
(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)	60	60	60	60
Diameter (ft)	22	22	22	22
HRSG- Stack height (ft)	125	125	125	125
Diameter (ft)	19	19	19	19
Turbine Flow Conditions (CT Stack-Unit 4 only)				
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/ft³

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
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)	60	60	60	60
Diameter (ft)	22	22	22	22
HRSG- Stack height (ft)	125	125	125	125
Diameter (ft)	19	19	19	19
Turbine Flow Conditions (CT Stack-Unit 4 only)				
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/ft^3

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
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
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)

Table B-13. Design Information and Stack Parameters for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, Base Load
(Unit 5 only)

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Combustion Turbine Performance			
Net power output (MW)	185.3	180.9	170.2
Net heat rate (Btu/kWh, LHV)	10,028	10,062	10,045
(Btu/kWh, HHV)	10,629	10,666	10,648
Heat Input (MMBtu/hr, LHV)	1,858	1,820	1,710
(MMBtu/hr, HHV)	1,969	1,930	1,813
Fuel heating value (Btu/lb, LHV)	18,300	18,300	18,300
(Btu/lb, HHV)	19,398	19,398	19,398
(HHV/LHV)	1.060	1.060	1.060
CT Exhaust Flow			
Mass Flow (lb/hr)- with margin of 11%	4,269,060	4,079,250	3,860,580
- provided	3,846,000	3,675,000	3,478,000
Temperature (°F)	1,076	1,098	1,121
Moisture (% Vol.)	11	11.19	13.3
Oxygen (% Vol.)	11.20	11.04	10.70
Molecular Weight	28.33	28.33	28.07
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)	1,858	1,820	1,710
Heat content (Btu/lb, LHV)	18,300	18,300	18,300
Fuel usage (lb/hr)- calculated	101,530	99,470	93,443
HRSG Stack			
HRSG- Stack height (ft)	125	125	125
Diameter (ft)	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)	4,269,060	4,079,250	3,860,580
Temperature (°F)	1,076	1,098	1,121
Molecular weight	28.33	28.33	28.07
Volume flow (acfm)- calculated	2,815,970	2,728,630	2,644,684
(ft3/s)- calculated	46,933	45,477	44,078
HRSG Stack Flow Conditions			
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min			
CT Temperature (°F)	1,076	1,098	1,121
CT volume flow (acfm)	2,815,970	2,728,630	2,644,684
HRSG Temperature (°F)	220	220	220
HRSG volume flow (acfm)	1,246,653	1,190,930	1,137,499
Diameter (ft)	19	19	19
Velocity (ft/sec)- calculated	73.3	70.0	66.9

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft³

Source: GE, 1999; Golder Associates, 1999

Table B-14. Maximum Emissions for Criteria Pollutants for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, Base Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	500	500	500
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer			
Basis (excludes H_2SO_4), lb/hr	17	17	17
Emission rate (lb/hr)- provided	17.0	17.0	17.0
(TPY)	4.3	4.3	4.3
Sulfur Dioxide (lb/hr) = Natural gas (lb/hr) x sulfur content (%/100) x (lb SO_2 /lb S)			
Fuel Sulfur Content	0.05%	0.05%	0.05%
Fuel use (lb/hr)	101,530	99,470	93,443
lb SO_2 /lb S (64/32)	2	2	2
Emission rate (lb/hr)	101.5	99.5	93.4
(TPY)	25.38	24.87	23.36
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	42	42	42
Moisture (%)	11	11.19	13.3
Oxygen (%)	11.2	11.04	10.7
Turbine Flow (acfm)	2,815,970	2,728,630	2,644,684
Turbine Exhaust Temperature (°F)	1,076	1,098	1,121
Emission rate (lb/hr)	365.2	354.6	334.1
(TPY)	91.3	88.6	83.5
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	20	20	20
Moisture (%)	11	11.19	13.3
Turbine Flow (acfm)	2,815,970	2,728,630	2,644,684
Turbine Exhaust Temperature (°F)	1,076	1,098	1,121
Emission rate (lb/hr)	75.1	71.6	66.8
(TPY)	18.8	17.9	16.7
VOCs (lb/hr) = VOC(ppmvw) x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	7	7	7
Turbine Flow (acfm)	2,815,970	2,728,630	2,644,684
Turbine Exhaust Temperature (°F)	1,076	1,098	1,121
Emission rate (lb/hr)	16.88	16.12	15.40
(TPY)	4.2	4.0	3.9
Lead (lb/hr)= NA			
Emission Rate Basis (lb/10^{12} Btu)	10.8	10.8	10.8
Emission rate (lb/hr)	0.0213	0.0208	0.0196
(TPY)	0.0053	0.0052	0.0049

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996 (AP-42 draft revisions)

Table B-15. Maximum Emissions for Other Regulated PSD Pollutants for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, Base Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	500	500	500
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	3.80E-04	3.80E-04	3.80E-04
Heat Input Rate (MMBtu/hr)	1.97E+03	1.93E+03	1.81E+03
Emission Rate (lb/hr)	7.48E-07	7.33E-07	6.89E-07
(TPY)	1.87E-07	1.83E-07	1.72E-07
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	0.331	0.331	0.331
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	6.52E-04	6.39E-04	6.00E-04
(TPY)	1.63E-04	1.60E-04	1.50E-04
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	32.54	32.54	32.54
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	6.41E-02	6.28E-02	5.90E-02
(TPY)	1.60E-02	1.57E-02	1.47E-02
Hydrogen Chloride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (c) , lb/10^{12} Btu	2.12E+02	2.12E+02	2.12E+02
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	4.18E-01	4.09E-01	3.84E-01
(TPY)	1.04E-01	1.02E-01	9.61E-02
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	6.26E-01	6.26E-01	6.26E-01
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	1.23E-03	1.21E-03	1.13E-03
(TPY)	3.08E-04	3.02E-04	2.84E-04
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)	101,530	99,470	93,443
Sulfur (lb/hr)	50.77	49.73	46.72
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (d)	10	10	10
Emission Rate (lb/hr)	15.55	15.23	14.31
(TPY)	3.89	3.81	3.58

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA, 1981; (c) 4 ppm assumed based on ASTM D2880
(d) assumed based on combustion and HRSG effects.

Table B-16. Maximum Emissions for Hazardous Air Pollutants for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, Base Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	500	500	500
Arsenic (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	7.91E+00	7.91E+00	7.91E+00
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	1.56E-02	1.53E-02	1.43E-02
(TPY)	3.89E-03	3.82E-03	3.58E-03
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	1.1	1.1	1.1
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	2.17E-03	2.12E-03	1.99E-03
(TPY)	5.42E-04	5.31E-04	4.98E-04
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	3.24	3.24	3.24
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	6.38E-03	6.25E-03	5.87E-03
(TPY)	1.60E-03	1.56E-03	1.47E-03
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	6.76	6.76	6.76
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	1.33E-02	1.30E-02	1.23E-02
(TPY)	3.33E-03	3.26E-03	3.06E-03
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	2	2	2
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	3.94E-03	3.86E-03	3.63E-03
(TPY)	9.85E-04	9.65E-04	9.06E-04
Cobalt (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	37	37	37
Heat Input Rate (MMBtu/hr)	1.97E+03	1.93E+03	1.81E+03
Emission Rate (lb/hr)	7.29E-02	7.14E-02	6.71E-02
(TPY)	1.82E-02	1.78E-02	1.68E-02
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	432	432	432
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	8.51E-01	8.34E-01	7.83E-01
(TPY)	2.13E-01	2.08E-01	1.96E-01
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	86.3	86.3	86.3
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	1.70E-01	1.67E-01	1.56E-01
(TPY)	4.25E-02	4.16E-02	3.91E-02
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	3.00E+02	3.00E+02	3.00E+02
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	0.590844	0.5788554	0.54378
(TPY)	0.147711	0.14471385	0.135945
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	23	23	23
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	4.53E-02	4.44E-02	4.17E-02
(TPY)	1.13E-02	1.11E-02	1.04E-02
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	237	237	237
Heat Input Rate (MMBtu/hr)	1,969	1,930	1,813
Emission Rate (lb/hr)	4.67E-01	4.57E-01	4.30E-01
(TPY)	1.17E-01	1.14E-01	1.07E-01

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA,1996 (AP-42,Table 3.1-4)

Table B-17. Design Information and Stack Parameters for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 75% Load
(Unit 5 only)

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Combustion Turbine Performance			
Net power output (MW)	140.3	135.6	121.7
Net heat rate (Btu/kWh, LHV)	10,779	10,912	11,249
(Btu/kWh, HHV)	11,425	11,567	11,923
Heat Input (MMBtu/hr, LHV)	1,512	1,480	1,369
(MMBtu/hr, HHV)	1,603	1,568	1,451
Fuel heating value (Btu/lb, LHV)	18,300	18,300	18,300
(Btu/lb, HHV)	19,398	19,398	19,398
(HHV/LHV)	1.060	1.060	1.060
CT Exhaust Flow			
Mass Flow (lb/hr)- with margin of 11%	3,317,790	3,131,310	3,134,640
- provided	2,989,000	2,821,000	2,824,000
Temperature (°F)	1,170	1,195	1,186
Moisture (% Vol.)	11.5	11.37	12.9
Oxygen (% Vol.)	10.70	10.64	10.80
Molecular Weight	28.29	28.34	28.12
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)	1,512	1,480	1,369
Heat content (Btu/lb, LHV)	18,300	18,300	18,300
Fuel usage (lb/hr)- calculated	82,623	80,858	74,809
HRSG Stack			
HRSG- Stack height (ft)	125	125	125
Diameter (ft)	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)	3,317,790	3,131,310	3,134,640
Temperature (°F)	1,170	1,195	1,186
Molecular weight	28.29	28.34	28.12
Volume flow (acfm)- calculated	2,325,535	2,224,227	2,232,169
(ft3/s)- calculated	38,759	37,070	37,203
HRSG Stack Flow Conditions			
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min			
CT Temperature (°F)	1,170	1,195	1,186
CT volume flow (acfm)	2,325,535	2,224,227	2,232,169
HRSG Temperature (°F)	220	220	220
HRSG volume flow (acfm)	970,162	913,882	922,160
Diameter (ft)	19	19	19
Velocity (ft/sec)- calculated	57.0	53.7	54.2

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft³

Source: GE, 1999; Golder Associates, 1999

Table B-18. Maximum Emissions for Criteria Pollutants for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	500	500	500
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer			
Basis (excludes H_2SO_4), lb/hr	17	17	17
Emission rate (lb/hr)- provided	17.0	17.0	17.0
(TPY)	4.3	4.3	4.3
Sulfur Dioxide (lb/hr) = Natural gas (lb/hr) x sulfur content (%/100) x (lb SO_2 /lb S)			
Fuel Sulfur Content	0.05%	0.05%	0.05%
Fuel use (lb/hr)	82,623	80,858	74,809
lb SO_2 /lb S (64/32)	2	2	2
Emission rate (lb/hr)	82.6	80.9	74.8
(TPY)	20.66	20.21	18.70
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	42	42	42
Moisture (%)	11.5	11.37	12.9
Oxygen (%)	10.7	10.64	10.8
Turbine Flow (acfm)	2,325,535	2,224,227	2,232,169
Turbine Exhaust Temperature (°F)	1,170	1,195	1,186
Emission rate (lb/hr)	299.4	285.2	270.3
(TPY)	74.9	71.3	67.6
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	20	20	20
Moisture (%)	11.5	11.37	12.9
Turbine Flow (acfm)	2,325,535	2,224,227	2,232,169
Turbine Exhaust Temperature (°F)	1,170	1,195	1,186
Emission rate (lb/hr)	58.1	54.8	54.4
(TPY)	14.5	13.7	13.6
VOCs (lb/hr) = VOC(ppmvw) x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	7	7	7
Turbine Flow (acfm)	2,325,535	2,224,227	2,232,169
Turbine Exhaust Temperature (°F)	1,170	1,195	1,186
Emission rate (lb/hr)	13.14	12.37	12.49
(TPY)	3.3	3.1	3.1
Lead (lb/hr)= NA			
Emission Rate Basis (lb/10^{12} Btu)	10.8	10.8	10.8
Emission rate (lb/hr)	0.0173	0.0169	0.0157
(TPY)	0.0043	0.0042	0.0039

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996 (AP-42 draft revisions)

Table B-19. Maximum Emissions for Other Regulated PSD Pollutants for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	500	500	500
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	3.80E-04	3.80E-04	3.80E-04
Heat Input Rate (MMBtu/hr)	1.60E+03	1.57E+03	1.45E+03
Emission Rate (lb/hr)	6.09E-07	5.96E-07	5.51E-07
(TPY)	1.52E-07	1.49E-07	1.38E-07
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	0.331	0.331	0.331
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	5.31E-04	5.19E-04	4.80E-04
(TPY)	1.33E-04	1.30E-04	1.20E-04
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	32.54	32.54	32.54
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	5.22E-02	5.10E-02	4.72E-02
(TPY)	1.30E-02	1.28E-02	1.18E-02
Hydrogen Chloride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (c) , lb/10^{12} Btu	2.12E+02	2.12E+02	2.12E+02
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	3.40E-01	3.33E-01	3.08E-01
(TPY)	8.50E-02	8.31E-02	7.69E-02
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	6.26E-01	6.26E-01	6.26E-01
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	1.00E-03	9.82E-04	9.08E-04
(TPY)	2.51E-04	2.45E-04	2.27E-04
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)	82,623	80,858	74,809
Sulfur (lb/hr)	41.31	40.43	37.40
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (d)	10	10	10
Emission Rate (lb/hr)	12.65	12.38	11.46
(TPY)	3.16	3.10	2.86

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA, 1981; (c) 4 ppm assumed based on ASTM D2880
(d) assumed based on combustion and HRSG effects.

Table B-20. Maximum Emissions for Hazardous Air Pollutants for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	500	500	500
Arsenic (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	7.91E+00	7.91E+00	7.91E+00
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	1.27E-02	1.24E-02	1.15E-02
(TPY)	3.17E-03	3.10E-03	2.87E-03
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	1.1	1.1	1.1
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	1.76E-03	1.73E-03	1.60E-03
(TPY)	4.41E-04	4.31E-04	3.99E-04
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	3.24	3.24	3.24
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	5.19E-03	5.08E-03	4.70E-03
(TPY)	1.30E-03	1.27E-03	1.18E-03
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	6.76	6.76	6.76
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	1.08E-02	1.06E-02	9.81E-03
(TPY)	2.71E-03	2.65E-03	2.45E-03
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	2	2	2
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	3.21E-03	3.14E-03	2.90E-03
(TPY)	8.01E-04	7.84E-04	7.26E-04
Cobalt (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	37	37	37
Heat Input Rate (MMBtu/hr)	1.60E+03	1.57E+03	1.45E+03
Emission Rate (lb/hr)	5.93E-02	5.80E-02	5.37E-02
(TPY)	1.48E-02	1.45E-02	1.34E-02
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	432	432	432
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	6.92E-01	6.78E-01	6.27E-01
(TPY)	1.73E-01	1.69E-01	1.57E-01
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	86.3	86.3	86.3
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	1.38E-01	1.35E-01	1.25E-01
(TPY)	3.46E-02	3.38E-02	3.13E-02
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	3.00E+02	3.00E+02	3.00E+02
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	0.480816	0.4705446	0.435342
(TPY)	0.120204	0.11763615	0.1088355
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	23	23	23
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	3.69E-02	3.61E-02	3.34E-02
(TPY)	9.22E-03	9.02E-03	8.34E-03
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	237	237	237
Heat Input Rate (MMBtu/hr)	1,603	1,568	1,451
Emission Rate (lb/hr)	3.80E-01	3.72E-01	3.44E-01
(TPY)	9.50E-02	9.29E-02	8.60E-02

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA,1996 (AP-42,Table 3.1-4)

Table B-21. Design Information and Stack Parameters for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Combustion Turbine Performance			
Net power output (MW)	93.3	90.2	80.2
Net heat rate (Btu/kWh, LHV)	12,868	12,887	13,440
(Btu/kWh, HHV)	13,640	13,660	14,246
Heat Input (MMBtu/hr, LHV)	1,200	1,162	1,078
(MMBtu/hr, HHV)	1,272	1,232	1,143
Fuel heating value (Btu/lb, LHV)	18,300	18,300	18,300
(Btu/lb, HHV)	19,398	19,398	19,398
(HHV/LHV)	1.060	1.060	1.060
CT Exhaust Flow			
Mass Flow (lb/hr)- with margin of 11%	2,762,790	2,666,220	2,609,610
- provided	2,489,000	2,402,000	2,351,000
Temperature (°F)	1,200	1,200	1,200
Moisture (% Vol.)	9.632	9.95	10.922
Oxygen (% Vol.)	11.60	11.59	11.70
Molecular Weight	28.49	28.45	28.31
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)	1,200	1,162	1,078
Heat content (Btu/lb, LHV)	18,300	18,300	18,300
Fuel usage (lb/hr)- calculated	65,574	63,519	58,907
HRSG Stack			
HRSG- Stack height (ft)	125	125	125
Diameter (ft)	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)	2,762,790	2,666,220	2,609,610
Temperature (°F)	1,200	1,200	1,200
Molecular weight	28.49	28.45	28.31
Volume flow (acfm)- calculated	1,958,014	1,892,626	1,861,197
(ft3/s)- calculated	32,634	31,544	31,020
HRSG Stack Flow Conditions			
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min			
CT Temperature (°F)	1,200	1,200	1,200
CT volume flow (acfm)	1,958,014	1,892,626	1,861,197
HRSG Temperature (°F)	220	220	220
HRSG volume flow (acfm)	802,078	775,293	762,418
Diameter (ft)	19	19	19
Velocity (ft/sec)- calculated	47.1	45.6	44.8

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft^3

Source: GE, 1999; Golder Associates, 1999

Table B-22. Maximum Emissions for Criteria Pollutants for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	500	500	500
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer			
Basis (excludes H_2SO_4), lb/hr	17	17	17
Emission rate (lb/hr)- provided	17.0	17.0	17.0
(TPY)	4.3	4.3	4.3
Sulfur Dioxide (lb/hr) = Natural gas (lb/hr) x sulfur content (%/100) x (lb SO_2 /lb S)			
Fuel Sulfur Content	0.05%	0.05%	0.05%
Fuel use (lb/hr)	65,574	63,519	58,907
lb SO_2 /lb S (64/32)	2	2	2
Emission rate (lb/hr)	65.6	63.5	58.9
(TPY)	16.39	15.88	14.73
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	42	42	42
Moisture (%)	9.632	9.95	10.922
Oxygen (%)	11.6	11.59	11.7
Turbine Flow (acfm)	1,958,014	1,892,626	1,861,197
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200
Emission rate (lb/hr)	231.4	221.9	208.8
(TPY)	57.8	55.5	52.2
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	30	30	30
Moisture (%)	9.632	9.95	10.922
Turbine Flow (acfm)	1,958,014	1,892,626	1,861,197
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200
Emission rate (lb/hr)	73.6	70.9	69.0
(TPY)	18.4	17.7	17.2
VOCs (lb/hr) = VOC(ppmvw) x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	7	7	7
Turbine Flow (acfm)	1,958,014	1,892,626	1,861,197
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200
Emission rate (lb/hr)	10.86	10.50	10.32
(TPY)	2.7	2.6	2.6
Lead (lb/hr)= NA			
Emission Rate Basis (lb/10^{12} Btu)	10.8	10.8	10.8
Emission rate (lb/hr)	0.0137	0.0133	0.0123
(TPY)	0.0034	0.0033	0.0031

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996 (AP-42 draft revisions)

Table B-23. Maximum Emissions for Other Regulated PSD Pollutants for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	500	500	500
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	3.80E-04	3.80E-04	3.80E-04
Heat Input Rate (MMBtu/hr)	1.27E+03	1.23E+03	1.14E+03
Emission Rate (lb/hr)	4.83E-07	4.68E-07	4.34E-07
(TPY)	1.21E-07	1.17E-07	1.09E-07
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	0.331	0.331	0.331
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	4.21E-04	4.08E-04	3.78E-04
(TPY)	1.05E-04	1.02E-04	9.46E-05
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	32.54	32.54	32.54
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	4.14E-02	4.01E-02	3.72E-02
(TPY)	1.03E-02	1.00E-02	9.30E-03
Hydrogen Chloride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (c) , lb/10^{12} Btu	2.12E+02	2.12E+02	2.12E+02
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	2.70E-01	2.61E-01	2.42E-01
(TPY)	6.74E-02	6.53E-02	6.06E-02
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	6.26E-01	6.26E-01	6.26E-01
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	7.96E-04	7.71E-04	7.15E-04
(TPY)	1.99E-04	1.93E-04	1.79E-04
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)	65,574	63,519	58,907
Sulfur (lb/hr)	32.79	31.76	29.45
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (d)	10	10	10
Emission Rate (lb/hr)	10.04	9.73	9.02
(TPY)	2.51	2.43	2.26

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA, 1981; (c) 4 ppm assumed based on ASTM D2880
(d) assumed based on combustion and HRSG effects.

Table B-24. Maximum Emissions for Hazardous Air Pollutants for FPL Sanford Repowering Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	500	500	500
Arsenic (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	7.91E+00	7.91E+00	7.91E+00
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	1.01E-02	9.75E-03	9.04E-03
(TPY)	2.52E-03	2.44E-03	2.26E-03
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	1.1	1.1	1.1
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	1.40E-03	1.36E-03	1.26E-03
(TPY)	3.50E-04	3.39E-04	3.14E-04
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	3.24	3.24	3.24
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	4.12E-03	3.99E-03	3.70E-03
(TPY)	1.03E-03	9.98E-04	9.26E-04
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	6.76	6.76	6.76
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	8.60E-03	8.33E-03	7.72E-03
(TPY)	2.15E-03	2.08E-03	1.93E-03
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	2	2	2
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	2.54E-03	2.46E-03	2.29E-03
(TPY)	6.36E-04	6.16E-04	5.71E-04
Cobalt (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	37	37	37
Heat Input Rate (MMBtu/hr)	1.27E+03	1.23E+03	1.14E+03
Emission Rate (lb/hr)	4.71E-02	4.56E-02	4.23E-02
(TPY)	1.18E-02	1.14E-02	1.06E-02
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	432	432	432
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	5.50E-01	5.32E-01	4.94E-01
(TPY)	1.37E-01	1.33E-01	1.23E-01
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	86.3	86.3	86.3
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	1.10E-01	1.06E-01	9.86E-02
(TPY)	2.74E-02	2.66E-02	2.47E-02
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	3.00E+02	3.00E+02	3.00E+02
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	0.3816	0.3696432	0.342804
(TPY)	0.0954	0.0924108	0.085701
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	23	23	23
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	2.93E-02	2.83E-02	2.63E-02
(TPY)	7.31E-03	7.08E-03	6.57E-03
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	237	237	237
Heat Input Rate (MMBtu/hr)	1,272	1,232	1,143
Emission Rate (lb/hr)	3.01E-01	2.92E-01	2.71E-01
(TPY)	7.54E-02	7.30E-02	6.77E-02

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA,1996 (AP-42,Table 3.1-4)

Table B-25. Summary of Best Available Control Technology (BACT) Determinations for Volatile Organic Compounds (VOC) Emissions

Facility Name	State	Permit Issue Date	Unit/Process Description	Capacity (size)	VOC Emission Limit	Control Method	Efficiency (%)	Type
DE LA GUERRA POWER, INC	CA	11/12/91	ENGINE IC & GEN (1 OF 3)	380.00 HP	0.0000	VENT CRANKCASE EMISSIONS TO INTAKE MANIFOLD	100.000	BACT-PSD
TEXACO EXPLORATION & PRODUCTION INCORPORATED	CA	6/2/92	COMPRESSOR, FIXED ROOF STOAGE VAPOR RECOVERY SYS.	15.00 HP	0.0000	CRANKCASE BREATHER VENTED TO COMPRESSOR SUCTION INLET	99.000	BACT-PSD
TEXACO EXPLORATION & PRODUCTION INC.	CA	6/2/92	COMPRESSOR, GAS	15.00 HP OUTPUT	0.0000	CRANKCASE BREATHER	0.000	BACT-OTHER
SOUTHERN CALIFORNIA GAS COMPANY	CA	6/30/95	EMERGENCY IC ENGINE DRIVING A GENERATOR	132.00 HP	0.0000	TWO-WAY CATALYST	0.000	BACT-OTHER
G.E.N.Y. OPERATIONS COMPANY	CA	11/3/97	IC ENGINE, NAT GAS FIRED, CATERPILLAR MODEL 333	145.00 BHP	0.0000	POSITIVE CRANKCASE VENTILATION	0.000	BACT
MAUI ELECTRIC COMPANY, LTD.	HI	12/3/91	TURBINE, FUEL OIL #2	28.00 MW	0.0000 SEE NOTES	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
TEXACO INC. - ONSHORE DIVISION	LA	9/25/92	COMPRESSORS, RECIPROCATING (3)	1642.00 HP (EACH)	0.0000	LEAN BURN ENGINE	0.000	BACT
BLUE LAKE GAS STORAGE CO.	MI	5/7/92	ENGINES, RECIPROCATING, 2 CYCLE	6000.00 HP	0.0000	INTERNAL COMBUSTION DESIGN	0.000	BACT-PSD
BLUE LAKE GAS STORAGE CO.	MI	5/7/92	ENGINES, RECIPROCATING, 4 CYCLE	1078.00 HP	0.0000	CATALYTIC OXIDIZER	60.000	BACT-PSD
SOUTHWESTERN PUBLIC SERVICE CO/CUNNINGHAM STATION	NM	11/4/98	COMBUSTION TURBINE, NATURAL GAS	100.00 MW	0.0000 SEE P2	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
SOUTHWESTERN PUBLIC SERVICE COMPANY/CUNNINGHAM	NM	2/15/97	COMBUSTION TURBINE, NATURAL GAS	100.00 MW	0.0000		0.000	BACT-PSD
PHILADELPHIA SOUTHWEST WATER TREATMENT PLANT	PA	10/15/92	ENGINES (2) (NATURAL GAS)	443.00 KW (EACH)	0.0000	LEAN SURN ENGINE	0.000	OTHER
PHILADELPHIA SOUTHWEST WATER TREATMENT PLANT	PA	10/15/92	ENGINES (11) (DIESEL)	1156.00 KW (EACH)	0.0000	SCR	0.000	OTHER
PHILADELPHIA NORTHEAST WATER TREATMENT PLANT	PA	10/15/92	ENGINES (3) (NATURAL GAS)	443.00 KW (EACH)	0.0000	LEAN BURN ENGINE	0.000	OTHER
PHILADELPHIA NORTHEAST WATER TREATMENT PLANT	PA	10/15/92	ENGINES (7) (DIESEL)	1635.00 KW (EACH)	0.0000	SCR	0.000	OTHER
MILLENNIUM POWER PARTNER, LP	MA	2/2/98	TURBINE, COMBUSTION, WESTINGHOUSE MODEL 501G	2534.00 MMBTU/H	0.0013 LB/MMBTU	DRY LOW NOX COMBUSTION TECHNOLOGY WITH SCR ADD-ON NOX CONTROL	0.000	BACT-PSD
TECO POLK POWER STATION	FL	2/24/94	TURBINE, SYNGAS (COAL GASIFICATION)	1755.00 MMBTU/H	0.0017 LB/MMBTU	GOOD COMBUSTION	0.000	BACT-PSD
GORHAM ENERGY LIMITED PARTNERSHIP	ME	12/4/98	TURBINE, COMBINED CYCLE	900.00 MW TOTAL	0.0017 LB/MMBTU NAT GAS	0.5 % SULFUR DISTILLATE OIL #2 IS USED. EMISSIONS FROM EACH 300 MW SYSTEM.	0.000	BACT-PSD
PILGRIM ENERGY CENTER	NY		(2) WESTINGHOUSE W501D5 TURBINES (EP #S 00001&2)	1400.00 MMBTU/HR	0.0020 LB/MMBTU, 2.53 LB/HR		0.000	BACT-OTHER
SAVANNAH ELECTRIC AND POWER CO.	GA	2/12/92	TURBINES, 8	1032.00 MMBTU/H, NAT GAS	0.0030 LB/MMBTU	FUEL SPEC: LOW SULFUR FUEL OIL	0.000	BACT-PSD
GRAYS FERRY CO. GENERATION PARTNERSHIP	PA	11/4/92	TURBINE (NATURAL GAS & OIL)	1150.00 MMBTU	0.0033 LB/MMBTU*	COMBUSTION	0.000	BACT-OTHER
GRAYS FERRY CO. GENERATION PARTNERSHIP	PA	11/4/92	GENERATOR, STEAM	450.00 MMBTU	0.0033 LB/MMBTU*	COMBUSTION	0.000	BACT-OTHER
FULTON COGEN PLANT	NY	9/15/94	GE LM5000 GAS TURBINE	500.00 MMBTU/HR	0.0040 LB/MMBTU, 2.0 LB/HR	NO CONTROLS	0.000	SEE NOTE #6
SAVANNAH ELECTRIC AND POWER CO.	GA	2/12/92	TURBINES, 8	972.00 MMBTU/H, #2 OIL	0.0042 LB/MMBTU	FUEL SPEC: LOW SULFUR FUEL OIL	0.000	BACT-PSD
SARANAC ENERGY COMPANY	NY	7/31/92	TURBINES, COMBUSTION (2) (NATURAL GAS)	1123.00 MMBTU/HR (EACH)	0.0045 LB/MMBTU	OXIDATION CATALYST	0.000	BACT-OTHER
LAKEWOOD COGENERATION, L.P.	NJ	4/1/91	TURBINES (NATURAL GAS) (2)	1190.00 MMBTU/HR (EACH)	0.0046 LB/MMBTU	TURBINE DESIGN	0.000	OTHER
MOBILE ENERGY LLC	AL	1/5/99	TURBINE, GAS, COMBINED CYCLE	168.00 MW	0.0060 LB/MMBTU	GOOD COMBUSTION PRACTICE	0.000	BACT-PSD
KAMINE/BESICORP BEAVER FALLS COGENERATION FACILITY	NY	11/9/92	TURBINE, COMBUSTION (NAT. GAS & OIL FUEL) (79MW)	650.00 MMBTU/HR	0.0070 LB/MMBTU	COMBUSTION CONTROLS	0.000	BACT-OTHER
KAMINE/BESICORP SYRACUSE LP	NY	12/10/94	SIEMENS V84.3 GAS TURBINE (EP #00001)	650.00 MMBTU/HR	0.0070 LB/MMBTU, 4.6 LB/HR	NO CONTROLS	0.000	BACT-OTHER
LAKEWOOD COGENERATION, L.P.	NJ	4/1/91	TURBINES (#2 FUEL OIL) (2)	1190.00 MMBTU/HR (EACH)	0.0073 LB/MMBTU	TURBINE DESIGN	0.000	OTHER
LSP - COTTAGE GROVE, L.P.	MN	11/10/98	GENERATOR, COMBUSTION TURBINE & DUCT BURNER	1988.00 MMBTU/H (CTG)	0.0080 LB/MMBTU (NAT GAS)	NATURAL GAS COMBUSTION	0.000	BACT-PSD
ANITEC COGEN PLANT	NY	7/7/93	GE LM5000 COMBINED CYCLE GAS TURBINE EP #00001	451.00 MMBTU/HR	0.0080 LB/MMBTU, 3.0 LB/HR	NO CONTROLS	0.000	BACT-OTHER
TBG COGEN COGENERATION PLANT	NY	8/5/90	GE LM2500 GAS TURBINE	214.90 MMBTU/HR	0.0080 LB/MMBTU, 2.9 LB/HR	NO CONTROLS	0.000	BACT-OTHER
KAMINE/BESICORP NATURAL DAM LP	NY	12/31/91	GE FRAME 6 GAS TURBINE	500.00 MMBTU/HR	0.0080 LB/MMBTU, 4 LB/HR	NO CONTROLS	0.000	BACT-OTHER
KAMINE/BESICORP CARTHAGE L.P.	NY	1/18/94	GE FRAME 6 GAS TURBINE	491.00 BTU/HR	0.0090 LB/MMBTU, 5.0 LB/HR	NO CONTROLS	0.000	BACT-OTHER
KAMINE SOUTH GLENS FALLS COGEN CO	NY	9/10/92	GE FRAME 6 GAS TURBINE	498.00 MMBTU/HR	0.0090 LB/MMBTU, 5.0 LB/HR	NO CONTROLS	0.000	BACT-OTHER
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, TS4-1	736.00 HP	0.0100 LB/H	GOOD COMBUSTION TECHNIQUES	50.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, TS4-2	736.00 HP	0.0100 LB/H	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, TS4-3	1215.00 HP	0.0100 LB/H	GOOD COMBUSTION	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, TS5-4	736.00 HP	0.0100 LB/H	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, TS5-3	1215.00 HP	0.0100 LB/H	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, TS5-1	421.00 HP	0.0100 LB/H	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, 2	0.00	0.0100 LB/H 2 EACH	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, TS7-6, 1	1215.00 HP	0.0100 LB/H	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, TS7-5, 1	421.00 HP	0.0100 LB/H	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
INDECK-OSWEGO ENERGY CENTER	NY	10/6/94	GE FRAME 6 GAS TURBINE	533.00 LB/MMBTU	0.0100 LB/MMBTU, 5.00 LB/HR	NO CONTROLS	0.000	BACT-OTHER
TRIGEN MITCHEL FIELD	NY	4/16/93	GE FRAME 6 GAS TURBINE	424.70 MMBTU/HR	0.0110 LB/MMBTU, 4.5 LB/HR	NO CONTROLS	0.000	BACT-OTHER
LOCKPORT COGEN FACILITY	NY	7/14/93	(6) GE FRAME 6 TURBINES (EP #S 00001-00006)	423.90 MMBTU/HR	0.0120 LB/MMBTU, 5.0 LB/HR	NO CONTROLS	0.000	BACT-OTHER
KAMINE/BESICORP SYRACUSE LP	NY	12/10/94	DIESEL GENERATOR (EP #00005)	22.00 MMBTU/HR	0.0160 LB/MMBTU, 0.34 LB/HR	NO CONTROLS	0.000	BACT-OTHER
ALGONOUIN GAS TRANSMISSION CO.	RI	7/31/91	TURBINE, GAS, 2	49.00 MMBTU/H	0.0160 LB/MMBTU	GOOD COMBUSTION PRACTICES	0.000	BACT-OTHER
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, 1	1478.00 HP	0.0200 LB/H	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	7/31/97	COMPRESSOR ENGINES, GAS-FIRED, 3	0.00	0.0200 LB/H 3 EACH	GOOD COMBUSTION TECHNIOUES	0.000	BACT-PSD
MEGAN-RACINE ASSOCIATES, INC	NY	8/5/89	GE LM5000-N COMBINED CYCLE GAS TURBINE	401.00 LB/MMBTU	0.0200 LB/MMBTU, 8.0 LB/HR	NO CONTROLS	0.000	BACT-OTHER
TECO POLK POWER STATION	FL	2/24/94	TURBINE, FUEL OIL	1765.00 MMBTU/H	0.0280 LB/MMBTU	GOOD COMBUSTION	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	4/1/97	COMPRESSOR ENGINE, GAS-FIRED, 2	0.00	0.0300 LB/H	GOOD COMBUSTION PRACTICES.	0.000	BACT-PSD
VASTAR RESOURCES, INC.	CO	4/1/97	IC ENGINE, WAUKESHA L5790-GSI, 2	1215.00 HP	0.0300 LB/H	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
VASTAR RESOUCRES, INC.	CO	7/31/97	COMPRESSOR ENGINE, GAS-FIRED, 2	0.00	0.0300 LB/H	GOOD COMBUSTION TECHNIQUES	0.000	BACT-PSD
VASTAR RESOURCES, INC	CO	7/31/97	COMPRESSOR ENGINE, GAS FIRED, 2	0.00	0.0300 LB/H	GOOD COMBUSTION TECHNIOUES	0.000	BACT-PSD
VASTAR RESOURCES, INC	CO	7/31/97	IC ENGINES, WAUKESHA L5790-GSI, 2 @ 1215 HP	0.00	0.0300 LB/H	GOOD COMBUSTION TECHNIOUES	0.000	BACT-PSD
KAMINE/BESICORP SYRACUSE LP	NY	12/10/94	FIRE PUMP (EP #00007)	1.50 MMBTU/HR	0.0550 LB/MMBTU, 0.08 LB/HR	NO CONTROLS	0.000	BACT-OTHER
CITY OF CLOVIS	CA	11/6/96	CATERPILLAR MODEL G3406TA NATURAL GAS, IC ENGINE	0.00	0.0680 G/BHP-HR	NATURAL GAS FUEL AND INDUSTRIAL SILENCING MODEL THREE WAY CATALYTIC CONVERTER	0.000	LAER
MM HACKENSACK ENERGY, LLC.	NJ	4/9/98	ENGINES, LANDFILL GAS-FIRED, 4 EACH	3.60 MW	0.0740 LB/MMBTU OF HHV	RECIPROCATING INTERNAL COMBUSTION ENGINE	98.000	NSPS
RYAN-MURPHY INCORPORATED	CA	1/6/92	GENERATOR, DIESEL-FIRED, NON-EMERGENCY	211.00 BHP @ 1800 RPM	0.0900 LB/H	3-WAY CATALYTIC CONVERTER, POSITIVE CRANKCASE VENTILATION	30.000	BACT-PSD
CNG TRANSMISSION	OH	6/12/92	TURBINE (NATURAL GAS) (3)	5500.00 HP (EACH)	0.1000 G/HP-HR	FUEL SPEC: USE OF NATURAL GAS	0.000	OTHER
CITY OF TULARE, PROJECT 960679	CA	3/13/98	CLEAN SURN IC ENGINE	8.77 MMBTU/HR	0.2500 G/B-HP-HR	GASEOUS FUEL AND POSITIVE CRANKCASE VENTILATION	90.000	BACT-OTHER
ALGONQUIN GAS TRANSMISSION COMPANY	NJ	3/31/95	TURBINES COMBUSTION, TWO SOLAR CENTAUR	3.10 MW EACH	0.2600 LB/H		0.000	BACT-PSD
SHELL PIPELINE CORPORATION	CA	11/15/91	GENERATOR, EMERGENCY, PROPANE FIRED	62.00 BHP	0.2800 LB/H	3-WAY CATALYTIC CONVERTER	10.000	BACT-PSD
ARCHIE CRIPPEN	CA	12/9/97	IC ENGINE, DETROIT DIESEL MODEL 8V-92TA	500.00 BHP	0.3000 G/B-HP-H	NO CONTROL	0.000	BACT
BERKSHIRE POWER DEVELOPMENT, INC.	MA	9/22/97	ENGINES, CHILLER, NATURAL GAS-FIRED, TWO	23.40 MMBTU/H	0.3000 LB/H	DRY LOW NOX COMBUSTION TECHNOLOGY WITH SCR ADD-ON NOX CONTROL.	0.000	BACT-PSD
RESOURCE RENEWAL TECHNOLOGIES, INC.	CA	6/18/93	ENGINE, I.C.	951.00 BHP	0.3300 G/B-HP-H	POSITIVE CRANKCASE VENTILLATION	0.000	BACT-OTHER
KEARNY VENTURES, LIMITED	CA	1/12/98	INTERNAL COMSUSTION ENGINE	208.00 HP	0.3300 G/B-HP-HR	NO CONTROL	0.000	BACT-OTHER
DIGHTON POWER ASSOCIATE, LP	MA	10/6/97	ENGINE, DIESEL, FIRE PUMP	1.50 MMBTU/H	0.3600 LB/MMBTU	DRY LOW NOX COMBUSTION TECHNOLOGY WITH SCR ADD-ON NOX CONTROL.	0.000	BACT-PSD
MANCHESTER RENEWABLE PWR CORP/LANDFILL ENERGY SYST	NJ	5/10/95	I. C. ENGINES	8.60 MMBTU/H	0.3750 G/B-HP-H		0.000	LAER
ROSS ISLAND SAND AND GRAVEL	CA	8/2/96	DIESEL-FIRED IC ENGINE SERVING DEEP WATER DREDGE	685.00 HP	0.4000 LB/DAY	CATALYTIC OXIDATION AND A POSITIVE CRANKCASE VENTILATION SYSTEM	90.000	LAER
WESTBROOK POWER LLC	ME	12/4/98	TURBINE, COMSINED CYCLE, TWO	528.00 MW TOTAL	0.4000 PPM @ 15% O2		0.000	BACT-PSD
NORTH STAR RECYCLING CO.	OH	6/9/93	RECIPROCATING ENGINES (NATURAL GAS) (3)	1700.00 HP (EACH)	0.4000 G/B-HP-H	3-WAY CATALYST	60.000	BACT-OTHER
SNYDER OIL CORPORATION-RIVERTON DOME GAS PLANT	WY	7/5/94	2 GAS-FIRED GENERATOR ENGINES	385.00 HORSEPOWER	0.4000 LBS/HR	GOOD COMBUSTION	0.000	BACT
RICHMOND EXPLORATION CORP.	CA	10/24/91	ENGINE, I.C., NAT. GAS/PROPANE	200.00 HP	0.4400 LBM/H	THREE-WAY CATALYST	0.000	BACT-PSD
SNYDER OIL CORPORATION-RIVERTON DOME GAS PLANT	WY	7/5/94	NATURAL GAS-FIRED COMPRESSOR ENGINE	520.00 HORSEPOWER	0.5000 LBS/HR	GOOD COMBUSTION	0.000	BACT
SNYDER OIL CORPORATION-RIVERTON DOME GAS PLANT	WY	7/5/94	1 GAS-FIRED GENERATOR ENGINE	577.00 HORSEPOWER	0.6000 LBS/HR	GOOD COMBUSTION	0.000	BACT
CHEVRON USA - PAINTER CENTRAL STATION	WY	4/19/93	ENGINES, COMPRESSOR, 2 EACH	2650.00 BHP, EACH	0.6000 G/B-HP-H	"CLEAN BURN" TECHNOLOGY	0.000	BACT-PSD
NORTHERN NATURAL GAS COMPANY	IA	9/5/90	ENGINE, COMPRESSOR	4000.00 HP	0.6500 G/B-HP-H	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
NORTHERN NATURAL GAS COMPANY	IA	9/5/90	ENGINES, COMPRESSOR, 2	2000.00 HP EACH	0.6500 G/B-HP-H	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
MARSHALL MUNICIPAL UTILITIEB (BD. OF PUBLIC WORKS)	MO	4/8/93	ENGINE, I.C. (RECIPROCATING)	8500.00 HP	0.7000 G/B-HP-H	GOOD COMBUSTION	0.000	BACT-PSD
MARSHALL MUNICIPAL UTILITIES	MO	11/15/91	ENGINE, I.C. (ELECTRICAL POWER GENERATION)	8700.00 BHP	0.7000 GM/BHP-H		0.000	BACT
MARSHALL MUNICIPAL UTILITIES (BOARD OF PUBLIC WORK	MO	4/6/93	NEW COOPER-BESSEMER INTERNAL COMBUSTION ENGINE	8.30 MW	0.7000 GRAM/BRAKE HP HR		0.000	BACT-PSD
LSP - COTTAGE GROVE, L.P.	MN	11/10/98	ENGINE, DIESEL, EMERGENCY FIRE PUMP	2.70 MMBTU/H	0.7100 LB/MMBTU	LIMITED TO BURN DIESEL 150 H/YR.	0.000	BACT-PSD
CNG TRANSMISSION CORPORATION	WV	5/3/93	GENERATOR, AUXILARY	614.00 HP	0.7400 G/HP-HR		0.000	BACT-OTHER
CITY OF STOCKTON MUNICIPAL UTILITIES DEPT.	CA	11/22/96	GAS-FIRED IC ENGINE	2760.00 HP	0.7500 G/BHP-HR	LEAN BURN ENGINE WITH A PRECOMBUSTION CHAMBER	0.000	LAER

INDIANA UNIV. OF PA (SW JACK COGENERATION FAC.)	PA	12/29/94	I.C. ENGINE #1, NATURAL GAS/#2 FUEL OIL	8386.00 HP	0.7500 G/B-HP-H	CLEANBURN COMBUSTION SYSTEM	75.800	RACT
INDIANA UNIV. OF PA (SW JACK COGENERATION FAC.)	PA	12/29/94	I.C. ENGINE #2, NATURAL GAS/#2 FUEL OIL	8386.00 HP	0.7500 G/B-HP-H	CLEANBURN COMBUSTION SYSTEM MANUFACTURER: COOPER-BESSEMER	50.000	RACT
INDIANA UNIV. OF PA (SW JACK COGENERATION FAC.)	PA	12/29/94	I.C. ENGINE #3, NATURAL GAS/#2 FUEL OIL	8386.00 HP	0.7500 G/B-HP-H	CLEANBURN COMBUSTION SYSTEM MANUFACTURER: COOPER-BESSEMER	68.800	RACT
INDIANA UNIV. OF PA (SW JACK COGENERATION FAC.)	PA	12/29/94	I.C. ENGINE #4, NATURAL GAS/#2 FUEL OIL	8386.00 HP	0.7500 G/B-HP-H	CLEANBURN COMBUSTION SYSTEM MANUFACTURER: COOPER-BESSEMER	T4.100	RACT
HAWAII ELECTRIC LIGHT CO., INC.	HI	2/12/92	TURBINE, FUEL OIL #2	20.00 MW	0.8000 LB/HR @ 100% PEAKLD	COMBUSTION DESIGN	0.000	BACT-PSD
MAUI ELECTRIC COMPANY, LTD./MAALAEA GENERATING STA	HI	7/28/92	TURBINE, COMBINED-CYCLE COMBUSTION	28.00 MW	0.8000 LB/HR	COMBUSTION TECHNOLOGY/DESIGN	0.000	BACT-OTHER
MERIDIAN OIL, INC./VALVERDE GAS PROCESSING FAC.	NM	10/27/95	RECIPROCATING ENGINE, NATURAL GAS (4)	0.00	0.8000 G/B-HP-H	CLEAN BURN ENGINE MODEL #: 3612 TA/SW66 MANUFACTURER: CATERPILLAR	0.000	BACT-PSD
SAGUARO POWER COMPANY	NV	6/17/91	COMBUSTION TURBINE GENERATOR	34.50 MW	0.8000 PPH	COMBUSTION SYSTEM	0.000	LAER
CGN TRANSMISSION	OH	3/11/92	ENGINE, NATURAL GAS COMPRESSOR	3200.00 HP	0.8000 G/B-HP-H	ENGINE TUNING (SEE NOTES)	0.000	BACT-PSD
CGN TRANSMISSION	OH	5/28/92	ENGINE, NATURAL GAS COMPRESSOR	3200.00 HP	0.8000 G/B-HP-H	ENGINE TUNING (SEE NOTES)	0.000	BACT-PSD
CNG TRANSMISSION CORP.	PA	3/13/92	ENGINES, RECIP I.C., 4, NAT. GAS	3200.00 HP	0.8000 G/B-HP-H	LEAN BURN TECHNOLOGY	0.000	BACT-OTHER
CNG TRANSMISSION CORPORATION	WV	5/3/93	ENGINE, NATURAL GAS COMPRESSOR	6080.00 HP	0.8200 G/B-HP-H	LEAN BURN COMBUSTION	0.000	BACT-OTHER
CNG TRANSMISSION CORPORATION-LEIDY	PA	2/29/96	NATURAL GAS FIRED ENGINE	3400.00 HP	0.8300 G/B-HP-H		0.000	RACT
CGN TRANSMISSION	OH	3/11/92	ENGINES, NATURAL GAS COMPRESSOR (2)	4200.00 HP (EACH)	0.8000 G/B-HP-H	ENGINE TUNING (SEE NOTES)	0.000	BACT-PSD
CGN TRANSMISSION	OH	5/28/92	ENGINE, NATURAL GAS COMPRESSOR	4200.00 HP	0.9000 G/B-HP-H	ENGINE TUNING (SEE NOTES)	0.000	BACT-PSD
CNG TRANSMISSION CORPORATION	PA	9/24/91	ENGINE, I.C., RECIP., GAS-FIRED, 2 CYCLE	4200.00 HP	0.9000 G/B-HP-H	CLEAN BURN TECHNOLOGY	0.000	BACT-OTHER
PORTSMOUTH NAVAL HOSPITAL	VA	7/30/93	GENERATORS, DIESEL, 6	748000.00 GAL/YR	0.9000 LB/HR	RETARDING THE TIMING BY 5 DEGREES	21.700	NSPS
CGN TRANSMISSION	OH	4/8/92	ENGINES, NATURAL GAS COMPRESSOR (2)	4200.00 HP (EACH)	0.9800 G/B-HP-H	ENGINE TUNING (SEE NOTES)	0.000	BACT-PSD
FLORIDA POWER AND LIGHT	FL	3/14/91	TURBINE, GAS, 4 EACH	240.00 MW	1.0000 PPM @ 15% O2	COMBUSTION CONTROL	0.000	BACT-PSD
CASCO RAY ENERGY CO	ME	7/13/98	TURBINE, COMBINED CYCLE, NATURAL GAS, TWO	170.00 MW EACH	1.0000 PPM	LOW NOX BURNER	0.000	BACT-PSD
WILLIAMS FIELD SERVICES CO. - EL CEDRO COMPRESSOR	NM	10/29/93	ENGINE, GAS-FIRED, RECIPROCATING	1000.00 HP	1.0000 G/B-HP-H	CLEAN/LEAN BURN TECHNOLOGY	0.000	BACT-PSD
WILLIAMS FIELD SERVICES CO.	NM	4/25/96	NATURAL GAS RECIPROCATING ENGINE	1478.00 HP	1.0000 G/B-HP-H	LEAN BURN DESIGN	0.000	BACT-PSD
WILLIAMS FIELD SERVICES CO.	NM	4/8/98	ENGINE, IC RECIPROCATING, NAT. GAS	1374.00 HP	1.0000 G/B-HP-H	CLEAN BURN COMBUSTION TECHNOLOGY	0.000	BACT-PSD
WILLIAMS FIELD SERVICES CO.	NM	7/24/96	RECIPROCATING ENGINE, NAT. GAS	1375.00 HP	1.0000 G/B-HP-H	CLEAN BURN COMBUSTION TECHNOLOGY	0.000	BACT-PSD
WILLIAMS FIELD SERVICES	NM	9/23/98	IC ENGINE, COMPRESSOR	27240.00 HP	1.0000 G/B-HP-H	LEAN-BURN ENGINE DESIGN	0.000	BACT-PSD
SACRAMENTO COGENERATION AUTHORITY P&G	CA	8/19/94	TURBINE, SIMPLE CYCLE LM6000 GAS	421.40 MMBTU/H	1.1000 LB/H	OXIDATION CATALYST	0.000	BACT
SACRAMENTO COGENERATION AUTHORITY P&G	CA	8/19/94	TURBINE, GAS, COMBINED CYCLE LM6000	421.40 MMBTU/H	1.1000 LB/H	OXIDATION CATALYST	0.000	BACT
SACRAMENTO COGENERATION AUTHORITY P&G	CA	8/19/94	TURBINE, GAS, COMBINED CYCLE LM6000	421.40 MMBTU/H	1.1000 LB/H	OXIDATION CATALYST	0.000	BACT
CNG TRANSMISSION CORPORATION-LEIDY	PA	2/29/96	NATURAL GAS FIRED ENGINE	1000.00 HP	1.1000 G/B-HP-H		0.000	RACT
FLORIDA GAS TRANSMISSION CO.	MS	5/14/91	ENGINE, 412 KVSR DRESSER	2400.00 HP	1.3300 G/B-HP-H	LEAN COMBUSTION	0.000	BACT-PSD
PUBLIC SERVICE OF COLO.-FORT ST VRAIN	CO	5/1/96	COMBINED CYCLE TURBINES (2), NATURAL	471.00 MW	1.4000 PPMVD, SMPL CY	GOOD COMBUSTION CONTROL PRACTICES.	0.000	BACT-PSD
MOBIL EXPLORATION & PRODUCING U.S., INC.	CA	7/2/96	LEAN BURN NATURAL GAS-FIRED IC ENGINE	280.00 BHP	1.5000 G/BHP-HR	AIR/FUEL RATIO CONTROLLER, CLEAN BURN COMBUSTION TECHNOLOGY, WEEKLY MONITORING	0.000	LAER
FLORIDA POWER AND LIGHT	FL	6/5/91	TURBINE, GAS, 4 EACH	400.00 MW	1.9000 PPM @ 15% O2	COMBUSTION CONTROL	0.000	BACT-PSD
CNG TRANSMISSION CORPORATION-LEIDY	PA	2/29/96	NATURAL GAS FIREO ENGINE	2000.00 HP	1.6500 G/B-HP-H		0.000	RACT
LSP-COTTAGE GROVE, L.P.	MN	3/1/95	DIESEL ENGINE-DRIVEN FIRE PUMP	2.70 MMBTU/HR	1.9000 LB/HR	FUEL SELECTION; GOOD COMBUSTION	0.000	BACT-PSD
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	12/20/91	TURBINE, COMBUSTION	1313.00 MM BTU/HR	2.0000 LB/HR	COMBUSTION CONTROL	0.000	BACT-PSO
TIVERTON POWER ASSOCIATES	RI	2/13/98	COMBUSTION TURBINE, NATURAL GAS	265.00 MW	2.0000 PPM @ 15% O2	GOOD COMBUSTION	0.000	BACT-PSD
COMBINED HEAT & POWER, INC.	VA	8/22/95	I.C. ENGINES (16), DISTIL OIL & NAT GAS FIREO	27.60 MM KWHR/YR	2.2000 TPY	PROPER ENGINE MAINTENANCE	0.000	BACT
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	3/3/92	TURBINE, COMBUSTION	1175.00 MMBTU/H NAT. GAS	2.3000 LB/H/UNIT	FURNACE DESIGN	91.000	BACT-PSD
NAWAII ELECTRIC LIGHT CO., INC.	HI	2/12/92	TURBINE, FUEL OIL #2	20.00 MW	2.8000 LB/H @ 75-<100% PKLD	COMBUSTION DESIGN	0.000	BACT-PSO
WILLIAMS FIELD SERVICES CO.	NM	8/10/96	RECIPROCATING ENGINES, NAT. GAS	21920.00 HP	2.6500 G/B-HP-H	LEAN BURN ENGINE DESIGN	0.000	BACT-PSD
CAROLINA POWER & LIGHT	NC	4/11/96	COMBUSTION TURBINE, 4 EACH	1907.80 MMBTU/HR	2.8000 LB/HR	COMBUSTION CONTROL	0.000	BACT-PSD
CHAMPION INTERNATL CORP. & CHAMP. CLEAN ENERGY	ME	9/14/98	TURBINE, COMBINED CYCLE, NATURAL GAS	175.00 MW	3.0000 LB/H GAS		0.000	BACT-OTHER
WILLIAMS FIELD SERVICES--MIDDLE MESA CDP	NM	12/3/97	NATURAL GAS COMPRESSOR STATION, 14 ENGINES	1478.00 HP, EACH	3.0000 LB/HR EACH ENGINE	CLEAN/LEAN BURN TECHNOLOGY	0.000	BACT-PSD
TENASKA WASHINGTON PARTNERS, L.P.	WA	5/29/92	BOILERS, AUXILIARY	90000.00 LBS STEAM/HR (EACH)	3.0000 LBS/HR	COMBUSTION CONTROL	0.000	BACT-PSD
NAVY PUBLIC WORKS CENTER	VA	12/3/93	GENERATOR, ENGINE, 5	1800.00 KW	3.2000 LB/HR		0.000	NSPS
INTERNATIONAL PAPER	LA	2/24/94	TURBINE/HRSG, GAS COGEN	338.00 MM BTU/HR TURBINE	3.8000 LB/HR COMBINED	COMBUSTION CONTROLS, FUEL SELECTION	0.000	BACT
SEPCO	CA	10/5/94	TURBINE, GAS COMBINED CYCLE GE MODEL 7	920.00 MMBTU/H	3.7000 LB/H	OXIDATION CATALYST	0.000	BACT
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NJ	6/9/93	TURBINES, COMBUSTION, NATURAL GAS-FIRED (2)	617.00 MMBTU/HR (EACH)	4.0000 PPMDV	TURBINE DESIGN	0.000	BACT-PSD
BLUE MOUNTAIN POWER, LP	PA	7/31/96	COMBUSTION TURBINE WITH HEAT RECOVERY BOILER	153.00 MW	4.0000 PPM @ 15% O2	OXIDATION CATALYST WHEN FIRING NO. 2 OIL EMISSION LIMIT = 4.4 PPMVD @ 15% O2. @ 75% LOAD ALTERNATE GAS LIMIT 7.6 PPM	12.000	LAER
NAVY PUBLIC WORKS CENTER	VA	5/16/94	1 EMERGENCY GENERATOR	1500.00 KW	4.1000 TPY	RETARD TIMING 6 DEGREES	0.000	NSPS
FLEETWOOD COGENERATION ASSOCIATES	PA	4/22/94	NG TURBINE (GE LM6000) WITH WASTE HEAT BOILER	360.00 MMBTU/HR	4.4000 LB/HR	GOOD COMBUSTION PRACTICES	0.000	BACT-OTHER
RW POWER PARTNERS, L.P.	VA	1/26/93	GENERATORS, ELECTRIC (DIESEL) (3)	1200.00 KW (EACH)	4.8000 LB/HR	GOOD COMBUSTION PRACTICES	0.000	BACT-OTHER
FLORIDA POWER GENERATION	FL	10/18/91	TURBINE, OIL, 6 EACH	92.90 MW	5.0000 LB/H	COMBUSTION CONTROL	0.000	BACT-PSD
FLORIDA POWER CORPORATION	FL	8/17/92	TURBINE, OIL	1029.00 MMBTU/H	5.0000 LB/H	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	12/20/91	TURBINE, COMBUSTION	1247.00 MM BTU/HR	5.0000 LB/HR	COMBUSTION CONTROL	0.000	BACT-PSD
ECOELECTRICA, L.P.	PR	10/1/96	TURBINES, COMBINED-CYCLE COGENERATION	461.00 MW	5.0000 PPMDV	COMBUSTION CONTROLS.	0.000	BACT-PSD
NARRAGANSETT ELECTRIC/NEW ENGLAND POWER CO.	RI	4/13/92	TURBINE, GAS AND DUCT BURNER	1360.00 MMBTU/H EACH	5.0000 PPM @ 15% O2		0.000	BACT-PSD
BEAR ISLAND PAPER COMPANY, L.P.	VA	10/30/92	TURBINE, COMBUSTION GAS	474.00 X10(6) BTU/HR N. GAS	5.0000 LBS/HR	GOOD COMBUSTION	0.000	BACT-PSD
BEAR ISLAND PAPER COMPANY, L.P.	VA	10/30/92	TURBINE, COMBUSTION GAS	468.00 X10(6) BTU/HR #2 OIL	5.0000 LBS/HR	GOOD COMBUSTION	0.000	BACT-PSD
DIGHTON POWER ASSOCIATE, LP	MA	10/6/97	TURBINE, COMBUSTION, ABB GT11N2	1327.00 MMBTU/H	5.1000 LB/H	DRY LOW NOX COMBUSTION TECHNOLOGY WITH SCR ADD-ON NOX CONTROL.	0.000	BACT-PSD
SOUTH MISSISSIPPI ELECTRIC POWER ASSOC.	MS	4/9/96	COMBUSTION TURBINE, COMBINED CYCLE	1299.00 MMBTU/HR NAT GAS	5.2000 PPM @ 15% O2, GAS	GOOD COMBUSTION CONTROLS	0.000	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	3/3/92	TURBINE, COMBUSTION	1117.00 MMBTU/H NO2 FUEL OIL	5.8000 LB/H/UNIT	FURNACE DESIGN	91.000	BACT-PSD
FLORIDA POWER AND LIGHT	FL	6/5/91	TURBINE, OIL, 2 EACH	400.00 MW	6.0000 PPM @ 15% O2	COMBUSTION CONTROL	0.000	BACT-PSD
FLORIDA POWER AND LIGHT	FL	3/14/91	TURBINE, OIL, 4 EACH	0.00	6.0000 PPM @ 15% O2	COMBUSTION CONTROL	0.000	BACT-PSD
AUBURNDALE POWER PARTNERS, LP	FL	12/14/92	TURBINE,GAS	1214.00 MMBTU/H	6.0000 LB/H	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
MID-GEORGIA COGEN.	GA	4/3/96	COMBUSTION TURBINE (2), NATURAL GAS	118.00 MW	6.0000 PPMVD	COMPLETE COMBUSTION	0.000	BACT-PSD
NORTHERN STATES POWER COMPANY	BD	9/2/92	TURBINE, SIMPLE CYCLE, 4 EACH	129.00 MW	6.0000 PPM FOR GAS	GOOD COMBUSTION TECHNIOUES	0.000	BACT-PSD
COMINCO ALASKA INC.	AK	7/26/93	GENERATOR, WARTSILLA #2 & #6	0.00	6.1000 LBS/HR	3 DEGREE TIMING RETARD	0.000	BACT-PSD
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NJ	6/9/93	TURBINES, COMBUSTION, KEROSENE-FIRED (2)	640.00 MMBTU/H (EACH)	6.1000 PPMDV	TURBINE DESIGN	0.000	OTHER
BERKSHIRE POWER DEVELOPMENT, INC.	MA	9/22/97	TURBINE, COMBUSTION, ABB GT24	1792.00 MMBTU/H	6.3000 LB/H	DRY LOW NOX COMBUSTION TECHNOLOGY WITH SCR ADD-ON NOX CONTROL.	0.000	BACT-PSD
MERIDIAN OIL, INC. - FRANCIS MESA STA.	NM	8/15/95	COMPRESSOR ENGINES (8) & GLYCOL DEHYDRATOR	2650.00 HP (EACH)	6.6000 G/HP-HR	COMPRESSOR STATION, CLEAN BURN ENGINES	0.000	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	11/5/91	TURBINE, GAS, 4 EACH	35.00 MW	7.0000 PPM @ 15% O2	COMBUSTION CONTROL	0.000	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	11/5/91	TURBINE, OIL, 4 EACH	35.00 MW	7.0000 PPM @ 15% O2	COMBUSTION CONTROL	0.000	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	2/25/94	TURBINE, NATURAL GAS (2)	1510.00 MMBTU/H	7.0000 PPMVW	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	2/25/94	TURBINE, FUEL OIL (2)	1730.00 MMBTU/H	7.0000 PPMVW	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
CAROLINA POWER & LIGHT	NC	4/11/96	COMBUSTION TURBINE, 4 EACH	1907.80 MMBTU/HR	7.0000 LB/HR	COMBUSTION CONTROL	0.000	BACT-PSD
SWIFT ENERGY	OK	9/5/91	ENGINES, I.C.	1132.00 HP EACH	7.1000 T/YR	CATALYTIC CONVERTER	70.000	OTHER
DE LA GUERRA POWER, INC	CA	11/12/91	ENGINE IC & GEN (1 OF 3)	380.00 HP	7.6800 LB/D	NON-SELECTIVE CATALYTIC CONVERTER	70.000	BACT-PSD
DE LA GUERRA POWER, INC.	CA	11/12/91	ENGINE (I.C.) AND GENERATOR	380.00 HP	7.6800 LB/D	OXIDATION USING 3-WAY CATALYST & CRANKCASE RECIRC.	70.000	BACT-PSD
NORTHERN CALIFORNIA POWER AGENCY	CA	10/2/97	GE FRAME 5 GAS TURBINE	325.00 MMBTU/HR	8.0000 LB/HR	NATURAL GAS AS PRIMARY FUEL	0.000	LAER
ECOELECTRICA, L.P.	PR	10/1/96	TURBINES, COMBINED-CYCLE COGENERATION	461.00 MW	8.0000 PPMDV	COMBUSTION CONTROL.	0.000	BACT-PSD
PATOWMACK POWER PARTNERS, LIMITED PARTNERSHIP	VA	9/15/93	TURBINE, COMBUSTION, SIEMENS MODEL V84.2, 3	10.20 X109 SCF/YR NAT GAS	8.0000 LB/HR	GOOD COMBUSTION OPERATING PRACTICES	0.000	BACT-PSD
INTERNATIONAL PAPER CO. RIVERDALE MILL	AL	1/11/93	TURBINE, STATIONARY (GAS-FIRED) WITH DUCT BURNER	40.00 MW	8.3000 LB/HR (GAS)	DESIGN	0.000	BACT-PSD
FLORIDA POWER AND LIGHT	FL	6/5/91	TURBINE, CG, 4 EACH	400.00 MW	9.0000 PPM @ 15% O2	COMBUSTION CONTROL	0.000	BACT-PSD
FLORIDA POWER CORPORATION	FL	8/17/92	TURBINE, OIL	1866.00 MMBTU/H	9.0000 LB/H	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
WEPCU, PARIS SITE	WI	9/29/92	TURBINES, COMBUSTION (4)	0.00	9.0000 LBS/HR (SEE NOTES)	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
ORANGE COGENERATION LP	FL	12/30/93	TURBINE, NATURAL GAS, 2	368.30 MMBTU/H	10.0000 PPMVD	GOOD COMBUSTION	0.000	BACT-PSD
AUBURNDALE POWER PARTNERS, LP	FL	12/14/92	TURBINE, OIL	1170.00 MMBTU/H	10.0000 LB/H	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
CAROLINA POWER AND LIGHT CO.	SC	9/23/91	TURBINE, I.C.	60.00 MW	10.0000 LB/H		0.000	BACT-PSD
SC ELECTRIC AND GAS COMPANY - HAGOOD STATION	SC	12/11/89	INTERNAL COMBUSTION TURBINE	110.00 MEGAWATTS	10.0000 LBS/HR	GOOD COMBUSTION PRACTICES	0.000	BACT-PSD
PUERTO RICO ELECTRIC POWER AUTHORITY (PREPA)	PR	7/31/95	COMBUSTION TURBINES (3), 83 MW SIMPLE-CYCLE EACH	248.00 MW	11.0000 LB/HR (AS METHANE)	MAINTAIN EACH TURBINE IN GOOD WORKING ORDER AND IMPLEMENT GOOD COMBUSTION PRACTI	0.000	BACT-PSD
CSW NEVADA, INC.	NV	6/10/94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140.00 MEGAWATT	13.0000 LB/HR	FUEL SPEC: NATURAL GAS	0.000	BACT-PSD
PUERTO RICO ELECTRIC POWER AUTNORITY (PREPA)	PR	7/31/95	COMBUSTION TURBINES (3), 83 MW SIMPLE-CYCLE EACH	248.00 MW	13.0000 LB/HR (AS METHANE)	MAINTAIN EACH TURBINE IN GOOD WORKING ORDER AND IMPLEMENT GOOD COMBUSTION PRACTI	0.000	BACT-PSD
MUDDY RIVER L.P.	NV	6/10/94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140.00 MEGAWATT	14.0000 LB/HR	FUEL SPEC: NATURAL GAS	0.000	BACT-PSD
WILLIAM BOLTHOUSE FARMS	CA	6/27/96	IC ENGINE	402.00 HP	14.1000 LB/DAY	POSITIVE CRANKCASE VENTILATION	0.000	LAER

BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	3/3/92	TURBINE, COMBUSTION, 2	0.00	14.9000 T/YR/UNIT		0.000 BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	MO	5/17/94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1345.00 MMBTU\HR	15.0000 TPY	NONE	0.000 BACT-PSD
THERMO INDUSTRIES, LTD	CO	2/19/92	TURBINE, GAS FIRED, 5 EACH	248.00 MMBTU/H	16.7000 LB/H		0.000 OTHER
LSP-COTTAGE GROVE, L.P.	MN	3/1/95	COMBUSTION TURBINE/GENERATOR	1970.00 MMBTU/HR	19.0000 LB/HR GAS	FUEL SELECTION, GOOD COMBUSTION	0.000 BACT-PSD
KENTUCKY UTILITIES COMPANY	KY	3/10/92	TURBINE, #2 FUEL OIL/NATURAL GAS (8)	1500.00 MM BTU/HR (EACH)	20.4000 LB/HR (EACH)	COMBUSTION CONTROL	0.000 BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	9/25/92	TURBINES (2) [EACH WITH A SF]	1.36 X10(9) BTU/H #2 OIL	21.0000 LBS/HR/UNIT	GOOD COMBUSTION PRACTICES	0.000 BACT-PSD
BEAR ISLAND PAPER COMPANY, L.P.	VA	10/30/92	TURBINE, COMBUSTION GAS (TOTAL)	0.00	21.9000 TPY	GOOD COMBUSTION	0.000 BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	9/25/92	TURBINES (2) [EACH WITH A SF]	1.51 X10(9) BTU/HR N GAS	22.0000 LBS/HR/UNIT	GOOD COMBUSTION PRACTICES	0.000 BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	MO	2/28/95	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	88.77 MW	25.0000 TPY	GOOD COMBUSTION CONTROL	0.000 BACT-PSD
WILLIAMS FIELD SERVICES CO. - EL CEDRO COMPRESSOR	NM	10/29/93	TURBINE, GAS-FIRED	11257.00 HP	25.0000 PPM @ 15% O2	COMBUSTION CONTROL	0.000 BACT-PSD
BUCKNELL UNIVERSITY	PA	11/26/97	NG FIRED TURBINE, SOLAR TAURUS T-7300S	5.00 MW	25.0000 PPMV@15%O2	GOOD COMBUSTION	0.000 BACT-OTHER
EAST KENTUCKY POWER COOPERATIVE	KY	3/24/93	TURBINES (5), #2 FUEL OIL AND NAT. GAS FIRED	1492.00 MMBTU/H (EACH)	26.0000 LBS/H (EACH)	PROPER COMBUSTION TECHNIQUES	0.000 BACT-OTHER
BRUSH COGENERATION PARTNERSHIP	CO		TURBINE	350.00 MMBTU/H	26.7000 T/YR		0.000 OTHER
HAWAII ELECTRIC LIGHT CO., INC.	HI	2/12/92	TURBINE, FUEL OIL #2	20.00 MW	28.1000 LB/H @ 50-<75% PKLD	COMBUSTION DESIGN	0.000 BACT-PSD
MID-GEORGIA COGEN.	GA	4/3/98	COMBUSTION TURBINE (2), FUEL OIL	116.00 MW	30.0000 PPMVD	COMPLETE COMBUSTION	0.000 BACT-PSD
TEMPLE UNIVERSITY	PA	10/2/92	ELECTRIC GENERATOR (NATURAL GAS)	1.60 MW	31.0000 LBS/HR	LEAN BURN GAS ENGINE	0.000 BACT-OTHER
COLORADO POWER PARTNERSHIP	CO		TURBINES, 2 NAT GAS & 2 DUCT BURNERS	385.00 MMBTU/H EACH TURBIN	35.2000 T/YR		0.000 OTHER
WEST CAMPUS COGENERATION COMPANY	TX	5/2/94	GAS TURBINES	75.30 MW (TOTAL POWER)	38.0000 TPY	INTERNAL COMBUSTION CONTROLS	0.000 BACT
COMMONWEALTH CHESAPEAKE CORPORATION	VA	5/21/96	3 COMBUSTION TURBINES (OIL-FIRED)	6000.00 HRS/YR	38.9000 TPY	GOOD COMBUSTION OPERATING PRACTICES	0.000 BACT/NSPS
BMW MANUFACTURING CORPORATION	SC	1/7/94	TURBINE, NAT.GAS FIRED (3 -1 SPARE) AND 2 BOILERS	54.50 MM BTU/HR TURBINES	77.8600 LBS/DAY	EACH OF THE 2 BOILER-TURBINE USE A COMMON STACK	0.000 LAER
EMPIRE DISTRICT ELECTRIC CO.	MO	5/17/94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1345.00 MMBTU\HR	80.0000 TPY	NONE	0.000 BACT-PSD
MAUI ELECTRIC COMPANY LIMITED	HI	11/8/95	ENGINE GENERATOR, DIESEL (3)	2.20 MW	81.0000 PPMVD	COMBUSTION DESIGN, INCLUDING FITR	0.000 BACT-PSD
MAUI ELECTRIC COMPANY, LTD.	HI	5/4/98	ENGINE GENERATORS (3), DIESEL	2.20 MW	81.0000 PPMVD	COMBUSTION DESIGN, INCLUDING FITR	0.000 BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	9/25/92	TURBINE FACILITY, GAS	1331.13 X10(7) SCF/Y NAT GAS	97.1000 TOTAL TPY	GOOD COMBUSTION PRACTICES	0.000 BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	9/25/92	TURBINE FACILITY, GAS	7.44 X10(7) GPY FUEL OIL	97.1000 TOTAL TPY	GOOD COMBUSTION PRACTICES	0.000 BACT-PSD
WESTERN ENVIRONMENTAL ENGINEERS COMPANY	CA	5/2/95	TWO FORD LSG-875 GAS FIRED IC ENGINES	175.00 HP PER ENGINE	100.0000 PPMV AT 15% OXYGEN	CARSOUND TWO-STAGE, THREE WAY CATALYST AND AIR-FUEL MONITORING	95.000 BACT-OTHER
NORTHERN CONSOLIDATED POWER	PA	5/3/91	TURBINES, GAS, 2	34.60 KW EACH	105.0000 PPM @ 15% O2	OXIDATION CATALYST	50.000 OTHER
SNYDER OIL CORP. / ENTERPRISE STATION	CO	11/13/92	ENGINES, RECIPROCATING (6)	2500.00 HP (EACH)	141.3000 LBS/MILLION SCF	LEAN COMBUSTION & FUEL SPEC: FIRING RESIDUE, QUALITY NAT. GAS	0.000 BACT-OTHER
KAISER PERMANENTE MEDICAL CENTER	CA	9/2/97	JOHN DEERE MODEL 6076AFN30 IC ENGINE	160.00 BHP	150.0000 PPMV @ 15% O2	NATURAL GAS FUEL	0.000 LAER
CITIZENS UTILITIES CO., KAUAI ELECT. DIV.	HI	11/25/91	ENGINE, I.C. DIESEL-FIRED, 4 EACH	7.86 MW EACH	228.0000 PPMVD FULL LOAD	HIGH COMBUSTION EFFICIENCY	0.000 BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	2/12/92	TURBINE, FUEL OIL #2	20.00 MW	297.6000 LB/H @ 25-<50% PKLD	COMBUSTION DESIGN	0.000 BACT-PSD
CROCKETT COGENERATION - C&H SUGAR	CA	10/5/93	TRUBINE, GAS, GENERAL ELECTRIC MODEL PG7221(FA)	240.00 MW	352.6000 LB/D	ENGELHARD OXIDATION CATALYST	50.000 BACT-OTHER

Source: EPA's RACT/BACT/LEAR Clearinghouse

Table B-26. Direct and Indirect Capital Costs for an Oxidation Catalyst

Cost Component	Costs	Basis of Cost Component
Direct Capital Costs		
Oxidation Catalyst Associated Equipment	$100,000	Vendor Quote
Instrumentation	$10,000	10% of Oxidation Catalyst Associated Equipment
Sales Tax		6% of Oxidation Catalyst Associated Equipment
Freight	$35,000	5% of Oxidation Catalyst Associated Equipment
Total Direct Capital Costs (TDCC)	$145,000	
Direct Installation Costs		
Foundation and supports	$59,600	8% of TDCC and RCC;OAQPS Cost Control Manual
Handling & Erection	$104,300	14% of TDCC and RCC;OAQPS Cost Control Manual
Electrical	$29,800	4% of TDCC and RCC;OAQPS Cost Control Manual
Piping	$14,900	2% of TDCC and RCC;OAQPS Cost Control Manual
Insulation for ductwork	$7,450	1% of TDCC and RCC;OAQPS Cost Control Manual
Painting	$7,450	1% of TDCC and RCC;OAQPS Cost Control Manual
Site Preparation	$5,000	Engineering Estimate
Total Direct Installation Costs (TDIC)	$228,500	
Recurring Capital Costs (RCC)	$600,000	Catalyst; Vendor Based Estimate
Total Capital Costs	$973,500	Sum of TDCC, TDIC and RCC
Indirect Costs		
Engineering	$97,350	10% of Total Capital Costs; OAQPS Cost Control Manual
Construction and Field Expense	$48,675	5% of Total Capital Costs; OAQPS Cost Control Manual
Contractor Fees	$97,350	10% of Total Capital Costs; OAQPS Cost Control Manual
Start-up	$19,470	2% of Total Capital Costs; OAQPS Cost Control Manual
Performance Tests	$9,735	1% of Total Capital Costs; OAQPS Cost Control Manual
Contingencies	$97,350	10% of Total Capital Costs; OAQPS Cost Control Manual
Total Indirect Capital Cost (TInDC)	$369,930	
Total Direct, Indirect and Recurring Capital Costs (TDIRCC)	$1,343,430	Sum of TCC and TInCC

Table B-27. Annualized Cost for CO Catalyst

Cost Component	Cost	Basis of Cost Estimate
Direct Annual Costs		
Operating Personnel	$6,240	8 hours/week at $15/hr
Supervision	$936	15% of Operating Personnel;OAQPS Cost Control Manual
Inventory Cost	$23,480	Capital Recovery (11.74%) for 1/3 catalyst
Catalyst Disposal Cost	$34,627	$28/1,000 lb/hr mass flow over 3 years; developed from vendor quotes
Contingency	$6,528	10% of Direct Annual Costs
Total Direct Annual Costs (TDAC)	71,811	
Energy Costs		
Heat Rate Penalty	$224,939	0.2% of MW output at $0.04/MW-hr; EPA, 1993 (Page 6-20) and $3/mmBtu additional fuel costs
MW Loss Penalty	$43,608	2 days replacement energy costs @ $0.01 kWh each three period
Fuel Escalation	$8,056	Escalation of fuel over inflation; 3% of energy costs
Contingency	$27,660	10% of Energy Costs
Total Energy Costs (TDEC)	$304,264	
Indirect Annual Costs		
Overhead	$4,306	60% of Operating/Supervision Labor and Ammonia
Property Taxes	$13,434	1% of Total Capital Costs
Insurance	$13,434	1% of Total Capital Costs
Annualized Total Direct Capital	$87,279	11.74% Capital Recovery Factor of 10% over 20 years times sum of TDCC, TDIC and TInCC
Annualized Total Direct Recurring	$241,260	40.21% Capital Recovery Factor of 10% over 3 years times RCC
Total Indirect Annual Costs	$359,713	
Total Annualized Costs	$735,788	Sum of TDAC, TEC and TIAC
Cost Effectiveness	$63,440	Per Combustion Turbine for VOCs only
	$115,854	Net Emission Reduction
Tons of VOC Removed	11.60	Assume 70% VOC removal in oxidation catalyst
Net Tons of Pollutants Reduced	6.35	See Table B-28

Table B-28. Maximum Potential Incremental Emissions (TPY) with Oxidation Catalyst

Pollutants	Incremental Emissions (tons/year) of Oxidation Catalyst		
	Primary[a]	Secondary [b]	Total
Particulate	1.72	0.11	1.84
Sulfur Dioxide		0.04	0.04
Nitrogen Oxides		2.06	2.06
Carbon Monoxide		1.23	1.23
Volatile Organic Compounds	-11.60	0.08	-11.52
Ammonia			
Total:	-9.87	3.52	-6.35
Carbon Dioxide (additional from gas firing)		1,952.63	1,952.63

Basis:

[a] Primary Includes 5% conversion of SO^2 to sulfates and 70% reduction in VOC emissions.

[b] Secondary Emissions: Assumes natural gas firing in NO_x controlled steam unit.

Lost Energy	30,831 mmBtu/yr
Particulate	0.0072 lb/mmBtu
Sulfur Dioxide	0.0027 lb/mmBtu
Nitrogen Oxides w/LNB	0.1333 lb/mmBtu
Carbon Monoxide	0.0800 lb/mmBtu
Volatile Organic Compounds	0.0052 lb/mmBtu

Reference: Table 1.4-1 and 1.4-2, AP-42, Version 2/98

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 — 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 = 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

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 = 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 NOx 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

GT24717D

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

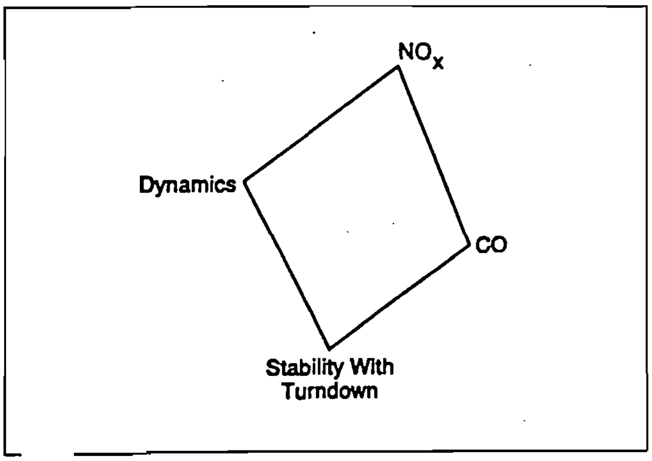

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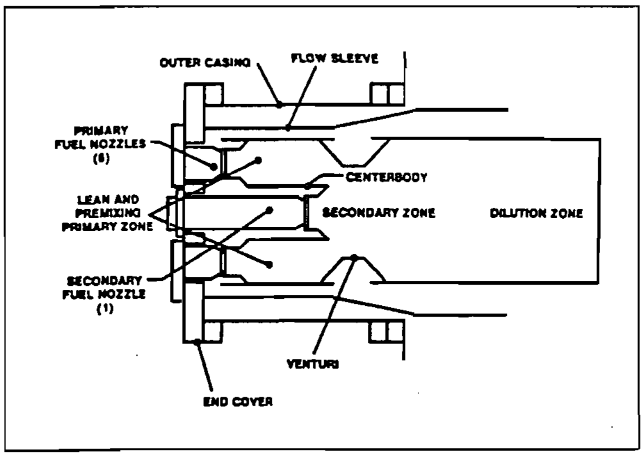
Figure 4. DLN technology — a four-sided box



GT15050A

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[illegible]y fuel nozzles can be dual-fuel nozzles, thus a[illegible]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.

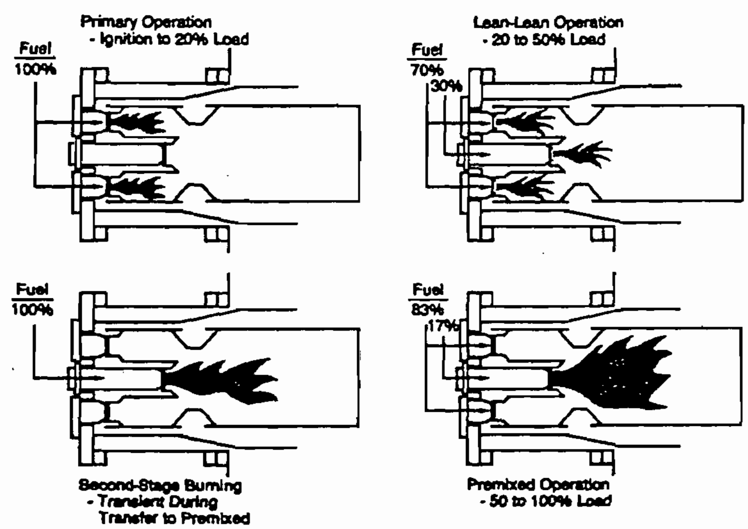


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Figure 6. Fuel-staged Dry Low NO_X operating modes

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 s'-'em provides a satisfactory spatial distribution uel 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.

'he piloting flame is generated by the seco..dary 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-

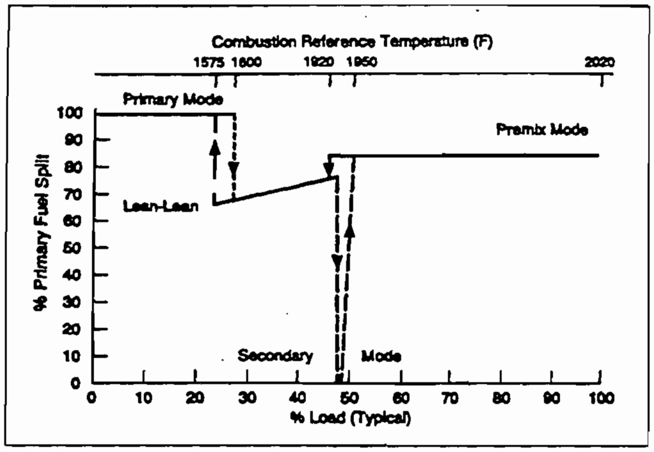

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Figure 7. Typical Dry Low NO_X fuel gas split schedule

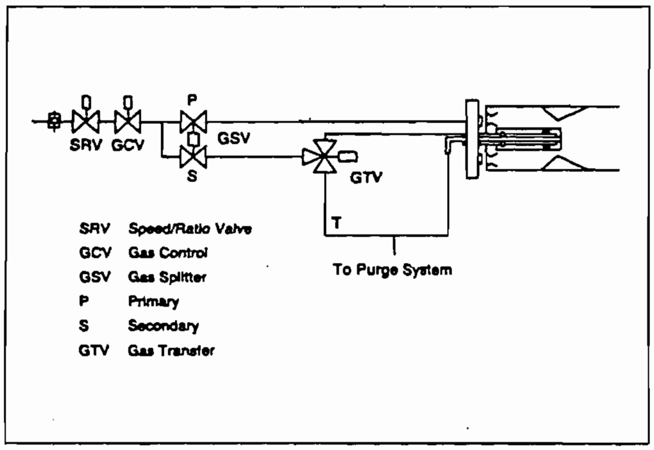

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Figure 8. DLN-1 gas fuel system

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

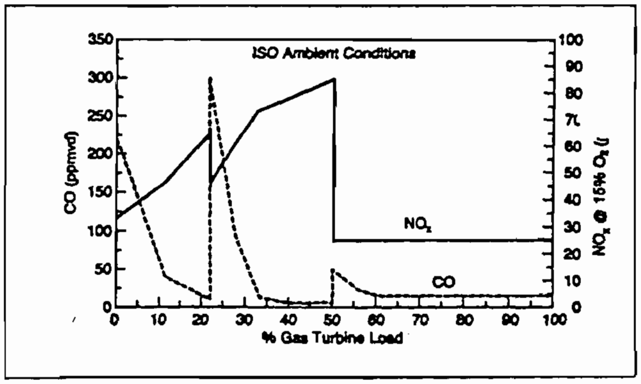

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Figure 9. MS7001EA/MS9001E DLN-1 combustion system performance on natural gas fuel

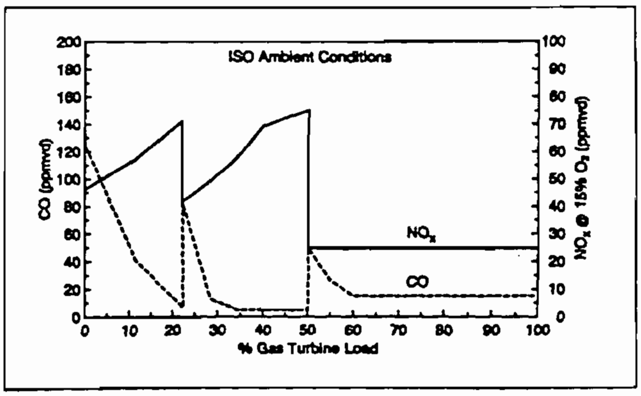

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Figure 10. MS6001B DLN-1 emissions performance on natural gas fuel

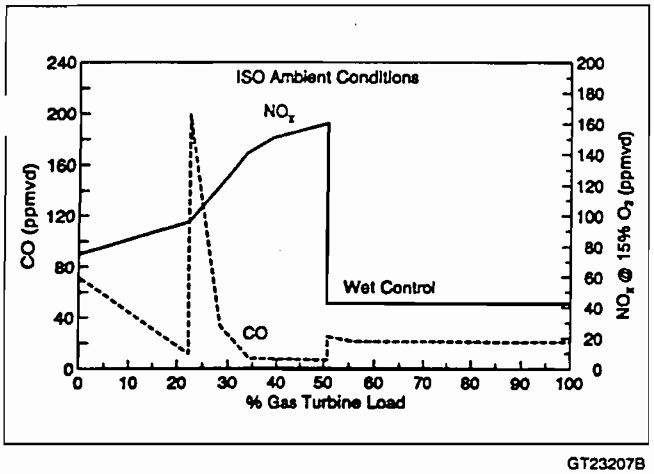

Figure 11. MS7001EA/MS9001E DLN-1 combustion system performance on distillate oil

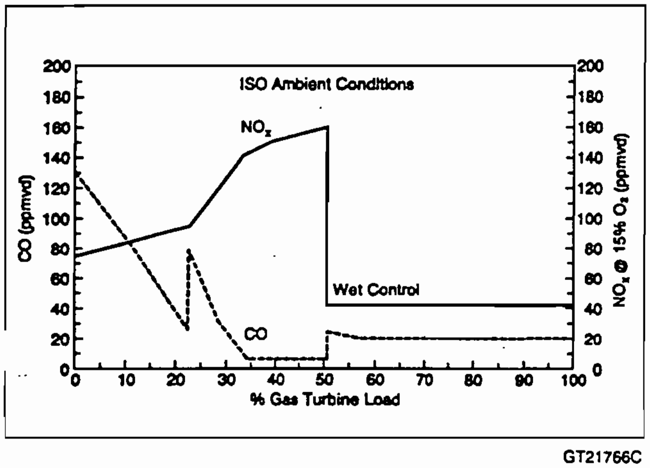

Figure 12. MS6001B DLN-1 emissions performance on distillate oil fuel

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 a·d 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 assemblies 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.

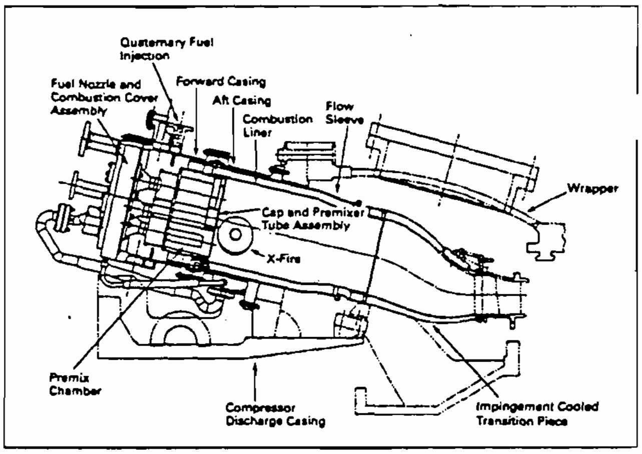

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Figure 13. DLN-2 combustion system

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[illegible] cover. The premixed passage of the same fo[illegible] 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

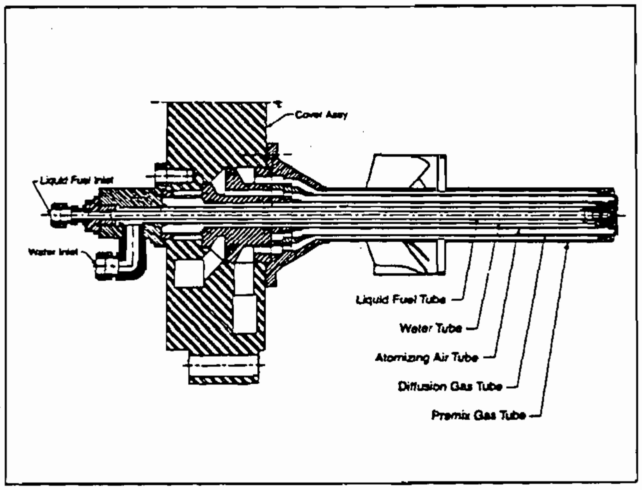

Figure 14. Cross-section of a DLN-2 fuel no[illegible]

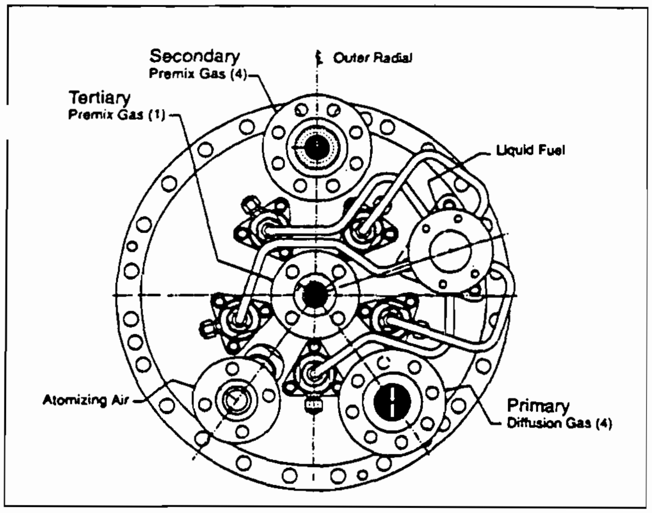

Figure 15. External view of DLN-2 fuel nozzles mounted

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

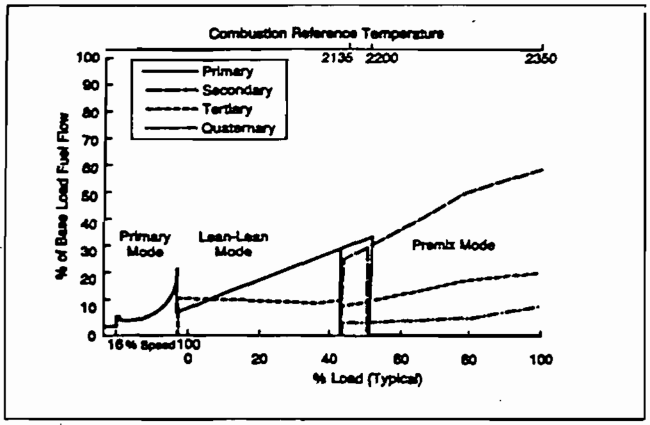

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Figure 16. Fuel flow scheduling associated with DLN-2 operation

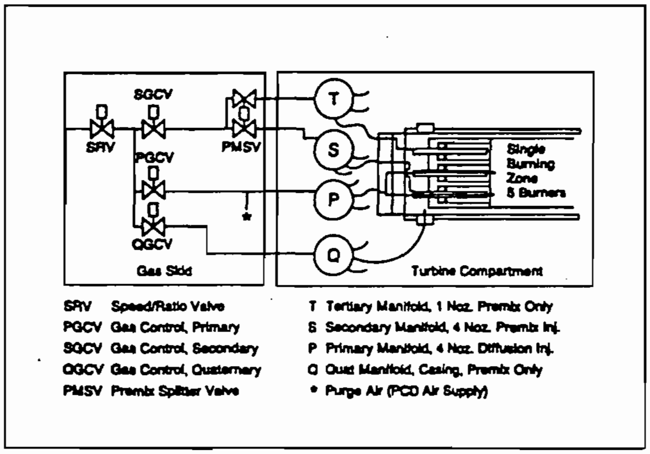

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Figure 17. DLN-2 gas fuel system

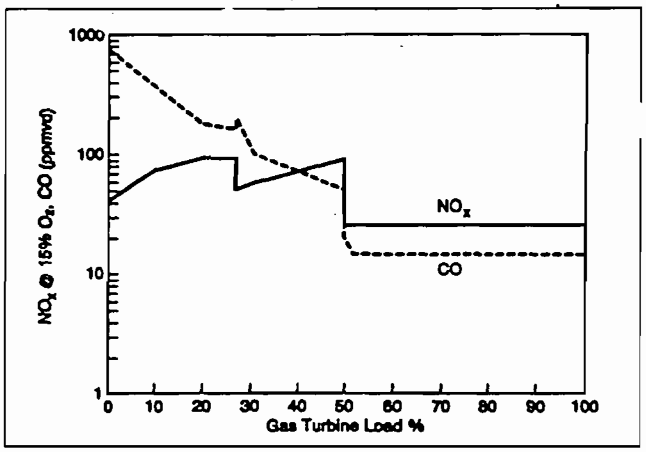

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Figure 18. Emissions performance for DLN-2-equipped 7FA/9FA for gas fuel

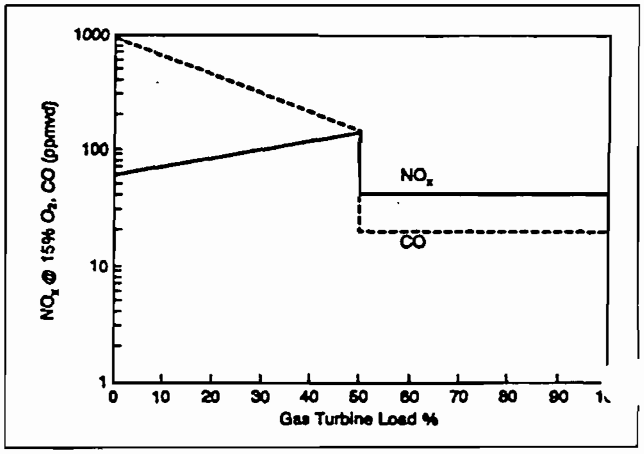

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Figure 19. Emissions performance for DLN-2-equipped 7FA/9FA for oil fuel with water injection

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 introced 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

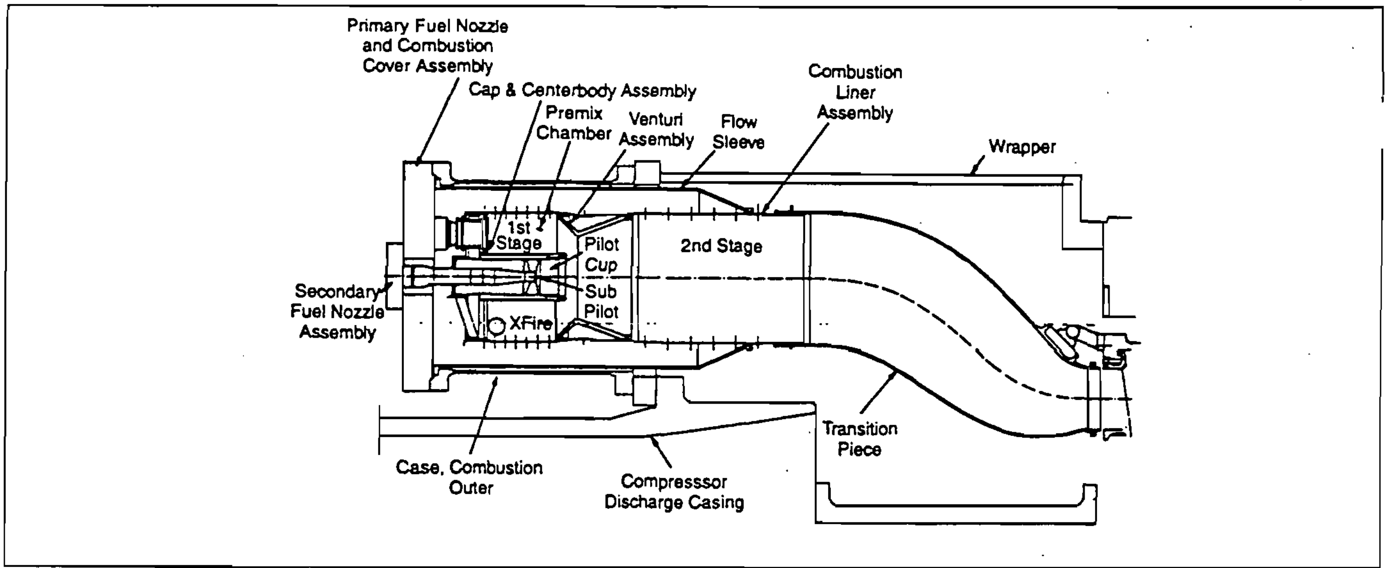

Figure A1. MS7001EA Dry Low NO_x combustion chamber

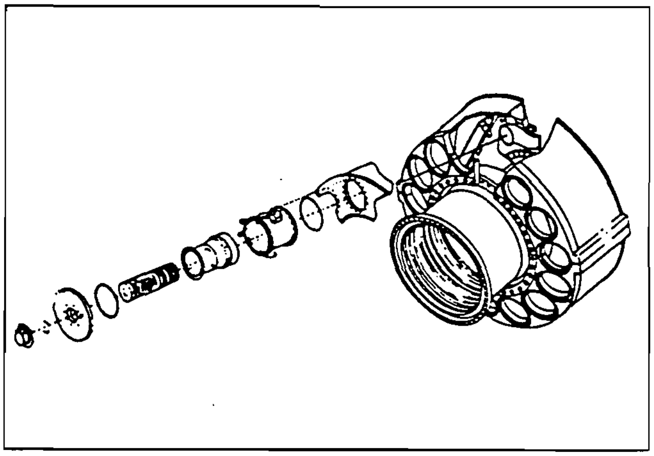

Figure A2. Exploded view of combustion chamber

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 contribute to the formation of atmospheric ozone, and 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 gas mixture is at flame temperature. This turns out 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.

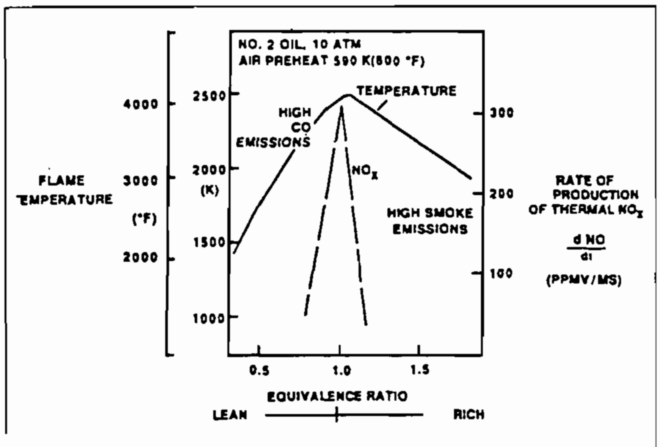

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Figure A3. Rate of thermal NO_x production

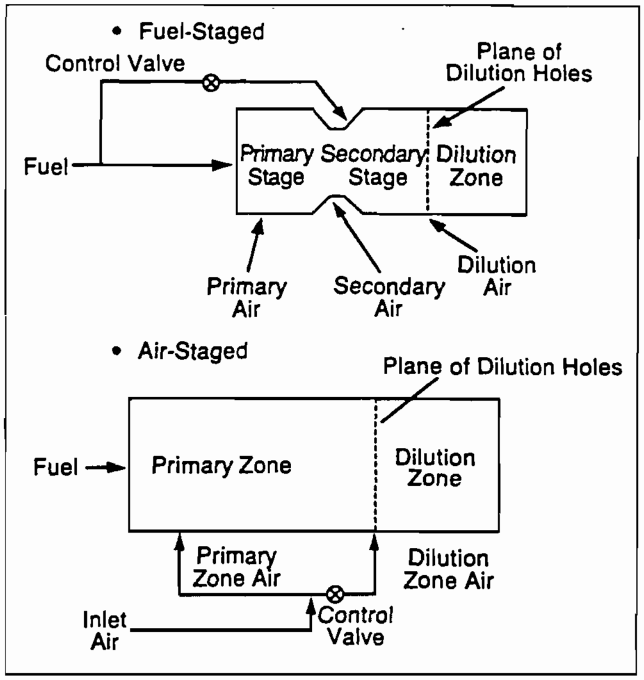

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Figure A4. Staged combustors

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 require 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 com- ıtor. GE has development programs in place wıth 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.

REFERENCES

1. Washam, R. M., "Dry Low NO_x Combustion System for Utility Gas Turbine," ASME Paper 83-JPGC-GT-13, Sept. 1983.
2. Davis, L. B. and Washam, R. M., "Development of a Dry Low NO_x Combustor," ASME Paper No. 89-GT-255, June 1989.
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4. Miller, H. E., "Development of the Quiet Combustor and Other Design Changes to Benefit Air Quality," American Cogeneration Association, San Francisco, March 1988.
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.

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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 data for FPL Sanford, Origin Is Northmost Unit 4 HRSG Stack (A) 4/13/99'
'ST'
'FEET' .3048
'UTMN'  20.
4
'UNIT5BLD' 1 0.0
4 161.67
 400     12
 400    114
 475.7 114
 475.7  12
'UNIT4BLD' 1 0.0
4 161.67
 400   -195
 400    -93
 475.7  -93
 475.7 -195
'UNIT3BLD' 1 0.0
4 132.0
 313   -318.5
 313   -243.5
 381.5 -243.5
 381.5 -318.5
'PROPERTY' 1 0.0
13 0.0
-1424.0 199.6
566.4   890.0
884.6   70.1
933.2   -113.3
981.7   -372.2
997.9   -582.6
1057.2  -1467.2
210.4   -1456.4
175.3   -1278.4
242.7   -933.2
-485.5  -933.2
-485.5  -577.2
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 3
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'UNIT4 '    0.0  400.00      582     -144
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BPIP (Dated: 95086)

DATE : 04/21/99
TIME : 12:58:47
BPIP data for FPL Sanford, Origin Is Northmost Unit 4 HRSG Stack (A) 4/13/99

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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 20.00 degrees with respect to True North.

BPIP data for FPL Sanford, Origin Is Northmost Unit 4 HRSG Stack (A) 4/13/99

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
UNIT5	121.92	0.00	123.19	123.19
UNIT4	121.92	0.00	123.19	123.19
UNIT3	92.05	0.00	123.19	123.19

* 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 : 04/21/99
TIME : 12:58:47

BPIP data for FPL Sanford, Origin Is Northmost Unit 4 HRSG Stack (A) 4/13/99

BPIP output is in meters

SO	BUILDHGT	UNIT5	0.00	0.00	40.23	49.28	49.28	49.28
SO	BUILDHGT	UNIT5	49.28	49.28	49.28	49.28	49.28	49.28
SO	BUILDHGT	UNIT5	49.28	49.28	49.28	49.28	49.28	0.00
SO	BUILDHGT	UNIT5	0.00	0.00	40.23	49.28	49.28	49.28
SO	BUILDHGT	UNIT5	49.28	49.28	49.28	49.28	49.28	49.28
SO	BUILDHGT	UNIT5	49.28	49.28	49.28	49.28	49.28	0.00
SO	BUILDWID	UNIT5	0.00	0.00	46.27	53.89	67.07	78.22
SO	BUILDWID	UNIT5	86.98	93.10	96.39	96.76	31.09	96.76
SO	BUILDWID	UNIT5	96.39	93.10	86.98	78.21	67.07	0.00
SO	BUILDWID	UNIT5	0.00	0.00	46.27	53.89	67.07	78.22
SO	BUILDWID	UNIT5	86.98	93.10	96.39	96.76	31.09	96.76
SO	BUILDWID	UNIT5	96.39	93.10	86.98	78.21	67.07	0.00

SO	BUILDHGT	UNIT4	0.00	0.00	0.00	0.00	49.28	49.28
SO	BUILDHGT	UNIT4	49.28	49.28	49.28	49.28	40.23	49.28
SO	BUILDHGT	UNIT4	49.28	49.28	49.28	49.28	49.28	49.28

SO	BUILDHGT	UNIT4	0.00	0.00	0.00	0.00	49.28	49.28
SO	BUILDHGT	UNIT4	49.28	49.28	49.28	49.28	40.23	49.28
SO	BUILDHGT	UNIT4	49.28	49.28	49.28	49.28	49.28	49.28
SO	BUILDWID	UNIT4	0.00	0.00	0.00	0.00	67.07	78.22
SO	BUILDWID	UNIT4	86.98	93.10	96.39	96.76	68.73	96.76
SO	BUILDWID	UNIT4	96.39	93.10	86.98	78.21	67.07	53.89
SO	BUILDWID	UNIT4	0.00	0.00	0.00	0.00	67.07	78.22
SO	BUILDWID	UNIT4	86.98	93.10	96.39	96.76	68.73	96.76
SO	BUILDWID	UNIT4	96.39	93.10	86.98	78.21	67.07	53.89

SO	BUILDHGT	UNIT3	40.23	40.23	40.23	49.28	49.28	49.28
SO	BUILDHGT	UNIT3	49.28	49.28	49.28	49.28	40.23	49.28
SO	BUILDHGT	UNIT3	49.28	49.28	49.28	49.28	49.28	49.28
SO	BUILDHGT	UNIT3	40.23	40.23	40.23	49.28	49.28	49.28
SO	BUILDHGT	UNIT3	49.28	49.28	49.28	49.28	40.23	49.28
SO	BUILDHGT	UNIT3	49.28	49.28	49.28	49.28	49.28	49.28
SO	BUILDWID	UNIT3	60.77	49.59	46.27	53.89	67.07	78.22
SO	BUILDWID	UNIT3	86.98	93.10	96.39	96.76	68.73	96.76
SO	BUILDWID	UNIT3	96.39	93.10	86.98	78.21	67.07	53.89
SO	BUILDWID	UNIT3	60.77	49.59	46.27	53.89	67.07	78.22
SO	BUILDWID	UNIT3	86.98	93.10	96.39	96.76	68.73	96.76
SO	BUILDWID	UNIT3	96.39	93.10	86.98	78.21	67.07	53.89

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 212   356
'5CHRSG' 1 0.0
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 307   424
 347   424
 347   356
'5BHRSG' 1 0.0
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 441   356
 441   424
 481   424
 481   356
'5AHRSG' 1 0.0
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 576   356
 576   424
 616   424
 616   356
'4AHRSG' 1 0.0
4 86
 -27  -20
 -27   20
 -95   20
 -95  -20
'4BHRSG' 1 0.0
4 86
 -27  -155
 -27  -115
 -95  -115
 -95  -155
'4CHRSG' 1 0.0
4 86
 -27  -289
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'4DHRSG' 1 0.0
4 86
 -27  -424
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 -95  -384
 -95  -424
'UNIT5BLD' 1 0.0
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 400    12
 400   114
 475.7 114
 475.7  12
'UNIT4BLD' 1 0.0
4 161.67
 400   -195
 400    -93
 475.7  -93
 475.7 -195
'UNIT3BLD' 1 0.0
4 132.0
 313   -318.5
 313   -243.5
 381.5 -243.5
 381.5 -318.5
'PROPERTY' 1 0.0
13 0.0
-1424.0 199.6
566.4   890.0
884.6   70.1
933.2   -113.3
981.7   -372.2
997.9   -582.6
1057.2  -1467.2
210.4   -1456.4
175.3   -1278.4
```

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242.7    -933.2
-485.5   -933.2
-485.5   -577.2
-1148.9 -577.2
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'UNIT5 '    0.0  400.00      582        63
'UNIT4 '    0.0  400.00      582      -144
'UNIT3 '    0.0  302.00      436      -281
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'HRSG4B '   0.0  125.00      0.0    -135.0
'HRSG4C '   0.0  125.00      0.0    -269.0
'HRSG4D '   0.0  125.00      0.0    -404.0
'BYPS4A '   0.0   60.00   -120.0       0.0
'BYPS4B '   0.0   60.00   -120.0    -135.0
'BYPS4C '   0.0   60.00   -120.0    -269.0
'BYPS4D '   0.0   60.00   -120.0    -404.0
'HRSG5A '   0.0  125.00    192.0     332.0
'HRSG5B '   0.0  125.00    327.0     332.0
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'HRSG5D '   0.0  125.00    596.0     332.0
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BPIP (Dated: 95086)

DATE : 05/04/99
TIME : 08:53:44
BPIP data for FPL Sanford, Origin Is Northmost Unit 4 HRSG Stack (A) 5/4/99

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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 20.00 degrees with respect to True North.

BPIP data for FPL Sanford, Origin Is Northmost Unit 4 HRSG Stack (A) 5/4/99

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
UNIT5	121.92	0.00	123.19	123.19
UNIT4	121.92	0.00	123.19	123.19
UNIT3	92.05	0.00	123.19	123.19
HRSG4A	38.10	0.00	123.19	123.19
HRSG4B	38.10	0.00	123.19	123.19
HRSG4C	38.10	0.00	123.19	123.19
HRSG4D	38.10	0.00	123.19	123.19
BYPS4A	18.29	0.00	123.19	123.19
BYPS4B	18.29	0.00	123.19	123.19
BYPS4C	18.29	0.00	123.19	123.19
BYPS4D	18.29	0.00	123.19	123.19
HRSG5A	38.10	0.00	123.19	123.19
HRSG5B	38.10	0.00	123.19	123.19
HRSG5C	38.10	0.00	100.58	100.58
HRSG5D	38.10	0.00	123.19	123.19

* 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 : 05/04/99
TIME : 08:53:44

BPIP data for FPL Sanford, Origin Is Northmost Unit 4 HRSG Stack (A) 5/4/99

BPIP output is in meters

SO	BUILDHGT	UNIT5	0.00	0.00	40.23	49.28	49.28	49.28
SO	BUILDHGT	UNIT5	49.28	49.28	49.28	49.28	49.28	49.28
SO	BUILDHGT	UNIT5	49.28	49.28	49.28	49.28	49.28	26.21
SO	BUILDHGT	UNIT5	0.00	0.00	40.23	49.28	49.28	49.28
SO	BUILDHGT	UNIT5	49.28	49.28	49.28	49.28	49.28	49.28

SO BUILDHGT UNIT5	49.28	49.28	49.28	49.28	49.28	0.00
SO BUILDWID UNIT5	0.00	0.00	46.27	53.89	67.07	78.22
SO BUILDWID UNIT5	86.98	93.10	96.39	96.76	31.09	96.76
SO BUILDWID UNIT5	96.39	93.10	86.98	78.21	67.07	18.55
SO BUILDWID UNIT5	0.00	0.00	46.27	53.89	67.07	78.22
SO BUILDWID UNIT5	86.98	93.10	96.39	96.76	31.09	96.76
SO BUILDWID UNIT5	96.39	93.10	86.98	78.21	67.07	0.00
SO BUILDHGT UNIT4	0.00	0.00	0.00	0.00	49.28	49.28
SO BUILDHGT UNIT4	49.28	49.28	49.28	49.28	40.23	49.28
SO BUILDHGT UNIT4	49.28	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT UNIT4	0.00	0.00	0.00	0.00	49.28	49.28
SO BUILDHGT UNIT4	49.28	49.28	49.28	49.28	40.23	49.28
SO BUILDHGT UNIT4	49.28	49.28	49.28	49.28	49.28	49.28
SO BUILDWID UNIT4	0.00	0.00	0.00	0.00	67.07	78.22
SO BUILDWID UNIT4	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID UNIT4	96.39	93.10	86.98	78.21	67.07	53.89
SO BUILDWID UNIT4	0.00	0.00	0.00	0.00	67.07	78.22
SO BUILDWID UNIT4	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID UNIT4	96.39	93.10	86.98	78.21	67.07	53.89
SO BUILDHGT UNIT3	40.23	40.23	40.23	49.28	49.28	49.28
SO BUILDHGT UNIT3	49.28	49.28	49.28	49.28	40.23	49.28
SO BUILDHGT UNIT3	49.28	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT UNIT3	40.23	40.23	40.23	49.28	49.28	49.28
SO BUILDHGT UNIT3	49.28	49.28	49.28	49.28	40.23	49.28
SO BUILDHGT UNIT3	49.28	49.28	49.28	49.28	49.28	49.28
SO BUILDWID UNIT3	60.77	49.59	46.27	53.89	67.07	78.22
SO BUILDWID UNIT3	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID UNIT3	96.39	93.10	86.98	78.21	67.07	53.89
SO BUILDWID UNIT3	60.77	49.59	46.27	53.89	67.07	78.22
SO BUILDWID UNIT3	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID UNIT3	96.39	93.10	86.98	78.21	67.07	53.89
SO BUILDHGT HRSG4A	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4A	26.21	26.21	49.28	40.23	26.21	26.21
SO BUILDHGT HRSG4A	26.21	49.28	40.23	40.23	26.21	26.21
SO BUILDHGT HRSG4A	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4A	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT HRSG4A	49.28	49.28	40.23	40.23	26.21	26.21
SO BUILDWID HRSG4A	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID HRSG4A	22.66	20.92	96.39	128.84	12.19	15.61
SO BUILDWID HRSG4A	18.55	93.10	132.86	122.72	24.05	23.65
SO BUILDWID HRSG4A	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID HRSG4A	22.66	20.92	96.39	96.76	31.09	96.76
SO BUILDWID HRSG4A	96.39	93.10	84.53	82.17	24.05	23.65
SO BUILDHGT HRSG4B	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4B	49.28	49.28	40.23	26.21	26.21	26.21
SO BUILDHGT HRSG4B	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDHGT HRSG4B	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4B	49.28	49.28	49.28	49.28	40.23	49.28
SO BUILDHGT HRSG4B	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDWID HRSG4B	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID HRSG4B	86.98	93.10	121.95	15.61	12.19	15.61
SO BUILDWID HRSG4B	96.39	138.96	132.86	23.71	24.05	23.65
SO BUILDWID HRSG4B	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID HRSG4B	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID HRSG4B	96.39	84.32	84.53	23.71	24.05	23.65
SO BUILDHGT HRSG4C	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT HRSG4C	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4C	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4C	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT HRSG4C	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT HRSG4C	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID HRSG4C	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID HRSG4C	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID HRSG4C	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID HRSG4C	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID HRSG4C	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID HRSG4C	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT HRSG4D	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4D	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG4D	26.21	26.21	26.21	26.21	26.21	26.21

```
SO BUILDHGT HRSG4D     26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT HRSG4D     49.28   49.28   49.28   40.23   26.21   26.21
SO BUILDHGT HRSG4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID HRSG4D     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID HRSG4D     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID HRSG4D     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID HRSG4D     22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID HRSG4D     86.98   93.10   96.39   66.71   12.19   15.61
SO BUILDWID HRSG4D     18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BYPS4A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4A     26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT BYPS4A     49.28   40.23   40.23   26.21   26.21   26.21
SO BUILDWID BYPS4A     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4A     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BYPS4A     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BYPS4A     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4A     22.66   20.92   96.39   96.76   31.09   96.76
SO BUILDWID BYPS4A     96.39   84.32   84.53   23.71   24.05   23.65

SO BUILDHGT BYPS4B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4B     26.21   49.28   49.28   49.28   40.23   49.28
SO BUILDHGT BYPS4B     40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDWID BYPS4B     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4B     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BYPS4B     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BYPS4B     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4B     22.66   93.10   96.39   96.76   68.73   96.76
SO BUILDWID BYPS4B     81.55   84.32   22.66   23.71   24.05   23.65

SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4C     49.28   49.28   49.28   49.28   40.23   40.23
SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BYPS4C     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4C     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BYPS4C     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BYPS4C     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4C     86.98   93.10   96.39   96.76   68.73   76.30
SO BUILDWID BYPS4C     18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT BYPS4D     49.28   49.28   49.28   40.23   26.21   26.21
SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BYPS4D     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4D     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BYPS4D     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BYPS4D     22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID BYPS4D     86.98   93.10   96.39   66.71   12.19   15.61
SO BUILDWID BYPS4D     18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT HRSG5A     40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5A     26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT HRSG5A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5A     26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDWID HRSG5A     60.77   12.19   15.61   18.55   24.05   23.71
SO BUILDWID HRSG5A     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID HRSG5A     23.65   93.10   86.98   78.21   67.07   53.89
SO BUILDWID HRSG5A     15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID HRSG5A     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID HRSG5A     23.65   93.10   86.98   78.21   67.07   53.89

SO BUILDHGT HRSG5B     40.23   40.23   26.21   26.21   26.21   26.21
```

SO BUILDHGT HRSG5B	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5B	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT HRSG5B	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5B	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5B	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDWID HRSG5B	60.77	49.59	15.61	18.55	20.92	22.66
SO BUILDWID HRSG5B	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID HRSG5B	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDWID HRSG5B	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID HRSG5B	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID HRSG5B	23.65	24.05	86.98	78.21	67.07	53.89

SO BUILDHGT HRSG5C	40.23	40.23	40.23	40.23	40.23	26.21
SO BUILDHGT HRSG5C	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5C	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDHGT HRSG5C	26.21	26.21	26.21	40.23	40.23	26.21
SO BUILDHGT HRSG5C	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5C	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDWID HRSG5C	60.77	49.59	46.27	41.54	44.43	22.66
SO BUILDWID HRSG5C	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID HRSG5C	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDWID HRSG5C	15.61	12.19	15.61	53.89	44.43	22.66
SO BUILDWID HRSG5C	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID HRSG5C	23.65	24.05	23.71	22.66	20.92	91.69

SO BUILDHGT HRSG5D	26.21	26.21	40.23	49.28	49.28	49.28
SO BUILDHGT HRSG5D	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5D	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5D	26.21	26.21	26.21	49.28	49.28	49.28
SO BUILDHGT HRSG5D	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT HRSG5D	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID HRSG5D	15.61	12.19	46.27	53.89	67.07	78.22
SO BUILDWID HRSG5D	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID HRSG5D	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID HRSG5D	15.61	12.19	15.61	53.89	67.07	78.22
SO BUILDWID HRSG5D	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID HRSG5D	23.65	24.05	23.71	22.66	20.92	18.55

```
'BPIP data for FPL Sanford, Origin Is Stack 4A (WO UNIT 4/5 BLDG) 5/3/99'
'ST'
'FEET' .3048
'UTMN'  20.
10
'5DHRSG' 1 0.0
4 86
 172   356
 172   424
 212   424
 212   356
'5CHRSG' 1 0.0
4 86
 307   356
 307   424
 347   424
 347   356
'5BHRSG' 1 0.0
4 86
 441   356
 441   424
 481   424
 481   356
'5AHRSG' 1 0.0
4 86
 576   356
 576   424
 616   424
 616   356
'4AHRSG' 1 0.0
4 86
 -27  -20
 -27   20
 -95   20
 -95  -20
'4BHRSG' 1 0.0
4 86
 -27  -155
 -27  -115
 -95  -115
 -95  -155
'4CHRSG' 1 0.0
4 86
 -27  -289
 -27  -249
 -95  -249
 -95  -289
'4DHRSG' 1 0.0
4 86
 -27  -424
 -27  -384
 -95  -384
 -95  -424
'UNIT3BLD' 1 0.0
4 132.0
 313   -318.5
 313   -243.5
 381.5 -243.5
 381.5 -318.5
'PROPERTY' 1 0.0
13 0.0
-1424.0 199.6
566.4   890.0
884.6   70.1
933.2   -113.3
981.7   -372.2
997.9   -582.6
1057.2  -1467.2
210.4   -1456.4
175.3   -1278.4
242.7   -933.2
-485.5  -933.2
-485.5  -577.2
-1148.9 -577.2
 13
'UNIT3 '   0.0  302.00      436     -281
'HRSG4A '  0.0  125.00      0.0      0.0
'HRSG4B '  0.0  125.00      0.0   -135.0
'HRSG4C '  0.0  125.00      0.0   -269.0
'HRSG4D '  0.0  125.00      0.0   -404.0
'BYPS4A '  0.0   50.00   -120.0      0.0
'BYPS4B '  0.0   50.00   -120.0   -135.0
```

```
'BYPS4C '  0.0   50.00   -120.0   -269.0
'BYPS4D '  0.0   50.00   -120.0   -404.0
'HRSG5A '  0.0  125.00    192.0    332.0
'HRSG5B '  0.0  125.00    327.0    332.0
'HRSG5C '  0.0  125.00    461.0    332.0
'HRSG5D '  0.0  125.00    596.0    332.0
0
```

BPIP (Dated: 95086)

DATE : 05/03/99
TIME : 18:33:00
BPIP data for FPL Sanford, Origin Is Stack 4A (WO UNIT 4/5 BLDG) 5/3/99

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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 20.00 degrees with respect to True North.

BPIP data for FPL Sanford, Origin Is Stack 4A (WO UNIT 4/5 BLDG) 5/3/99

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
UNIT3	92.05	0.00	86.23	86.23
HRSG4A	38.10	0.00	86.67	86.67
HRSG4B	38.10	0.00	85.63	85.63
HRSG4C	38.10	0.00	78.89	78.89
HRSG4D	38.10	0.00	85.00	85.00
BYPS4A	15.24	0.00	62.28	65.00
BYPS4B	15.24	0.00	83.97	83.97
BYPS4C	15.24	0.00	62.28	65.00
BYPS4D	15.24	0.00	83.24	83.24
HRSG5A	38.10	0.00	62.28	65.00
HRSG5B	38.10	0.00	62.28	65.00
HRSG5C	38.10	0.00	62.28	65.00
HRSG5D	38.10	0.00	62.28	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 : 05/03/99
TIME : 18:33:00

BPIP data for FPL Sanford, Origin Is Stack 4A (WO UNIT 4/5 BLDG) 5/3/99

BPIP output is in meters

SO BUILDHGT	UNIT3	0.00	0.00	0.00	40.23	40.23	40.23
SO BUILDHGT	UNIT3	40.23	40.23	40.23	40.23	40.23	40.23
SO BUILDHGT	UNIT3	40.23	40.23	40.23	40.23	40.23	40.23
SO BUILDHGT	UNIT3	0.00	0.00	0.00	40.23	40.23	40.23
SO BUILDHGT	UNIT3	40.23	40.23	40.23	40.23	40.23	40.23
SO BUILDHGT	UNIT3	40.23	40.23	40.23	40.23	40.23	40.23
SO BUILDWID	UNIT3	0.00	0.00	0.00	27.44	29.51	30.67

SO	BUILDWID	UNIT3	30.67	30.24	28.62	26.14	22.86	26.14
SO	BUILDWID	UNIT3	28.62	30.24	30.67	30.67	29.51	27.44
SO	BUILDWID	UNIT3	0.00	0.00	0.00	27.44	29.51	30.67
SO	BUILDWID	UNIT3	30.67	30.24	28.62	26.14	22.86	26.14
SO	BUILDWID	UNIT3	28.62	30.24	30.67	30.67	29.51	27.44
SO	BUILDHGT	HRSG4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4A	26.21	40.23	40.23	40.23	26.21	26.21
SO	BUILDWID	HRSG4A	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	HRSG4A	22.66	20.92	18.55	15.61	12.19	15.61
SO	BUILDWID	HRSG4A	18.55	20.92	22.66	23.71	24.05	23.65
SO	BUILDWID	HRSG4A	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	HRSG4A	22.66	20.92	18.55	15.61	12.19	15.61
SO	BUILDWID	HRSG4A	18.55	30.24	30.93	30.69	24.05	23.65
SO	BUILDHGT	HRSG4B	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4B	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4B	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4B	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4B	26.21	26.21	26.21	26.21	26.21	40.23
SO	BUILDHGT	HRSG4B	40.23	40.23	26.21	26.21	26.21	26.21
SO	BUILDWID	HRSG4B	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	HRSG4B	22.66	20.92	18.55	15.61	12.19	15.61
SO	BUILDWID	HRSG4B	18.55	20.92	22.66	23.71	24.05	23.65
SO	BUILDWID	HRSG4B	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	HRSG4B	22.66	20.92	18.55	15.61	12.19	26.14
SO	BUILDWID	HRSG4B	28.62	30.24	22.66	23.71	24.05	23.65
SO	BUILDHGT	HRSG4C	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4C	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4C	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4C	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4C	26.21	26.21	26.21	40.23	40.23	40.23
SO	BUILDHGT	HRSG4C	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDWID	HRSG4C	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	HRSG4C	22.66	20.92	18.55	15.61	12.19	15.61
SO	BUILDWID	HRSG4C	18.55	20.92	22.66	23.71	24.05	23.65
SO	BUILDWID	HRSG4C	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	HRSG4C	22.66	20.92	18.55	25.77	22.86	25.77
SO	BUILDWID	HRSG4C	18.55	20.92	22.66	23.71	24.05	23.65
SO	BUILDHGT	HRSG4D	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4D	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4D	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4D	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG4D	26.21	40.23	40.23	40.23	26.21	26.21
SO	BUILDHGT	HRSG4D	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDWID	HRSG4D	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	HRSG4D	22.66	20.92	18.55	15.61	12.19	15.61
SO	BUILDWID	HRSG4D	18.55	20.92	22.66	23.71	24.05	23.65
SO	BUILDWID	HRSG4D	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	HRSG4D	22.66	29.85	28.62	26.14	12.19	15.61
SO	BUILDWID	HRSG4D	18.55	20.92	22.66	23.71	24.05	23.65
SO	BUILDHGT	BYPS4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	BYPS4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	BYPS4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	BYPS4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	BYPS4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	BYPS4A	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDWID	BYPS4A	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	BYPS4A	22.66	20.92	18.55	15.61	12.19	15.61
SO	BUILDWID	BYPS4A	18.55	20.92	22.66	23.71	24.05	23.65
SO	BUILDWID	BYPS4A	22.53	20.73	22.53	23.65	24.05	23.71
SO	BUILDWID	BYPS4A	22.66	20.92	18.55	15.61	12.19	15.61
SO	BUILDWID	BYPS4A	18.55	20.92	22.66	23.71	24.05	23.65
SO	BUILDHGT	BYPS4B	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	BYPS4B	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	BYPS4B	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	BYPS4B	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	BYPS4B	26.21	26.21	26.21	26.21	26.21	40.23

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SO BUILDHGT BYPS4B     40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BYPS4B     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4B     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BYPS4B     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BYPS4B     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4B     22.66   20.92   18.55   15.61   12.19   26.14
SO BUILDWID BYPS4B     28.62   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BYPS4C     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4C     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BYPS4C     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BYPS4C     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4C     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BYPS4C     18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BYPS4D     26.21   26.21   40.23   40.23   26.21   26.21
SO BUILDHGT BYPS4D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BYPS4D     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4D     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BYPS4D     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BYPS4D     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BYPS4D     22.66   20.92   28.62   26.14   12.19   15.61
SO BUILDWID BYPS4D     18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT HRSG5A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5A     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID HRSG5A     15.61   12.19   15.61   18.55   24.05   23.71
SO BUILDWID HRSG5A     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID HRSG5A     23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID HRSG5A     15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID HRSG5A     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID HRSG5A     23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT HRSG5B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5B     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID HRSG5B     15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID HRSG5B     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID HRSG5B     23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID HRSG5B     15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID HRSG5B     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID HRSG5B     23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT HRSG5C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5C     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID HRSG5C     15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID HRSG5C     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID HRSG5C     23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID HRSG5C     15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID HRSG5C     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID HRSG5C     23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT HRSG5D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5D     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT HRSG5D     26.21   26.21   26.21   26.21   26.21   26.21
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SO	BUILDHGT	HRSG5D	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG5D	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDHGT	HRSG5D	26.21	26.21	26.21	26.21	26.21	26.21
SO	BUILDWID	HRSG5D	15.61	12.19	15.61	18.55	20.92	22.66
SO	BUILDWID	HRSG5D	23.71	24.05	23.65	22.53	20.73	22.53
SO	BUILDWID	HRSG5D	23.65	24.05	23.71	22.66	20.92	18.55
SO	BUILDWID	HRSG5D	15.61	12.19	15.61	18.55	20.92	22.66
SO	BUILDWID	HRSG5D	23.71	24.05	23.65	22.53	20.73	22.53
SO	BUILDWID	HRSG5D	23.65	24.05	23.71	22.66	20.92	18.55

ATTACHMENT E

DETAILED SUMMARY OF ISCST MODEL RESULTS

GENERIC MODELED IMPACTS FOR PROPOSED COMBUSTION TURBINES FIRING NATURAL GAS IN COMBINED-CYCLE MODE DURING CONSTRUCTION

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :GENWITH.087
ISCST3 OUTPUT FILE NUMBER 2 :GENWITH.088
ISCST3 OUTPUT FILE NUMBER 3 :GENWITH.089
ISCST3 OUTPUT FILE NUMBER 4 :GENWITH.090
ISCST3 OUTPUT FILE NUMBER 5 :GENWITH.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/15/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating

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	2.119	240.	230.	87123124
	1988	2.028	240.	230.	88123124
	1989	0.928	240.	230.	89123124
	1990	2.323	240.	230.	90123124
	1991	2.148	240.	230.	91123124
HIGH 24-Hour					
	1987	26.452	240.	230.	87110324
	1988	22.916	240.	230.	88091124
	1989	16.567	240.	230.	89052924
	1990	27.778	240.	230.	90030824
	1991	19.204	240.	230.	91102324
HSH 24-Hour					
	1987	23.257	240.	230.	87032324
	1988	20.806	240.	230.	88091224
	1989	15.345	240.	230.	89031724
	1990	21.268	240.	230.	90122924
	1991	17.133	230.	296.	91020324
HIGH 8-Hour					
	1987	39.089	240.	230.	87032316
	1988	47.311	240.	230.	88091216
	1989	30.377	240.	230.	89031724
	1990	40.554	240.	230.	90052516
	1991	39.220	240.	230.	91112816
HSH 8-Hour					
	1987	37.557	240.	230.	87060716
	1988	38.503	240.	230.	88091316
	1989	26.553	240.	230.	89052924
	1990	37.160	240.	230.	90041924
	1991	33.702	240.	230.	91102516
HIGH 3-Hour					
	1987	50.320	230.	300.	87101012
	1988	51.298	240.	230.	88070612
	1989	45.710	240.	230.	89032621
	1990	52.635	230.	300.	90051121
	1991	55.141	240.	230.	91112815
HSH 3-Hour					
	1987	50.071	230.	296.	87050912
	1988	51.250	240.	230.	88091215
	1989	41.790	240.	230.	89031721
	1990	52.133	240.	230.	90041421
	1991	51.252	240.	230.	91102512
HIGH 1-Hour					
	1987	80.442	240.	230.	87061022
	1988	77.426	240.	230.	88032503
	1989	80.667	240.	230.	89060121
	1990	78.688	240.	230.	90022202
	1991	80.894	240.	230.	91091524
HSH 1-Hour					
	1987	70.488	240.	230.	87091520
	1988	76.512	240.	230.	88070821
	1989	73.868	20.	211.	89011302
	1990	68.354	240.	230.	90122020
	1991	75.671	240.	230.	91022020
SOURCE GROUP ID:	BASE59				
Annual					
	1987	1.784	240.	230.	87123124
	1988	1.675	240.	230.	88123124
	1989	0.746	240.	230.	89123124
	1990	1.968	240.	230.	90123124
	1991	1.806	240.	230.	91123124
HIGH 24-Hour					
	1987	24.203	240.	230.	87110324
	1988	19.951	240.	230.	88091124
	1989	14.619	240.	230.	89052924
	1990	27.561	240.	230.	90030824
	1991	17.466	240.	230.	91102324

HSH 24-Hour					
	1987	22.210	240.	230.	87032324
	1988	19.364	240.	230.	88091224
	1989	12.793	240.	230.	89031724
	1990	19.864	240.	230.	90052524
	1991	16.195	240.	230.	91102524
HIGH 8-Hour					
	1987	39.987	240.	230.	87032316
	1988	44.191	240.	230.	88091216
	1989	25.125	240.	230.	89031724
	1990	39.772	240.	230.	90030816
	1991	39.234	240.	230.	91112816
HSH 8-Hour					
	1987	35.937	240.	230.	87060716
	1988	35.493	240.	230.	88053116
	1989	23.047	240.	230.	89052924
	1990	39.054	240.	230.	90052516
	1991	33.905	240.	230.	91102516
HIGH 3-Hour					
	1987	49.424	240.	230.	87032315
	1988	48.639	240.	230.	88070612
	1989	41.642	240.	230.	89032621
	1990	49.438	240.	230.	90041918
	1991	53.481	240.	230.	91112815
HSH 3-Hour					
	1987	46.815	230.	296.	87050912
	1988	48.472	240.	230.	88091215
	1989	35.978	240.	230.	89031718
	1990	45.821	230.	296.	90041918
	1991	48.868	240.	230.	91102512
HIGH 1-Hour					
	1987	68.907	20.	211.	87081701
	1988	67.775	20.	211.	88092305
	1989	68.998	240.	230.	89060121
	1990	68.677	20.	211.	90070823
	1991	69.227	240.	230.	91091524
HSH 1-Hour					
	1987	60.448	240.	230.	87091520
	1988	65.379	240.	230.	88070821
	1989	66.045	20.	211.	89011302
	1990	60.666	20.	211.	90031701
	1991	66.682	20.	211.	91112101
SOURCE GROUP ID:	BASE32				
Annual					
	1987	1.595	240.	230.	87123124
	1988	1.478	240.	230.	88123124
	1989	0.649	240.	230.	89123124
	1990	1.767	240.	230.	90123124
	1991	1.613	240.	230.	91123124
HIGH 24-Hour					
	1987	22.771	240.	230.	87110324
	1988	18.453	240.	230.	88091224
	1989	13.388	240.	230.	89052924
	1990	26.087	240.	230.	90030824
	1991	16.323	240.	230.	91102324
HSH 24-Hour					
	1987	21.321	240.	230.	87032324
	1988	18.219	240.	230.	88053124
	1989	11.264	240.	230.	89031724
	1990	19.124	240.	230.	90052524
	1991	15.492	240.	230.	91102524
HIGH 8-Hour					
	1987	39.228	240.	230.	87032316
	1988	42.276	240.	230.	88091216
	1989	22.391	10.	300.	89050116
	1990	39.053	240.	230.	90030816
	1991	37.666	240.	230.	91112816
HSH 8-Hour					
	1987	34.661	240.	230.	87060716
	1988	34.283	240.	230.	88053116
	1989	20.880	240.	230.	89052924
	1990	37.932	240.	230.	90052516
	1991	32.934	240.	230.	91102516
HIGH 3-Hour					
	1987	48.401	240.	230.	87032315
	1988	46.750	240.	230.	88070612
	1989	38.925	240.	230.	89032621
	1990	47.168	240.	230.	90041918
	1991	51.998	240.	230.	91112815
HSH 3-Hour					
	1987	44.556	230.	296.	87050912
	1988	46.711	240.	230.	88091215

	1989	33.116	240.	230.	89031718
	1990	44.639	240.	230.	90052515
	1991	47.099	240.	230.	91102512
HIGH 1-Hour					
	1987	61.520	240.	230.	87061022
	1988	59.569	20.	211.	88092305
	1989	61.744	240.	230.	89060121
	1990	60.451	20.	211.	90070823
	1991	61.971	240.	230.	91091524
HSH 1-Hour					
	1987	56.556	230.	296.	87060716
	1988	58.466	240.	230.	88070821
	1989	57.885	20.	211.	89011302
	1990	58.114	20.	211.	90031701
	1991	59.875	20.	211.	91022602
SOURCE GROUP ID:	LD7595				
Annual					
	1987	3.107	240.	230.	87123124
	1988	3.063	240.	230.	88123124
	1989	1.526	240.	230.	89123124
	1990	3.339	240.	230.	90123124
	1991	3.131	240.	230.	91123124
HIGH 24-Hour					
	1987	31.303	240.	230.	87110324
	1988	30.136	240.	230.	88091124
	1989	22.512	240.	230.	89031724
	1990	30.693	240.	230.	90030824
	1991	24.875	240.	230.	91052324
HSH 24-Hour					
	1987	25.044	240.	230.	87032324
	1988	28.543	240.	230.	88091624
	1989	20.870	240.	230.	89051824
	1990	27.997	240.	230.	90122924
	1991	22.545	240.	230.	91102324
HIGH 8-Hour					
	1987	41.344	240.	230.	87052716
	1988	50.253	240.	230.	88091216
	1989	44.843	240.	230.	89031724
	1990	48.690	240.	230.	90122908
	1991	41.656	230.	296.	91090416
HSH 8-Hour					
	1987	41.017	240.	230.	87083024
	1988	45.996	240.	230.	88091316
	1989	36.036	240.	230.	89051816
	1990	46.199	240.	230.	90122024
	1991	38.456	240.	230.	91102316
HIGH 3-Hour					
	1987	59.405	230.	296.	87042021
	1988	64.477	240.	230.	88032821
	1989	57.786	240.	230.	89031721
	1990	70.950	240.	230.	90041421
	1991	55.077	230.	300.	91090412
HSH 3-Hour					
	1987	57.208	230.	296.	87052718
	1988	58.281	240.	230.	88122024
	1989	57.161	240.	230.	89101621
	1990	61.354	240.	230.	90122021
	1991	54.158	230.	296.	91020318
HIGH 1-Hour					
	1987	107.065	20.	211.	87081701
	1988	106.053	20.	211.	88092305
	1989	106.053	20.	211.	89052701
	1990	106.861	20.	211.	90070823
	1991	106.455	20.	211.	91081202
HSH 1-Hour					
	1987	90.874	240.	230.	87091520
	1988	100.617	20.	211.	88092403
	1989	104.479	20.	211.	89011302
	1990	89.925	240.	230.	90041003
	1991	105.063	20.	211.	91112101
SOURCE GROUP ID:	LD7559				
Annual					
	1987	2.807	240.	230.	87123124
	1988	2.748	240.	230.	88123124
	1989	1.335	240.	230.	89123124
	1990	3.044	240.	230.	90123124
	1991	2.827	240.	230.	91123124
HIGH 24-Hour					
	1987	30.183	240.	230.	87110324
	1988	28.187	240.	230.	88091124
	1989	20.634	240.	230.	89031724
	1990	30.746	240.	230.	90030824

	1991	22.404	240.	230.	91052324
HSH 24-Hour					
	1987	24.424	240.	230.	87032324
	1988	24.970	240.	230.	88091624
	1989	19.532	240.	230.	89052924
	1990	25.930	240.	230.	90122924
	1991	22.014	240.	230.	91102324
HIGH 8-Hour					
	1987	38.862	240.	230.	87052716
	1988	51.580	240.	230.	88091216
	1989	41.343	240.	230.	89031724
	1990	44.554	240.	230.	90041924
	1991	41.382	230.	300.	91090416
HSH 8-Hour					
	1987	38.518	240.	230.	87060716
	1988	44.924	240.	230.	88091316
	1989	32.676	240.	230.	89051816
	1990	43.927	240.	230.	90122908
	1991	38.194	240.	230.	91102316
HIGH 3-Hour					
	1987	54.829	230.	296.	87042021
	1988	59.526	240.	230.	88032821
	1989	53.992	240.	230.	89031721
	1990	66.476	240.	230.	90041421
	1991	58.022	230.	296.	91020318
HSH 3-Hour					
	1987	54.447	230.	296.	87052718
	1988	55.233	240.	230.	88091215
	1989	53.068	240.	230.	89032621
	1990	56.904	240.	230.	90122021
	1991	56.229	230.	300.	91090412
HIGH 1-Hour					
	1987	108.146	20.	211.	87081701
	1988	107.142	20.	211.	88092305
	1989	107.142	20.	211.	89052701
	1990	107.944	20.	211.	90070823
	1991	107.541	20.	211.	91081202
HSH 1-Hour					
	1987	86.846	360.	200.	87070824
	1988	101.650	20.	211.	88092403
	1989	105.581	20.	211.	89011302
	1990	83.935	240.	230.	90041003
	1991	106.160	20.	211.	91112101
SOURCE GROUP ID:	LD7532				
Annual					
	1987	2.634	240.	230.	87123124
	1988	2.566	240.	230.	88123124
	1989	1.226	240.	230.	89123124
	1990	2.864	240.	230.	90123124
	1991	2.654	240.	230.	91123124
HIGH 24-Hour					
	1987	29.426	240.	230.	87110324
	1988	26.997	240.	230.	88091124
	1989	19.303	240.	230.	89031724
	1990	29.913	240.	230.	90030824
	1991	21.353	240.	230.	91102324
HSH 24-Hour					
	1987	23.910	240.	230.	87032324
	1988	23.477	240.	230.	88070824
	1989	18.941	240.	230.	89052924
	1990	24.897	240.	230.	90041924
	1991	21.141	240.	230.	91052324
HIGH 8-Hour					
	1987	38.383	240.	230.	87060716
	1988	50.676	240.	230.	88091216
	1989	38.573	240.	230.	89031724
	1990	43.531	240.	230.	90041924
	1991	40.365	230.	300.	91090416
HSH 8-Hour					
	1987	36.996	240.	230.	87052716
	1988	43.779	240.	230.	88091316
	1989	31.018	240.	230.	89051816
	1990	41.410	240.	230.	90122908
	1991	37.276	240.	230.	91102316
HIGH 3-Hour					
	1987	52.472	230.	296.	87052718
	1988	56.956	240.	230.	88032821
	1989	51.303	240.	230.	89032621
	1990	63.190	240.	230.	90041421
	1991	57.502	230.	296.	91020318
HSH 3-Hour					
	1987	51.120	240.	230.	87110306

	1988	54.387	240.	230.	88091215
	1989	50.963	240.	230.	89031721
	1990	56.428	240.	230.	90041918
	1991	55.523	230.	300.	91090412
HIGH 1-Hour					
	1987	100.780	20.	211.	87081701
	1988	99.723	20.	211.	88092305
	1989	99.723	20.	211.	89052701
	1990	100.566	20.	211.	90070823
	1991	100.143	20.	211.	91081202
HSH 1-Hour					
	1987	81.732	240.	230.	87091520
	1988	94.611	20.	211.	88092403
	1989	98.084	20.	211.	89011302
	1990	79.709	240.	230.	90122020
	1991	98.691	20.	211.	91112101
SOURCE GROUP ID:	LD5095				
Annual					
	1987	4.043	240.	230.	87123124
	1988	4.092	240.	230.	88123124
	1989	2.227	240.	230.	89123124
	1990	4.324	240.	230.	90123124
	1991	4.048	240.	230.	91123124
HIGH 24-Hour					
	1987	31.523	240.	230.	87110324
	1988	37.917	240.	230.	88091624
	1989	28.813	240.	230.	89031724
	1990	33.622	240.	230.	90030824
	1991	30.473	240.	230.	91052324
HSH 24-Hour					
	1987	26.176	240.	230.	87032324
	1988	33.574	240.	230.	88091124
	1989	26.118	240.	230.	89051824
	1990	29.827	240.	230.	90041924
	1991	25.290	240.	230.	91122024
HIGH 8-Hour					
	1987	51.553	240.	230.	87120724
	1988	53.156	240.	230.	88091508
	1989	55.100	240.	230.	89031724
	1990	56.045	240.	230.	90122908
	1991	43.573	240.	230.	91052124
HSH 8-Hour					
	1987	49.795	240.	230.	87053124
	1988	52.257	240.	230.	88091608
	1989	43.878	240.	230.	89051816
	1990	51.323	240.	230.	90041924
	1991	43.082	240.	230.	91052308
HIGH 3-Hour					
	1987	75.074	230.	296.	87042021
	1988	70.316	240.	230.	88122024
	1989	69.657	240.	230.	89101621
	1990	83.791	240.	230.	90041421
	1991	56.308	240.	230.	91052303
HSH 3-Hour					
	1987	64.059	230.	300.	87100221
	1988	69.769	240.	230.	88031724
	1989	68.663	240.	230.	89031721
	1990	76.172	240.	230.	90122021
	1991	54.269	240.	230.	91120803
HIGH 1-Hour					
	1987	126.119	20.	211.	87081701
	1988	125.297	20.	211.	88092305
	1989	125.297	20.	211.	89052701
	1990	125.954	20.	211.	90070823
	1991	125.624	20.	211.	91081202
HSH 1-Hour					
	1987	111.341	20.	211.	87062205
	1988	118.933	20.	211.	88092403
	1989	124.006	20.	211.	89011302
	1990	109.549	240.	230.	90041003
	1991	124.486	20.	211.	91112101
SOURCE GROUP ID:	LD5059				
Annual					
	1987	3.789	240.	230.	87123124
	1988	3.810	240.	230.	88123124
	1989	2.033	240.	230.	89123124
	1990	4.056	240.	230.	90123124
	1991	3.794	240.	230.	91123124
HIGH 24-Hour					
	1987	30.807	240.	230.	87110324
	1988	35.556	240.	230.	88091624
	1989	27.262	240.	230.	89031724

	1990	32.556	240.	230.	90030824
	1991	28.759	240.	230.	91052324
HSH 24-Hour					
	1987	25.778	240.	230.	87032324
	1988	32.422	240.	230.	88091124
	1989	24.632	240.	230.	89051824
	1990	28.852	240.	230.	90041924
	1991	24.269	240.	230.	91122024
HIGH 8-Hour					
	1987	48.696	240.	230.	87120724
	1988	50.112	240.	230.	88091508
	1989	52.640	240.	230.	89031724
	1990	53.129	240.	230.	90122908
	1991	41.317	240.	230.	91052124
HSH 8-Hour					
	1987	47.341	240.	230.	87053124
	1988	49.021	240.	230.	88091608
	1989	41.949	240.	230.	89051816
	1990	49.813	240.	230.	90041924
	1991	40.840	240.	230.	91052308
HIGH 3-Hour					
	1987	71.998	230.	296.	87042021
	1988	67.764	240.	230.	88122024
	1989	67.032	240.	230.	89101621
	1990	81.139	240.	230.	90041421
	1991	53.728	240.	230.	91052303
HSH 3-Hour					
	1987	60.476	230.	300.	87100221
	1988	66.532	240.	230.	88032821
	1989	66.471	240.	230.	89031721
	1990	73.235	240.	230.	90122021
	1991	52.130	240.	230.	91010518
HIGH 1-Hour					
	1987	124.673	20.	211.	87081701
	1988	123.832	20.	211.	88092305
	1989	123.832	20.	211.	89052701
	1990	124.504	20.	211.	90070823
	1991	124.167	20.	211.	91081202
HSH 1-Hour					
	1987	108.530	20.	211.	87062205
	1988	117.543	20.	211.	88092403
	1989	122.515	20.	211.	89011302
	1990	105.704	240.	230.	90041003
	1991	123.005	20.	211.	91112101
SOURCE GROUP ID:	LD5032				
Annual					
	1987	3.683	240.	230.	87123124
	1988	3.695	240.	230.	88123124
	1989	1.943	240.	230.	89123124
	1990	3.943	240.	230.	90123124
	1991	3.716	240.	230.	91123124
HIGH 24-Hour					
	1987	30.341	240.	230.	87110324
	1988	34.410	240.	230.	88091624
	1989	26.876	240.	230.	89031724
	1990	31.912	240.	230.	90030824
	1991	29.245	240.	230.	91052324
HSH 24-Hour					
	1987	25.658	240.	230.	87032324
	1988	33.362	240.	230.	88091124
	1989	24.552	240.	230.	89051824
	1990	27.973	240.	230.	90041924
	1991	24.188	240.	230.	91102324
HIGH 8-Hour					
	1987	47.005	240.	230.	87120724
	1988	49.235	240.	230.	88091316
	1989	52.801	240.	230.	89031724
	1990	51.638	240.	230.	90122908
	1991	40.814	240.	230.	91052524
HSH 8-Hour					
	1987	45.648	240.	230.	87083024
	1988	48.525	240.	230.	88091508
	1989	41.012	240.	230.	89051816
	1990	48.800	240.	230.	90041924
	1991	40.811	240.	230.	91102316
HIGH 3-Hour					
	1987	69.966	230.	296.	87042021
	1988	66.302	240.	230.	88122024
	1989	65.458	240.	230.	89101621
	1990	79.537	240.	230.	90041421
	1991	60.073	230.	296.	91091121
HSH 3-Hour					

	1987	62.448	230.	296.	87052718
	1988	64.913	240.	230.	88032821
	1989	65.084	240.	230.	89031721
	1990	71.246	240.	230.	90122021
	1991	57.284	240.	230.	91102518
HIGH 1-Hour					
	1987	121.824	20.	211.	87081701
	1988	120.950	20.	211.	88092305
	1989	120.950	20.	211.	89052701
	1990	121.648	20.	211.	90070823
	1991	121.298	20.	211.	91081202
HSH 1-Hour					
	1987	103.906	240.	230.	87111602
	1988	114.808	20.	211.	88092403
	1989	119.583	20.	211.	89011302
	1990	103.213	240.	230.	90041003
	1991	120.091	20.	211.	91112101

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

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CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/15/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 8 3 1
CO POLLUTID  OTHER
CO DCAYCOEF   .000000
CO RUNORNOT  RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS              ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00    0.00
**  HRSG STACK LETTER CODE
**  GENERIC ANALYSIS - GAS UNIT 5 AND UNIT 4 HRSG
** ------------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP          XS          YS       ZS
**   UTM                          (m)         (m)      (m)
SO LOCATION  BASE195  POINT     0.00        0.00     0.0
SO LOCATION  BASE295  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE395  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE495  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE595  POINT    89.60       75.08     0.0
SO LOCATION  BASE695  POINT   128.27       61.00     0.0
SO LOCATION  BASE795  POINT   166.65       47.03     0.0
SO LOCATION  BASE895  POINT   205.32       32.96     0.0

SO LOCATION  BASE159  POINT     0.00        0.00     0.0
SO LOCATION  BASE259  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE359  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE459  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE559  POINT    89.60       75.08     0.0
SO LOCATION  BASE659  POINT   128.27       61.00     0.0
SO LOCATION  BASE759  POINT   166.65       47.03     0.0
SO LOCATION  BASE859  POINT   205.32       32.96     0.0

SO LOCATION  BASE132  POINT     0.00        0.00     0.0
SO LOCATION  BASE232  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE332  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE432  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE532  POINT    89.60       75.08     0.0
SO LOCATION  BASE632  POINT   128.27       61.00     0.0
SO LOCATION  BASE732  POINT   166.65       47.03     0.0
SO LOCATION  BASE832  POINT   205.32       32.96     0.0

SO LOCATION  LD17595  POINT     0.00        0.00     0.0
SO LOCATION  LD27595  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37595  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47595  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57595  POINT    89.60       75.08     0.0
SO LOCATION  LD67595  POINT   128.27       61.00     0.0
SO LOCATION  LD77595  POINT   166.65       47.03     0.0
SO LOCATION  LD87595  POINT   205.32       32.96     0.0

SO LOCATION  LD17559  POINT     0.00        0.00     0.0
SO LOCATION  LD27559  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37559  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47559  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57559  POINT    89.60       75.08     0.0
SO LOCATION  LD67559  POINT   128.27       61.00     0.0
SO LOCATION  LD77559  POINT   166.65       47.03     0.0
SO LOCATION  LD87559  POINT   205.32       32.96     0.0

SO LOCATION  LD17532  POINT     0.00        0.00     0.0
SO LOCATION  LD27532  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37532  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47532  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57532  POINT    89.60       75.08     0.0
SO LOCATION  LD67532  POINT   128.27       61.00     0.0
SO LOCATION  LD77532  POINT   166.65       47.03     0.0
SO LOCATION  LD87532  POINT   205.32       32.96     0.0
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SO LOCATION  LD15095  POINT    0.00      0.00    0.0
SO LOCATION  LD25095  POINT  -14.07    -38.67    0.0
SO LOCATION  LD35095  POINT  -28.04    -77.05    0.0
SO LOCATION  LD45095  POINT  -42.12   -115.71    0.0
SO LOCATION  LD55095  POINT   89.60     75.08    0.0
SO LOCATION  LD65095  POINT  128.27     61.00    0.0
SO LOCATION  LD75095  POINT  166.65     47.03    0.0
SO LOCATION  LD85095  POINT  205.32     32.96    0.0

SO LOCATION  LD15059  POINT    0.00      0.00    0.0
SO LOCATION  LD25059  POINT  -14.07    -38.67    0.0
SO LOCATION  LD35059  POINT  -28.04    -77.05    0.0
SO LOCATION  LD45059  POINT  -42.12   -115.71    0.0
SO LOCATION  LD55059  POINT   89.60     75.08    0.0
SO LOCATION  LD65059  POINT  128.27     61.00    0.0
SO LOCATION  LD75059  POINT  166.65     47.03    0.0
SO LOCATION  LD85059  POINT  205.32     32.96    0.0

SO LOCATION  LD15032  POINT    0.00      0.00    0.0
SO LOCATION  LD25032  POINT  -14.07    -38.67    0.0
SO LOCATION  LD35032  POINT  -28.04    -77.05    0.0
SO LOCATION  LD45032  POINT  -42.12   -115.71    0.0
SO LOCATION  LD55032  POINT   89.60     75.08    0.0
SO LOCATION  LD65032  POINT  128.27     61.00    0.0
SO LOCATION  LD75032  POINT  166.65     47.03    0.0
SO LOCATION  LD85032  POINT  205.32     32.96    0.0

**SO LOCATION  UNIT3    POINT   95.58    -125.94    0.0
**SO LOCATION  UNIT4    POINT  151.68    -101.92    0.0
**SO LOCATION  UNIT5    POINT  173.26     -42.63    0.0

** Source Parameter Cards:
** POINT:   SRCID           QS      HS        TS        VS        DS
**                        (g/s)    (m)       (K)      (m/s)      (m)
SO SRCPARAM    BASE195     1.25    38.1      377.6     19.02     5.79
SO SRCPARAM    BASE295     1.25    38.1      377.6     19.02     5.79
SO SRCPARAM    BASE395     1.25    38.1      377.6     19.02     5.79
SO SRCPARAM    BASE495     1.25    38.1      377.6     19.02     5.79
SO SRCPARAM    BASE595     1.25    38.1      377.6     20.39     5.79
SO SRCPARAM    BASE695     1.25    38.1      377.6     20.39     5.79
SO SRCPARAM    BASE795     1.25    38.1      377.6     20.39     5.79
SO SRCPARAM    BASE895     1.25    38.1      377.6     20.39     5.79

SO SRCPARAM    BASE159     1.25    38.1      377.6     20.51     5.79
SO SRCPARAM    BASE259     1.25    38.1      377.6     20.51     5.79
SO SRCPARAM    BASE359     1.25    38.1      377.6     20.51     5.79
SO SRCPARAM    BASE459     1.25    38.1      377.6     20.51     5.79
SO SRCPARAM    BASE559     1.25    38.1      377.6     21.34     5.79
SO SRCPARAM    BASE659     1.25    38.1      377.6     21.34     5.79
SO SRCPARAM    BASE759     1.25    38.1      377.6     21.34     5.79
SO SRCPARAM    BASE859     1.25    38.1      377.6     21.34     5.79

SO SRCPARAM    BASE132     1.25    38.1      377.6     21.43     5.79
SO SRCPARAM    BASE232     1.25    38.1      377.6     21.43     5.79
SO SRCPARAM    BASE332     1.25    38.1      377.6     21.43     5.79
SO SRCPARAM    BASE432     1.25    38.1      377.6     21.43     5.79
SO SRCPARAM    BASE532     1.25    38.1      377.6     22.34     5.79
SO SRCPARAM    BASE632     1.25    38.1      377.6     22.34     5.79
SO SRCPARAM    BASE732     1.25    38.1      377.6     22.34     5.79
SO SRCPARAM    BASE832     1.25    38.1      377.6     22.34     5.79

SO SRCPARAM    LD17595     1.25    38.1      377.6     15.76     5.79
SO SRCPARAM    LD27595     1.25    38.1      377.6     15.76     5.79
SO SRCPARAM    LD37595     1.25    38.1      377.6     15.76     5.79
SO SRCPARAM    LD47595     1.25    38.1      377.6     15.76     5.79
SO SRCPARAM    LD57595     1.25    38.1      377.6     16.52     5.79
SO SRCPARAM    LD67595     1.25    38.1      377.6     16.52     5.79
SO SRCPARAM    LD77595     1.25    38.1      377.6     16.52     5.79
SO SRCPARAM    LD87595     1.25    38.1      377.6     16.52     5.79

SO SRCPARAM    LD17559     1.25    38.1      377.6     16.79     5.79
SO SRCPARAM    LD27559     1.25    38.1      377.6     16.79     5.79
SO SRCPARAM    LD37559     1.25    38.1      377.6     16.79     5.79
SO SRCPARAM    LD47559     1.25    38.1      377.6     16.79     5.79
SO SRCPARAM    LD57559     1.25    38.1      377.6     16.37     5.79
SO SRCPARAM    LD67559     1.25    38.1      377.6     16.37     5.79
SO SRCPARAM    LD77559     1.25    38.1      377.6     16.37     5.79
SO SRCPARAM    LD87559     1.25    38.1      377.6     16.37     5.79

SO SRCPARAM    LD17532     1.25    38.1      377.6     17.28     5.79
SO SRCPARAM    LD27532     1.25    38.1      377.6     17.28     5.79
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SO SRCPARAM   LD37532      1.25   38.1       377.6     17.28      5.79
SO SRCPARAM   LD47532      1.25   38.1       377.6     17.28      5.79
SO SRCPARAM   LD57532      1.25   38.1       377.6     17.37      5.79
SO SRCPARAM   LD67532      1.25   38.1       377.6     17.37      5.79
SO SRCPARAM   LD77532      1.25   38.1       377.6     17.37      5.79
SO SRCPARAM   LD87532      1.25   38.1       377.6     17.37      5.79

SO SRCPARAM   LD15095      1.25   38.1       377.6     13.26      5.79
SO SRCPARAM   LD25095      1.25   38.1       377.6     13.26      5.79
SO SRCPARAM   LD35095      1.25   38.1       377.6     13.26      5.79
SO SRCPARAM   LD45095      1.25   38.1       377.6     13.26      5.79
SO SRCPARAM   LD55095      1.25   38.1       377.6     13.66      5.79
SO SRCPARAM   LD65095      1.25   38.1       377.6     13.66      5.79
SO SRCPARAM   LD75095      1.25   38.1       377.6     13.66      5.79
SO SRCPARAM   LD85095      1.25   38.1       377.6     13.66      5.79

SO SRCPARAM   LD15059      1.25   38.1       377.6     13.90      5.79
SO SRCPARAM   LD25059      1.25   38.1       377.6     13.90      5.79
SO SRCPARAM   LD35059      1.25   38.1       377.6     13.90      5.79
SO SRCPARAM   LD45059      1.25   38.1       377.6     13.90      5.79
SO SRCPARAM   LD55059      1.25   38.1       377.6     13.90      5.79
SO SRCPARAM   LD65059      1.25   38.1       377.6     13.90      5.79
SO SRCPARAM   LD75059      1.25   38.1       377.6     13.90      5.79
SO SRCPARAM   LD85059      1.25   38.1       377.6     13.90      5.79

SO SRCPARAM   LD15032      1.25   38.1       377.6     14.20      5.79
SO SRCPARAM   LD25032      1.25   38.1       377.6     14.20      5.79
SO SRCPARAM   LD35032      1.25   38.1       377.6     14.20      5.79
SO SRCPARAM   LD45032      1.25   38.1       377.6     14.20      5.79
SO SRCPARAM   LD55032      1.25   38.1       377.6     14.36      5.79
SO SRCPARAM   LD65032      1.25   38.1       377.6     14.36      5.79
SO SRCPARAM   LD75032      1.25   38.1       377.6     14.36      5.79
SO SRCPARAM   LD85032      1.25   38.1       377.6     14.36      5.79

**SO SRCPARAM   UNIT3       571.775    92.05      408.15     29.90     2.896
**SO SRCPARAM   UNIT4         0.0     121.92      408.15     19.2      5.85
**SO SRCPARAM   UNIT5         0.0     121.92      408.15     19.2      5.85


SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    49.28    40.23    40.23    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT BASE132-BASE195    49.28    49.28    40.23    40.23    26.21    26.21
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    96.39   128.84    12.19    15.61
SO BUILDWID BASE132-BASE195    18.55    93.10   132.86   122.72    24.05    23.65
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID BASE132-BASE195    96.39    93.10    84.53    82.17    24.05    23.65

SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    49.28    40.23    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT LD15032-LD17595    49.28    49.28    40.23    40.23    26.21    26.21
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    96.39   128.84    12.19    15.61
SO BUILDWID LD15032-LD17595    18.55    93.10   132.86   122.72    24.05    23.65
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID LD15032-LD17595    96.39    93.10    84.53    82.17    24.05    23.65

SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    49.28    49.28    40.23    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT BASE232-BASE295    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    86.98    93.10   121.95    15.61    12.19    15.61
SO BUILDWID BASE232-BASE295    96.39   138.96   132.86    23.71    24.05    23.65
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID BASE232-BASE295    96.39    84.32    84.53    23.71    24.05    23.65

SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    49.28    49.28    40.23    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
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SO BUILDHGT LD25032-LD27595	49.28	49.28	49.28	49.28	40.23	49.28
SO BUILDHGT LD25032-LD27595	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDWID LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD25032-LD27595	86.98	93.10	121.95	15.61	12.19	15.61
SO BUILDWID LD25032-LD27595	96.39	138.96	132.86	23.71	24.05	23.65
SO BUILDWID LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD25032-LD27595	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID LD25032-LD27595	96.39	84.32	84.53	23.71	24.05	23.65
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE332-BASE395	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE332-BASE395	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT BASE332-BASE395	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE332-BASE395	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID BASE332-BASE395	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE332-BASE395	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID BASE332-BASE395	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD35032-LD37595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD35032-LD37595	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD35032-LD37595	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID LD35032-LD37595	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD35032-LD37595	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID LD35032-LD37595	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE432-BASE495	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE432-BASE495	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE432-BASE495	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD45032-LD47595	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD45032-LD47595	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE532-BASE595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID BASE532-BASE595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDWID BASE532-BASE595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDHGT LD55032-LD57595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID LD55032-LD57595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53

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SO BUILDWID LD55032-LD57595   23.65   93.10   86.98   78.21   67.07   53.89
SO BUILDWID LD55032-LD57595   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD55032-LD57595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595   23.65   93.10   86.98   78.21   67.07   53.89

SO BUILDHGT BASE632-BASE695   40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT BASE632-BASE695   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDWID BASE632-BASE695   60.77   49.59   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695   23.65   24.05   86.98   78.21   67.07   53.89
SO BUILDWID BASE632-BASE695   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695   23.65   24.05   86.98   78.21   67.07   53.89

SO BUILDHGT LD65032-LD67595   40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDWID LD65032-LD67595   60.77   49.59   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89
SO BUILDWID LD65032-LD67595   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89

SO BUILDHGT BASE732-BASE795   40.23   40.23   40.23   40.23   40.23   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   40.23   40.23   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDWID BASE732-BASE795   60.77   49.59   46.27   41.54   44.43   22.66
SO BUILDWID BASE732-BASE795   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795   23.65   24.05   23.71   22.66   20.92   91.69
SO BUILDWID BASE732-BASE795   15.61   12.19   15.61   53.89   44.43   22.66
SO BUILDWID BASE732-BASE795   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795   23.65   24.05   23.71   22.66   20.92   91.69

SO BUILDHGT LD75032-LD77595   40.23   40.23   40.23   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDWID LD75032-LD77595   60.77   49.59   46.27   41.54   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69
SO BUILDWID LD75032-LD77595   15.61   12.19   15.61   53.89   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69

SO BUILDHGT BASE832-BASE895   26.21   26.21   40.23   49.28   49.28   49.28
SO BUILDHGT BASE832-BASE895   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895   26.21   26.21   26.21   49.28   49.28   49.28
SO BUILDHGT BASE832-BASE895   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE832-BASE895   15.61   12.19   46.27   53.89   67.07   78.22
SO BUILDWID BASE832-BASE895   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895   23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE832-BASE895   15.61   12.19   15.61   53.89   67.07   78.22
SO BUILDWID BASE832-BASE895   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895   23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD85032-LD87595   26.21   26.21   40.23   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD85032-LD87595   15.61   12.19   46.27   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD85032-LD87595   15.61   12.19   15.61   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55
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**SO BUILDHGT UNIT3        40.23    40.23    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT3        40.23    40.23    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT3        60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3        86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3        96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT3        60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3        86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3        96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT4         0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4        49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT4         0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4        49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT4         0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4        86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4        96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT4         0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4        86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4        96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT5         0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5        49.28    49.28    49.28    49.28    49.28    26.21
**SO BUILDHGT UNIT5         0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5        49.28    49.28    49.28    49.28    49.28     0.00
**SO BUILDWID UNIT5         0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5        86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5        96.39    93.10    86.98    78.21    67.07    18.55
**SO BUILDWID UNIT5         0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5        86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5        96.39    93.10    86.98    78.21    67.07     0.00

SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.        10
RE DISCPOLR BASE195      300.        10
RE DISCPOLR BASE195      400.        10
RE DISCPOLR BASE195      211.        20
RE DISCPOLR BASE195      300.        20
RE DISCPOLR BASE195      400.        20
RE DISCPOLR BASE195      229.        30
RE DISCPOLR BASE195      300.        30
RE DISCPOLR BASE195      400.        30
RE DISCPOLR BASE195      257.        40
RE DISCPOLR BASE195      300.        40
RE DISCPOLR BASE195      400.        40
RE DISCPOLR BASE195      305.        50
RE DISCPOLR BASE195      400.        50
RE DISCPOLR BASE195      296.        60
RE DISCPOLR BASE195      300.        60
RE DISCPOLR BASE195      400.        60
RE DISCPOLR BASE195      274.        70
RE DISCPOLR BASE195      300.        70
RE DISCPOLR BASE195      400.        70
RE DISCPOLR BASE195      262.        80
RE DISCPOLR BASE195      300.        80
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RE DISCPOLR BASE195      400.        80
RE DISCPOLR BASE195      259.        90
RE DISCPOLR BASE195      300.        90
RE DISCPOLR BASE195      400.        90
RE DISCPOLR BASE195      264.       100
RE DISCPOLR BASE195      300.       100
RE DISCPOLR BASE195      400.       100
RE DISCPOLR BASE195      275.       110
RE DISCPOLR BASE195      300.       110
RE DISCPOLR BASE195      400.       110
RE DISCPOLR BASE195      292.       120
RE DISCPOLR BASE195      300.       120
RE DISCPOLR BASE195      400.       120
RE DISCPOLR BASE195      317.       130
RE DISCPOLR BASE195      400.       130
RE DISCPOLR BASE195      351.       140
RE DISCPOLR BASE195      400.       140
RE DISCPOLR BASE195      404.       150
RE DISCPOLR BASE195      494.       160
RE DISCPOLR BASE195      515.       170
RE DISCPOLR BASE195      474.       180
RE DISCPOLR BASE195      451.       190
RE DISCPOLR BASE195      354.       190
RE DISCPOLR BASE195      289.       190
RE DISCPOLR BASE195      284.       200
RE DISCPOLR BASE195      300.       200
RE DISCPOLR BASE195      400.       200
RE DISCPOLR BASE195      289.       210
RE DISCPOLR BASE195      300.       210
RE DISCPOLR BASE195      400.       210
RE DISCPOLR BASE195      303.       220
RE DISCPOLR BASE195      400.       220
RE DISCPOLR BASE195      296.       230
RE DISCPOLR BASE195      300.       230
RE DISCPOLR BASE195      400.       230
RE DISCPOLR BASE195      230.       240
RE DISCPOLR BASE195      300.       240
RE DISCPOLR BASE195      400.       240
RE DISCPOLR BASE195      274.       250
RE DISCPOLR BASE195      300.       250
RE DISCPOLR BASE195      400.       250
RE DISCPOLR BASE195      352.       260
RE DISCPOLR BASE195      400.       260
RE DISCPOLR BASE195      389.       270
RE DISCPOLR BASE195      400.       270
RE DISCPOLR BASE195      394.       280
RE DISCPOLR BASE195      400.       280
RE DISCPOLR BASE195      412.       290
RE DISCPOLR BASE195      410.       300
RE DISCPOLR BASE195      316.       310
RE DISCPOLR BASE195      400.       310
RE DISCPOLR BASE195      264.       320
RE DISCPOLR BASE195      300.       320
RE DISCPOLR BASE195      400.       320
RE DISCPOLR BASE195      233.       330
RE DISCPOLR BASE195      300.       330
RE DISCPOLR BASE195      400.       330
RE DISCPOLR BASE195      214.       340
RE DISCPOLR BASE195      300.       340
RE DISCPOLR BASE195      400.       340
RE DISCPOLR BASE195      203.       350
RE DISCPOLR BASE195      300.       350
RE DISCPOLR BASE195      400.       350
RE DISCPOLR BASE195      200.       360
RE DISCPOLR BASE195      200.       360
RE DISCPOLR BASE195      300.       360
RE DISCPOLR BASE195      400.       360
RE FINISHED
ME STARTING

ME INPUTFIL H:\MET\ORLPRL87.BIN                        UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987              ORLANDO
ME UAIRDATA  12842  1987              RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
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GENERIC MODELED IMPACTS FOR PROPOSED COMBUSTION TURBINES FIRING NATURAL GAS IN SINGLE-CYCLE MODE (REPOWERED UNIT NO. 4) AND COMBINED-CYCLE MODE (REPOWEREED UNIT NO. 5) DURING CONSTRUCTION

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :GENWITSS.087
ISCST3 OUTPUT FILE NUMBER 2 :GENWITSS.088
ISCST3 OUTPUT FILE NUMBER 3 :GENWITSS.089
ISCST3 OUTPUT FILE NUMBER 4 :GENWITSS.090
ISCST3 OUTPUT FILE NUMBER 5 :GENWITSS.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)5/12/99
Second title for last output file is: UNIT5 HRSGS+ UNIT4 BYPASS STACKS, WITH Blg 4&5 STANDING

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	0.57132	20.	300.	87123124
	1988	0.54560	20.	300.	88123124
	1989	0.62716	20.	300.	89123124
	1990	0.57828	20.	300.	90123124
	1991	0.86648	20.	300.	91123124
HIGH 24-Hour					
	1987	12.82938	240.	300.	87032324
	1988	14.10040	20.	300.	88012024
	1989	13.67379	130.	317.	89030924
	1990	13.80370	250.	274.	90030824
	1991	13.89921	20.	300.	91032924
HIGH 8-Hour					
	1987	29.48945	240.	300.	87032316
	1988	22.51181	250.	274.	88020716
	1989	22.79499	10.	300.	89050116
	1990	32.11054	250.	274.	90030816
	1991	25.90613	20.	300.	91011116
HIGH 3-Hour					
	1987	41.05007	250.	274.	87030615
	1988	42.73856	20.	211.	88012024
	1989	36.22216	120.	292.	89122315
	1990	36.14810	20.	211.	90031703
	1991	41.29978	240.	300.	91112815
HIGH 1-Hour					
	1987	76.75159	20.	211.	87081701
	1988	75.61314	20.	211.	88092305
	1989	75.61314	20.	211.	89052701
	1990	76.52088	20.	211.	90070823
	1991	76.06403	20.	211.	91081202
SOURCE GROUP ID:	BASE59				
Annual					
	1987	0.50723	20.	300.	87123124
	1988	0.48891	20.	300.	88123124
	1989	0.55042	20.	300.	89123124
	1990	0.51326	20.	300.	90123124
	1991	0.77078	20.	300.	91123124
HIGH 24-Hour					
	1987	11.85557	240.	300.	87032324
	1988	13.15462	20.	300.	88012024
	1989	12.70948	130.	317.	89030924
	1990	13.17627	250.	274.	90030824
	1991	13.32233	20.	300.	91032924
HIGH 8-Hour					
	1987	28.00912	240.	300.	87032316
	1988	22.42237	60.	400.	88060916
	1989	22.78999	10.	300.	89050116
	1990	32.47586	250.	274.	90030816
	1991	25.23157	20.	300.	91011116
HIGH 3-Hour					
	1987	39.72202	250.	274.	87030615
	1988	40.15462	20.	211.	88012024
	1989	34.49482	120.	292.	89122315
	1990	34.80154	20.	211.	90031703
	1991	40.59170	240.	300.	91112815
HIGH 1-Hour					
	1987	68.90725	20.	211.	87081701
	1988	67.77471	20.	211.	88092305
	1989	67.77471	20.	211.	89052701
	1990	68.67747	20.	211.	90070823
	1991	68.22284	20.	211.	91081202
SOURCE GROUP ID:	BASE32				
Annual					
	1987	0.44889	20.	300.	87123124
	1988	0.43661	20.	300.	88123124
	1989	0.47827	20.	300.	89123124
	1990	0.45291	20.	300.	90123124

	1991	0.68095	20.	300.	91123124
HIGH 24-Hour					
	1987	11.31833	240.	300.	87032324
	1988	12.16535	20.	300.	88012024
	1989	11.65709	130.	317.	89030924
	1990	12.55152	250.	274.	90030824
	1991	12.47161	20.	300.	91032924
HIGH 8-Hour					
	1987	27.12286	240.	300.	87032316
	1988	21.34455	60.	400.	88060916
	1989	22.23092	10.	300.	89050116
	1990	31.33102	250.	274.	90030816
	1991	24.45494	20.	300.	91011116
HIGH 3-Hour					
	1987	39.00508	230.	296.	87101012
	1988	37.34253	20.	211.	88012024
	1989	32.62317	120.	292.	89122315
	1990	34.11792	250.	274.	90030812
	1991	38.64092	240.	300.	91112815
HIGH 1-Hour					
	1987	60.67626	20.	211.	87081701
	1988	59.56879	20.	211.	88092305
	1989	59.56879	20.	211.	89052701
	1990	60.45124	20.	211.	90070823
	1991	60.00653	20.	211.	91081202
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.93750	20.	300.	87123124
	1988	0.85874	20.	300.	88123124
	1989	1.07051	20.	300.	89123124
	1990	0.94888	20.	300.	90123124
	1991	1.38764	20.	300.	91123124
HIGH 24-Hour					
	1987	17.69891	250.	274.	87110324
	1988	17.79466	20.	300.	88012024
	1989	17.25481	130.	317.	89030924
	1990	16.42788	250.	274.	90030824
	1991	17.19205	20.	300.	91032924
HIGH 8-Hour					
	1987	32.67879	240.	300.	87032316
	1988	31.95740	120.	292.	88031508
	1989	23.24887	130.	317.	89121708
	1990	35.45695	250.	274.	90030816
	1991	30.27784	10.	300.	91032908
HIGH 3-Hour					
	1987	51.30078	10.	202.	87080724
	1988	52.19704	20.	211.	88012024
	1989	44.69657	20.	211.	89060824
	1990	52.22894	70.	400.	90052903
	1991	44.74183	360.	200.	91030115
HIGH 1-Hour					
	1987	107.06535	20.	211.	87081701
	1988	106.05304	20.	211.	88092305
	1989	106.05304	20.	211.	89052701
	1990	106.86115	20.	211.	90070823
	1991	106.45531	20.	211.	91081202
SOURCE GROUP ID:	LD7559				
Annual					
	1987	0.95565	20.	300.	87123124
	1988	0.87401	20.	300.	88123124
	1989	1.09052	20.	300.	89123124
	1990	0.96724	20.	300.	90123124
	1991	1.41118	20.	300.	91123124
HIGH 24-Hour					
	1987	16.37375	10.	300.	87022824
	1988	17.93377	20.	300.	88012024
	1989	17.39886	130.	317.	89030924
	1990	15.30416	250.	274.	90030824
	1991	17.20373	20.	300.	91032924
HIGH 8-Hour					
	1987	32.06648	240.	300.	87032316
	1988	32.16438	120.	292.	88031508
	1989	23.72830	130.	317.	89121708
	1990	34.70244	250.	274.	90030816
	1991	30.62713	10.	300.	91032908
HIGH 3-Hour					
	1987	52.05074	10.	202.	87080724
	1988	52.51854	20.	211.	88012024
	1989	45.44685	20.	211.	89060824
	1990	52.88306	70.	400.	90052903
	1991	43.26101	360.	200.	91032703
HIGH 1-Hour					

	1987	108.14616	20.	211.	87081701
	1988	107.14243	20.	211.	88092305
	1989	107.14243	20.	211.	89052701
	1990	107.94366	20.	211.	90070823
	1991	107.54132	20.	211.	91081202
SOURCE GROUP ID:	LD7532				
Annual					
	1987	0.84281	20.	300.	87123124
	1988	0.77548	20.	300.	88123124
	1989	0.95434	20.	300.	89123124
	1990	0.84970	20.	300.	90123124
	1991	1.25599	20.	300.	91123124
HIGH 24-Hour					
	1987	16.65559	250.	274.	87110324
	1988	16.98598	20.	300.	88012024
	1989	16.36498	130.	317.	89030924
	1990	14.96190	250.	274.	90030824
	1991	16.57866	20.	300.	91032924
HIGH 8-Hour					
	1987	31.74003	240.	300.	87032316
	1988	26.84362	120.	292.	88031508
	1989	22.41043	30.	300.	89033016
	1990	34.44131	250.	274.	90030816
	1991	28.28412	10.	300.	91032908
HIGH 3-Hour					
	1987	47.03819	10.	202.	87080724
	1988	50.31287	20.	211.	88012024
	1989	40.50757	20.	211.	89060824
	1990	48.45528	70.	400.	90052903
	1991	43.74021	240.	300.	91112815
HIGH 1-Hour					
	1987	100.77969	20.	211.	87081701
	1988	99.72279	20.	211.	88092305
	1989	99.72279	20.	211.	89052701
	1990	100.56626	20.	211.	90070823
	1991	100.14250	20.	211.	91081202
SOURCE GROUP ID:	LD5095				
Annual					
	1987	1.31719	20.	300.	87123124
	1988	1.21787	20.	300.	88123124
	1989	1.57099	20.	300.	89123124
	1990	1.36265	20.	300.	90123124
	1991	1.94069	20.	300.	91123124
HIGH 24-Hour					
	1987	21.61381	250.	274.	87110324
	1988	20.86499	20.	300.	88012024
	1989	19.85408	20.	300.	89060924
	1990	18.65740	250.	274.	90030824
	1991	19.51201	20.	300.	91032924
HIGH 8-Hour					
	1987	34.68485	240.	300.	87032316
	1988	33.17331	250.	274.	88091216
	1989	32.65856	130.	317.	89121708
	1990	37.80895	250.	274.	90030816
	1991	36.09793	10.	300.	91032908
HIGH 3-Hour					
	1987	53.04918	20.	300.	87041509
	1988	56.80256	360.	200.	88090406
	1989	59.18280	20.	211.	89060824
	1990	64.15765	70.	400.	90052903
	1991	53.88329	20.	211.	91052903
HIGH 1-Hour					
	1987	126.11949	20.	211.	87081701
	1988	125.29652	20.	211.	88092305
	1989	125.29652	20.	211.	89052701
	1990	125.95387	20.	211.	90070823
	1991	125.62418	20.	211.	91081202
SOURCE GROUP ID:	LD5059				
Annual					
	1987	1.27842	20.	300.	87123124
	1988	1.18181	20.	300.	88123124
	1989	1.52142	20.	300.	89123124
	1990	1.32222	20.	300.	90123124
	1991	1.88642	20.	300.	91123124
HIGH 24-Hour					
	1987	20.66756	250.	274.	87110324
	1988	20.66325	20.	300.	88012024
	1989	19.49305	20.	300.	89060924
	1990	17.89123	250.	274.	90030824
	1991	19.27849	20.	300.	91032924
HIGH 8-Hour					
	1987	34.27928	240.	300.	87032316

	1988	31.83859	250.	274.	88091216
	1989	31.87362	130.	317.	89121708
	1990	37.34984	250.	274.	90030816
	1991	35.59475	10.	300.	91032908
HIGH 3-Hour					
	1987	52.46967	20.	300.	87041509
	1988	55.87443	360.	200.	88090406
	1989	57.98553	20.	211.	89060824
	1990	63.25050	70.	400.	90052903
	1991	52.93977	20.	211.	91052903
HIGH 1-Hour					
	1987	124.67278	20.	211.	87081701
	1988	123.83224	20.	211.	88092305
	1989	123.83224	20.	211.	89052701
	1990	124.50359	20.	211.	90070823
	1991	124.16682	20.	211.	91081202
SOURCE GROUP ID:	LD5032				
Annual					
	1987	1.22082	20.	300.	87123124
	1988	1.12141	20.	300.	88123124
	1989	1.43390	20.	300.	89123124
	1990	1.25380	20.	300.	90123124
	1991	1.79369	20.	300.	91123124
HIGH 24-Hour					
	1987	20.33411	250.	274.	87110324
	1988	19.85464	20.	300.	88012024
	1989	18.53477	20.	300.	89060924
	1990	17.67218	250.	274.	90030824
	1991	18.72054	20.	300.	91032924
HIGH 8-Hour					
	1987	34.12442	240.	300.	87032316
	1988	31.35175	250.	274.	88091216
	1989	30.36392	130.	317.	89121708
	1990	37.22630	250.	274.	90030816
	1991	35.19026	10.	300.	91032908
HIGH 3-Hour					
	1987	61.98239	10.	202.	87080724
	1988	57.83966	360.	200.	88011824
	1989	55.67299	20.	211.	89060824
	1990	61.47035	70.	400.	90052903
	1991	51.10004	20.	211.	91052903
HIGH 1-Hour					
	1987	121.82396	20.	211.	87081701
	1988	120.95033	20.	211.	88092305
	1989	120.95033	20.	211.	89052701
	1990	121.64804	20.	211.	90070823
	1991	121.29798	20.	211.	91081202

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

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CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)5/12/99
CO TITLETWO  UNIT5 HRSGS+ UNIT4 BYPASS STACKS, WITH Blg 4&5 STANDING
CO MODELOPT  DFAULT CONC    RURAL NOCMPL
CO AVERTIME  PERIOD 24 8 3 1
CO POLLUTID  OTHER
CO DCAYCOEF   .000000
CO RUNORNOT  RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**         SRCID SRCTYP        XS            YS              ZS
** MODELING ORIGIN IS HRSG STACK LOCATION FOR 4A
SO LOCATION  ORIGIN  POINT     0.00        0.00     0.0
SO SRCPARAM  ORIGIN    0.00   18.3      892.6      33.50      6.71
** SO LOCATION  ORIGIN   POINT   0.00      0.00    0.00
**  HRSG STACK LETTER CODE
**  GENERIC ANALYSIS - GAS UNIT 5 AND UNIT 4 HRSG
** ------------------------
**STACK 1- 4A -  UNIT 4 BYPS 1
**STACK 2- 4B -  UNIT 4 BYPS 2
**STACK 3- 4C -  UNIT 4 BYPS 3
**STACK 4- 4D -  UNIT 4 BYPS 4
**STACK 5- 5A -  UNIT 5 HRSG 1
**STACK 6- 5B -  UNIT 5 HRSG 2
**STACK 7- 5C -  UNIT 5 HRSG 3
**STACK 8- 5D -  UNIT 5 HRSG 4
**         SRCID SRCTYP          XS          YS         ZS
**   UTM                         (m)         (m)        (m)
SO LOCATION  BASE195  POINT    -34.37       12.51     0.0
SO LOCATION  BASE295  POINT    -48.44      -26.16     0.0
SO LOCATION  BASE395  POINT    -62.41      -64.54     0.0
SO LOCATION  BASE495  POINT    -76.49     -103.20     0.0
SO LOCATION  BASE595  POINT     89.60       75.08     0.0
SO LOCATION  BASE695  POINT    128.27       61.00     0.0
SO LOCATION  BASE795  POINT    166.65       47.03     0.0
SO LOCATION  BASE895  POINT    205.32       32.96     0.0

SO LOCATION  BASE159  POINT    -34.37       12.51     0.0
SO LOCATION  BASE259  POINT    -48.44      -26.16     0.0
SO LOCATION  BASE359  POINT    -62.41      -64.54     0.0
SO LOCATION  BASE459  POINT    -76.49     -103.20     0.0
SO LOCATION  BASE559  POINT     89.60       75.08     0.0
SO LOCATION  BASE659  POINT    128.27       61.00     0.0
SO LOCATION  BASE759  POINT    166.65       47.03     0.0
SO LOCATION  BASE859  POINT    205.32       32.96     0.0

SO LOCATION  BASE132  POINT    -34.37       12.51     0.0
SO LOCATION  BASE232  POINT    -48.44      -26.16     0.0
SO LOCATION  BASE332  POINT    -62.41      -64.54     0.0
SO LOCATION  BASE432  POINT    -76.49     -103.20     0.0
SO LOCATION  BASE532  POINT     89.60       75.08     0.0
SO LOCATION  BASE632  POINT    128.27       61.00     0.0
SO LOCATION  BASE732  POINT    166.65       47.03     0.0
SO LOCATION  BASE832  POINT    205.32       32.96     0.0

SO LOCATION  LD17595  POINT    -34.37       12.51     0.0
SO LOCATION  LD27595  POINT    -48.44      -26.16     0.0
SO LOCATION  LD37595  POINT    -62.41      -64.54     0.0
SO LOCATION  LD47595  POINT    -76.49     -103.20     0.0
SO LOCATION  LD57595  POINT     89.60       75.08     0.0
SO LOCATION  LD67595  POINT    128.27       61.00     0.0
SO LOCATION  LD77595  POINT    166.65       47.03     0.0
SO LOCATION  LD87595  POINT    205.32       32.96     0.0

SO LOCATION  LD17559  POINT    -34.37       12.51     0.0
SO LOCATION  LD27559  POINT    -48.44      -26.16     0.0
SO LOCATION  LD37559  POINT    -62.41      -64.54     0.0
SO LOCATION  LD47559  POINT    -76.49     -103.20     0.0
SO LOCATION  LD57559  POINT     89.60       75.08     0.0
SO LOCATION  LD67559  POINT    128.27       61.00     0.0
SO LOCATION  LD77559  POINT    166.65       47.03     0.0
SO LOCATION  LD87559  POINT    205.32       32.96     0.0

SO LOCATION  LD17532  POINT    -34.37       12.51     0.0
SO LOCATION  LD27532  POINT    -48.44      -26.16     0.0
SO LOCATION  LD37532  POINT    -62.41      -64.54     0.0
SO LOCATION  LD47532  POINT    -76.49     -103.20     0.0
SO LOCATION  LD57532  POINT     89.60       75.08     0.0
SO LOCATION  LD67532  POINT    128.27       61.00     0.0
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SO LOCATION  LD77532  POINT    166.65     47.03   0.0
SO LOCATION  LD87532  POINT    205.32     32.96   0.0

SO LOCATION  LD15095  POINT    -34.37     12.51   0.0
SO LOCATION  LD25095  POINT    -48.44    -26.16   0.0
SO LOCATION  LD35095  POINT    -62.41    -64.54   0.0
SO LOCATION  LD45095  POINT    -76.49   -103.20   0.0
SO LOCATION  LD55095  POINT     89.60     75.08   0.0
SO LOCATION  LD65095  POINT    128.27     61.00   0.0
SO LOCATION  LD75095  POINT    166.65     47.03   0.0
SO LOCATION  LD85095  POINT    205.32     32.96   0.0

SO LOCATION  LD15059  POINT    -34.37     12.51   0.0
SO LOCATION  LD25059  POINT    -48.44    -26.16   0.0
SO LOCATION  LD35059  POINT    -62.41    -64.54   0.0
SO LOCATION  LD45059  POINT    -76.49   -103.20   0.0
SO LOCATION  LD55059  POINT     89.60     75.08   0.0
SO LOCATION  LD65059  POINT    128.27     61.00   0.0
SO LOCATION  LD75059  POINT    166.65     47.03   0.0
SO LOCATION  LD85059  POINT    205.32     32.96   0.0

SO LOCATION  LD15032  POINT    -34.37     12.51   0.0
SO LOCATION  LD25032  POINT    -48.44    -26.16   0.0
SO LOCATION  LD35032  POINT    -62.41    -64.54   0.0
SO LOCATION  LD45032  POINT    -76.49   -103.20   0.0
SO LOCATION  LD55032  POINT     89.60     75.08   0.0
SO LOCATION  LD65032  POINT    128.27     61.00   0.0
SO LOCATION  LD75032  POINT    166.65     47.03   0.0
SO LOCATION  LD85032  POINT    205.32     32.96   0.0

** Source Parameter Cards:
** POINT:   SRCID          QS     HS       TS        VS       DS
**                        (g/s)   (m)      (K)      (m/s)     (m)
SO SRCPARAM    BASE195    1.25    18.3     892.6     33.50    6.71
SO SRCPARAM    BASE295    1.25    18.3     892.6     33.50    6.71
SO SRCPARAM    BASE395    1.25    18.3     892.6     33.50    6.71
SO SRCPARAM    BASE495    1.25    18.3     892.6     33.50    6.71
SO SRCPARAM    BASE595    1.25    38.1     377.6     20.39    5.79
SO SRCPARAM    BASE695    1.25    38.1     377.6     20.39    5.79
SO SRCPARAM    BASE795    1.25    38.1     377.6     20.39    5.79
SO SRCPARAM    BASE895    1.25    38.1     377.6     20.39    5.79

SO SRCPARAM    BASE159    1.25    18.3     876.5     35.51    6.71
SO SRCPARAM    BASE259    1.25    18.3     876.5     35.51    6.71
SO SRCPARAM    BASE359    1.25    18.3     876.5     35.51    6.71
SO SRCPARAM    BASE459    1.25    18.3     876.5     35.51    6.71
SO SRCPARAM    BASE559    1.25    38.1     377.6     21.34    5.79
SO SRCPARAM    BASE659    1.25    38.1     377.6     21.34    5.79
SO SRCPARAM    BASE759    1.25    38.1     377.6     21.34    5.79
SO SRCPARAM    BASE859    1.25    38.1     377.6     21.34    5.79

SO SRCPARAM    BASE132    1.25    18.3     864.3     36.58    6.71
SO SRCPARAM    BASE232    1.25    18.3     864.3     36.58    6.71
SO SRCPARAM    BASE332    1.25    18.3     864.3     36.58    6.71
SO SRCPARAM    BASE432    1.25    18.3     864.3     36.58    6.71
SO SRCPARAM    BASE532    1.25    38.1     377.6     22.34    5.79
SO SRCPARAM    BASE632    1.25    38.1     377.6     22.34    5.79
SO SRCPARAM    BASE732    1.25    38.1     377.6     22.34    5.79
SO SRCPARAM    BASE832    1.25    38.1     377.6     22.34    5.79

SO SRCPARAM    LD17595    1.25    18.3     906.5     28.19    6.71
SO SRCPARAM    LD27595    1.25    18.3     906.5     28.19    6.71
SO SRCPARAM    LD37595    1.25    18.3     906.5     28.19    6.71
SO SRCPARAM    LD47595    1.25    18.3     906.5     28.19    6.71
SO SRCPARAM    LD57595    1.25    38.1     377.6     16.52    5.79
SO SRCPARAM    LD67595    1.25    38.1     377.6     16.52    5.79
SO SRCPARAM    LD77595    1.25    38.1     377.6     16.52    5.79
SO SRCPARAM    LD87595    1.25    38.1     377.6     16.52    5.79

SO SRCPARAM    LD17559    1.25    18.3     889.8     29.54    6.71
SO SRCPARAM    LD27559    1.25    18.3     889.8     29.54    6.71
SO SRCPARAM    LD37559    1.25    18.3     889.8     29.54    6.71
SO SRCPARAM    LD47559    1.25    18.3     889.8     29.54    6.71
SO SRCPARAM    LD57559    1.25    38.1     377.6     16.37    5.79
SO SRCPARAM    LD67559    1.25    38.1     377.6     16.37    5.79
SO SRCPARAM    LD77559    1.25    38.1     377.6     16.37    5.79
SO SRCPARAM    LD87559    1.25    38.1     377.6     16.37    5.79

SO SRCPARAM    LD17532    1.25    18.3     879.8     29.99    6.71
SO SRCPARAM    LD27532    1.25    18.3     879.8     29.99    6.71
SO SRCPARAM    LD37532    1.25    18.3     879.8     29.99    6.71
SO SRCPARAM    LD47532    1.25    18.3     879.8     29.99    6.71
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SO SRCPARAM   LD57532      1.25   38.1       377.6     17.37     5.79
SO SRCPARAM   LD67532      1.25   38.1       377.6     17.37     5.79
SO SRCPARAM   LD77532      1.25   38.1       377.6     17.37     5.79
SO SRCPARAM   LD87532      1.25   38.1       377.6     17.37     5.79

SO SRCPARAM   LD15095      1.25   18.3       922.0     24.14     6.71
SO SRCPARAM   LD25095      1.25   18.3       922.0     24.14     6.71
SO SRCPARAM   LD35095      1.25   18.3       922.0     24.14     6.71
SO SRCPARAM   LD45095      1.25   18.3       922.0     24.14     6.71
SO SRCPARAM   LD55095      1.25   38.1       377.6     13.66     5.79
SO SRCPARAM   LD65095      1.25   38.1       377.6     13.66     5.79
SO SRCPARAM   LD75095      1.25   38.1       377.6     13.66     5.79
SO SRCPARAM   LD85095      1.25   38.1       377.6     13.66     5.79

SO SRCPARAM   LD15059      1.25   18.3       914.3     25.09     6.71
SO SRCPARAM   LD25059      1.25   18.3       914.3     25.09     6.71
SO SRCPARAM   LD35059      1.25   18.3       914.3     25.09     6.71
SO SRCPARAM   LD45059      1.25   18.3       914.3     25.09     6.71
SO SRCPARAM   LD55059      1.25   38.1       377.6     13.90     5.79
SO SRCPARAM   LD65059      1.25   38.1       377.6     13.90     5.79
SO SRCPARAM   LD75059      1.25   38.1       377.6     13.90     5.79
SO SRCPARAM   LD85059      1.25   38.1       377.6     13.90     5.79

SO SRCPARAM   LD15032      1.25   18.3       905.9     25.39     6.71
SO SRCPARAM   LD25032      1.25   18.3       905.9     25.39     6.71
SO SRCPARAM   LD35032      1.25   18.3       905.9     25.39     6.71
SO SRCPARAM   LD45032      1.25   18.3       905.9     25.39     6.71
SO SRCPARAM   LD55032      1.25   38.1       377.6     14.36     5.79
SO SRCPARAM   LD65032      1.25   38.1       377.6     14.36     5.79
SO SRCPARAM   LD75032      1.25   38.1       377.6     14.36     5.79
SO SRCPARAM   LD85032      1.25   38.1       377.6     14.36     5.79


SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT BASE132-BASE195    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE132-BASE195    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID BASE132-BASE195    96.39    84.32    84.53    23.71    24.05    23.65

SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT LD15032-LD17595    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD15032-LD17595    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID LD15032-LD17595    96.39    84.32    84.53    23.71    24.05    23.65

SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT BASE232-BASE295    40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE232-BASE295    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    22.66    93.10    96.39    96.76    68.73    96.76
SO BUILDWID BASE232-BASE295    81.55    84.32    22.66    23.71    24.05    23.65

SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT LD25032-LD27595    40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID LD25032-LD27595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD25032-LD27595    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD25032-LD27595    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID LD25032-LD27595    22.53    20.73    22.53    23.65    24.05    23.71
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SO BUILDWID LD25032-LD27595   22.66   93.10   96.39   96.76   68.73   96.76
SO BUILDWID LD25032-LD27595   81.55   84.32   22.66   23.71   24.05   23.65

SO BUILDHGT BASE332-BASE395   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395   49.28   49.28   49.28   49.28   40.23   40.23
SO BUILDHGT BASE332-BASE395   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE332-BASE395   22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE332-BASE395   22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE332-BASE395   18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE332-BASE395   22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE332-BASE395   86.98   93.10   96.39   96.76   68.73   76.30
SO BUILDWID BASE332-BASE395   18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD35032-LD37595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595   49.28   49.28   49.28   49.28   40.23   40.23
SO BUILDHGT LD35032-LD37595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD35032-LD37595   22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD35032-LD37595   22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD35032-LD37595   18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD35032-LD37595   22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD35032-LD37595   86.98   93.10   96.39   96.76   68.73   76.30
SO BUILDWID LD35032-LD37595   18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BASE432-BASE495   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495   26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT BASE432-BASE495   49.28   49.28   49.28   40.23   26.21   26.21
SO BUILDHGT BASE432-BASE495   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE432-BASE495   22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE432-BASE495   22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE432-BASE495   18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE432-BASE495   22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID BASE432-BASE495   86.98   93.10   96.39   66.71   12.19   15.61
SO BUILDWID BASE432-BASE495   18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD45032-LD47595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595   26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT LD45032-LD47595   49.28   49.28   49.28   40.23   26.21   26.21
SO BUILDHGT LD45032-LD47595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD45032-LD47595   22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD45032-LD47595   22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD45032-LD47595   18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD45032-LD47595   22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID LD45032-LD47595   86.98   93.10   96.39   66.71   12.19   15.61
SO BUILDWID LD45032-LD47595   18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BASE532-BASE595   40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595   26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT BASE532-BASE595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595   26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDWID BASE532-BASE595   60.77   12.19   15.61   18.55   24.05   23.71
SO BUILDWID BASE532-BASE595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE532-BASE595   23.65   93.10   86.98   78.21   67.07   53.89
SO BUILDWID BASE532-BASE595   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE532-BASE595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE532-BASE595   23.65   93.10   86.98   78.21   67.07   53.89

SO BUILDHGT LD55032-LD57595   40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595   26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT LD55032-LD57595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595   26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDWID LD55032-LD57595   60.77   12.19   15.61   18.55   24.05   23.71
SO BUILDWID LD55032-LD57595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595   23.65   93.10   86.98   78.21   67.07   53.89
SO BUILDWID LD55032-LD57595   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD55032-LD57595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595   23.65   93.10   86.98   78.21   67.07   53.89

SO BUILDHGT BASE632-BASE695   40.23   40.23   26.21   26.21   26.21   26.21
```

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SO BUILDHGT BASE632-BASE695   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT BASE632-BASE695   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDWID BASE632-BASE695   60.77   49.59   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695   23.65   24.05   86.98   78.21   67.07   53.89
SO BUILDWID BASE632-BASE695   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695   23.65   24.05   86.98   78.21   67.07   53.89

SO BUILDHGT LD65032-LD67595   40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDWID LD65032-LD67595   60.77   49.59   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89
SO BUILDWID LD65032-LD67595   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89

SO BUILDHGT BASE732-BASE795   40.23   40.23   40.23   40.23   40.23   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   40.23   40.23   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDWID BASE732-BASE795   60.77   49.59   46.27   41.54   44.43   22.66
SO BUILDWID BASE732-BASE795   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795   23.65   24.05   23.71   22.66   20.92   91.69
SO BUILDWID BASE732-BASE795   15.61   12.19   15.61   53.89   44.43   22.66
SO BUILDWID BASE732-BASE795   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795   23.65   24.05   23.71   22.66   20.92   91.69

SO BUILDHGT LD75032-LD77595   40.23   40.23   40.23   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDWID LD75032-LD77595   60.77   49.59   46.27   41.54   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69
SO BUILDWID LD75032-LD77595   15.61   12.19   15.61   53.89   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69

SO BUILDHGT BASE832-BASE895   26.21   26.21   40.23   49.28   49.28   49.28
SO BUILDHGT BASE832-BASE895   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895   26.21   26.21   26.21   49.28   49.28   49.28
SO BUILDHGT BASE832-BASE895   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE832-BASE895   15.61   12.19   46.27   53.89   67.07   78.22
SO BUILDWID BASE832-BASE895   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895   23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE832-BASE895   15.61   12.19   15.61   53.89   67.07   78.22
SO BUILDWID BASE832-BASE895   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895   23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD85032-LD87595   26.21   26.21   40.23   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD85032-LD87595   15.61   12.19   46.27   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD85032-LD87595   15.61   12.19   15.61   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55

**SO BUILDHGT UNIT3        40.23   40.23   40.23   49.28   49.28   49.28
**SO BUILDHGT UNIT3        49.28   49.28   49.28   49.28   40.23   49.28
**SO BUILDHGT UNIT3        49.28   49.28   49.28   49.28   49.28   49.28
**SO BUILDHGT UNIT3        40.23   40.23   40.23   49.28   49.28   49.28
**SO BUILDHGT UNIT3        49.28   49.28   49.28   49.28   40.23   49.28
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**SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT3      60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3      86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3      96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT3      60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3      86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3      96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT4       0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT4       0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT4       0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4      86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4      96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT4       0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4      86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4      96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT5       0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5      49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5      49.28    49.28    49.28    49.28    49.28    26.21
**SO BUILDHGT UNIT5       0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5      49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5      49.28    49.28    49.28    49.28    49.28     0.00
**SO BUILDWID UNIT5       0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5      86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5      96.39    93.10    86.98    78.21    67.07    18.55
**SO BUILDWID UNIT5       0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5      86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5      96.39    93.10    86.98    78.21    67.07     0.00

SO EMISUNIT     .100000E+07 (GRAMS/SEC)         (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0  0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR ORIGIN      202.        10
RE DISCPOLR ORIGIN      300.        10
RE DISCPOLR ORIGIN      400.        10
RE DISCPOLR ORIGIN      211.        20
RE DISCPOLR ORIGIN      300.        20
RE DISCPOLR ORIGIN      400.        20
RE DISCPOLR ORIGIN      229.        30
RE DISCPOLR ORIGIN      300.        30
RE DISCPOLR ORIGIN      400.        30
RE DISCPOLR ORIGIN      257.        40
RE DISCPOLR ORIGIN      300.        40
RE DISCPOLR ORIGIN      400.        40
RE DISCPOLR ORIGIN      305.        50
RE DISCPOLR ORIGIN      400.        50
RE DISCPOLR ORIGIN      296.        60
RE DISCPOLR ORIGIN      300.        60
RE DISCPOLR ORIGIN      400.        60
RE DISCPOLR ORIGIN      274.        70
RE DISCPOLR ORIGIN      300.        70
RE DISCPOLR ORIGIN      400.        70
RE DISCPOLR ORIGIN      262.        80
RE DISCPOLR ORIGIN      300.        80
RE DISCPOLR ORIGIN      400.        80
RE DISCPOLR ORIGIN      259.        90
RE DISCPOLR ORIGIN      300.        90
RE DISCPOLR ORIGIN      400.        90
RE DISCPOLR ORIGIN      264.       100
RE DISCPOLR ORIGIN      300.       100
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RE DISCPOLR ORIGIN       400.        100
RE DISCPOLR ORIGIN       275.        110
RE DISCPOLR ORIGIN       300.        110
RE DISCPOLR ORIGIN       400.        110
RE DISCPOLR ORIGIN       292.        120
RE DISCPOLR ORIGIN       300.        120
RE DISCPOLR ORIGIN       400.        120
RE DISCPOLR ORIGIN       317.        130
RE DISCPOLR ORIGIN       400.        130
RE DISCPOLR ORIGIN       351.        140
RE DISCPOLR ORIGIN       400.        140
RE DISCPOLR ORIGIN       404.        150
RE DISCPOLR ORIGIN       494.        160
RE DISCPOLR ORIGIN       515.        170
RE DISCPOLR ORIGIN       474.        180
RE DISCPOLR ORIGIN       451.        190
RE DISCPOLR ORIGIN       354.        190
RE DISCPOLR ORIGIN       289.        190
RE DISCPOLR ORIGIN       284.        200
RE DISCPOLR ORIGIN       300.        200
RE DISCPOLR ORIGIN       400.        200
RE DISCPOLR ORIGIN       289.        210
RE DISCPOLR ORIGIN       300.        210
RE DISCPOLR ORIGIN       400.        210
RE DISCPOLR ORIGIN       303.        220
RE DISCPOLR ORIGIN       400.        220
RE DISCPOLR ORIGIN       296.        230
RE DISCPOLR ORIGIN       300.        230
RE DISCPOLR ORIGIN       400.        230
RE DISCPOLR ORIGIN       230.        240
RE DISCPOLR ORIGIN       300.        240
RE DISCPOLR ORIGIN       400.        240
RE DISCPOLR ORIGIN       274.        250
RE DISCPOLR ORIGIN       300.        250
RE DISCPOLR ORIGIN       400.        250
RE DISCPOLR ORIGIN       352.        260
RE DISCPOLR ORIGIN       400.        260
RE DISCPOLR ORIGIN       389.        270
RE DISCPOLR ORIGIN       400.        270
RE DISCPOLR ORIGIN       394.        280
RE DISCPOLR ORIGIN       400.        280
RE DISCPOLR ORIGIN       412.        290
RE DISCPOLR ORIGIN       410.        300
RE DISCPOLR ORIGIN       316.        310
RE DISCPOLR ORIGIN       400.        310
RE DISCPOLR ORIGIN       264.        320
RE DISCPOLR ORIGIN       300.        320
RE DISCPOLR ORIGIN       400.        320
RE DISCPOLR ORIGIN       233.        330
RE DISCPOLR ORIGIN       300.        330
RE DISCPOLR ORIGIN       400.        330
RE DISCPOLR ORIGIN       214.        340
RE DISCPOLR ORIGIN       300.        340
RE DISCPOLR ORIGIN       400.        340
RE DISCPOLR ORIGIN       203.        350
RE DISCPOLR ORIGIN       300.        350
RE DISCPOLR ORIGIN       400.        350
RE DISCPOLR ORIGIN       200.        360
RE DISCPOLR ORIGIN       200.        360
RE DISCPOLR ORIGIN       300.        360
RE DISCPOLR ORIGIN       400.        360
RE FINISHED
ME STARTING

ME INPUTFIL D:\MET\ORLPRL87.BIN                            UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987             ORLANDO
ME UAIRDATA  12842  1987             RUSKIN
ME WINDCATS     1.54      3.09      5.14      8.23     10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

POLLUTANT-SPECIFIC IMPACTS FOR PROPOSED COMBUSTION TURBINES FIRING NATURAL GAS (REPOWERED UNIT NO. 4) AND DISTILLATE FUEL OIL (REPOWEREED UNIT NO. 5) IN COMBINED-CYCLE MODE DURING CONSTRUCTION

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :SOXOILW.087
ISCST3 OUTPUT FILE NUMBER 2 :SOXOILW.088
ISCST3 OUTPUT FILE NUMBER 3 :SOXOILW.089
ISCST3 OUTPUT FILE NUMBER 4 :SOXOILW.090
ISCST3 OUTPUT FILE NUMBER 5 :SOXOILW.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/15/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating

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	5.367	20.	300.	87123124
	1988	5.121	20.	300.	88123124
	1989	5.884	20.	300.	89123124
	1990	5.429	20.	300.	90123124
	1991	8.138	20.	300.	91123124
HIGH 24-Hour					
	1987	117.703	10.	300.	87022824
	1988	132.797	20.	300.	88012024
	1989	129.012	130.	317.	89030924
	1990	93.098	20.	300.	90033124
	1991	129.549	20.	300.	91032924
HSH 24-Hour					
	1987	79.604	20.	211.	87032524
	1988	107.647	20.	300.	88012124
	1989	90.185	120.	292.	89030924
	1990	91.721	20.	300.	90121924
	1991	117.933	20.	300.	91011124
HIGH 3-Hour					
	1987	323.243	20.	211.	87032512
	1988	402.358	20.	211.	88012024
	1989	341.010	120.	292.	89122315
	1990	340.313	20.	211.	90031703
	1991	342.887	360.	200.	91030115
HSH 3-Hour					
	1987	297.591	20.	211.	87030103
	1988	345.417	20.	211.	88010721
	1989	254.917	20.	211.	89060824
	1990	320.762	70.	400.	90052121
	1991	311.625	20.	211.	91071824
SOURCE GROUP ID: BASE59					
Annual					
	1987	5.073	20.	300.	87123124
	1988	4.888	20.	300.	88123124
	1989	5.498	20.	300.	89123124
	1990	5.130	20.	300.	90123124
	1991	7.710	20.	300.	91123124
HIGH 24-Hour					
	1987	116.800	10.	300.	87022824
	1988	131.988	20.	300.	88012024
	1989	127.739	130.	317.	89030924
	1990	98.526	10.	300.	90031724
	1991	132.824	20.	300.	91032924
HSH 24-Hour					
	1987	80.122	20.	211.	87032524
	1988	107.737	20.	300.	88012124
	1989	93.110	20.	300.	89050124
	1990	90.419	20.	300.	90021624
	1991	119.599	20.	300.	91011124
HIGH 3-Hour					
	1987	331.465	20.	211.	87032512
	1988	402.735	20.	211.	88012024
	1989	345.969	120.	292.	89122315
	1990	349.046	20.	211.	90031703
	1991	344.100	10.	300.	91032909
HSH 3-Hour					
	1987	308.516	20.	211.	87030103
	1988	349.072	20.	211.	88010721
	1989	250.284	20.	211.	89050112
	1990	313.542	20.	300.	90121915
	1991	308.512	20.	211.	91071824
SOURCE GROUP ID: BASE32					
Annual					
	1987	4.578	20.	300.	87123124
	1988	4.452	20.	300.	88123124
	1989	4.869	20.	300.	89123124
	1990	4.615	20.	300.	90123124

	1991	6.947	20.	300.	91123124
HIGH 24-Hour					
	1987	111.120	10.	300.	87022824
	1988	124.518	20.	300.	88012024
	1989	119.517	130.	317.	89030924
	1990	96.630	10.	300.	90031724
	1991	127.031	20.	300.	91032924
HSH 24-Hour					
	1987	80.755	20.	300.	87030124
	1988	101.549	20.	300.	88012124
	1989	91.405	20.	300.	89050124
	1990	86.854	20.	300.	90021624
	1991	115.814	20.	300.	91011124
HIGH 3-Hour					
	1987	323.555	20.	211.	87032512
	1988	382.059	20.	211.	88012024
	1989	333.774	120.	292.	89122315
	1990	340.771	20.	211.	90031703
	1991	338.136	10.	300.	91032909
HSH 3-Hour					
	1987	305.041	20.	211.	87030103
	1988	335.066	20.	211.	88010721
	1989	263.029	120.	292.	89122324
	1990	299.679	360.	200.	90031512
	1991	324.798	10.	300.	91030306
SOURCE GROUP ID:	LD7595				
Annual					
	1987	7.063	20.	300.	87123124
	1988	6.457	20.	300.	88123124
	1989	8.061	20.	300.	89123124
	1990	7.147	20.	300.	90123124
	1991	10.445	20.	300.	91123124
HIGH 24-Hour					
	1987	122.347	10.	300.	87022824
	1988	134.238	20.	300.	88012024
	1989	130.459	130.	317.	89030924
	1990	105.861	10.	300.	90071424
	1991	126.417	20.	300.	91032924
HSH 24-Hour					
	1987	75.664	20.	300.	87011524
	1988	111.706	20.	300.	88012124
	1989	79.001	20.	300.	89050124
	1990	96.275	20.	300.	90033124
	1991	110.049	20.	300.	91011124
HIGH 3-Hour					
	1987	386.808	10.	202.	87080724
	1988	393.566	20.	211.	88012024
	1989	337.012	20.	211.	89060824
	1990	398.136	70.	400.	90052903
	1991	337.360	360.	200.	91030115
HSH 3-Hour					
	1987	280.319	20.	300.	87012206
	1988	340.428	360.	200.	88090406
	1989	281.771	20.	211.	89120812
	1990	297.791	20.	300.	90082406
	1991	322.700	360.	200.	91032703
SOURCE GROUP ID:	LD7559				
Annual					
	1987	7.785	20.	300.	87123124
	1988	7.109	20.	300.	88123124
	1989	8.879	20.	300.	89123124
	1990	7.876	20.	300.	90123124
	1991	11.488	20.	300.	91123124
HIGH 24-Hour					
	1987	133.535	10.	300.	87022824
	1988	146.291	20.	300.	88012024
	1989	142.244	130.	317.	89030924
	1990	116.092	10.	300.	90071424
	1991	137.600	20.	300.	91032924
HSH 24-Hour					
	1987	82.799	20.	300.	87011524
	1988	122.007	20.	300.	88012124
	1989	85.812	20.	300.	89050124
	1990	105.177	20.	300.	90033124
	1991	120.070	20.	300.	91011124
HIGH 3-Hour					
	1987	424.443	10.	202.	87080724
	1988	428.257	20.	211.	88012024
	1989	370.592	20.	211.	89060824
	1990	435.470	70.	400.	90052903
	1991	352.768	360.	200.	91032703
HSH 3-Hour					

	1987	304.814	20.	300.	87012206
	1988	373.372	360.	200.	88090406
	1989	306.795	20.	211.	89120812
	1990	326.393	20.	300.	90082406
	1991	338.804	20.	211.	91071824
SOURCE GROUP ID:	LD7532				
Annual					
	1987	7.008	20.	300.	87123124
	1988	6.438	20.	300.	88123124
	1989	7.930	20.	300.	89123124
	1990	7.062	20.	300.	90123124
	1991	10.437	20.	300.	91123124
HIGH 24-Hour					
	1987	129.203	10.	300.	87022824
	1988	141.471	20.	300.	88012024
	1989	136.610	130.	317.	89030924
	1990	107.411	10.	300.	90071424
	1991	135.515	20.	300.	91032924
HSH 24-Hour					
	1987	82.167	20.	211.	87032524
	1988	116.606	20.	300.	88012124
	1989	92.077	120.	292.	89122324
	1990	100.217	20.	300.	90033124
	1991	117.161	20.	300.	91011124
HIGH 3-Hour					
	1987	391.621	10.	202.	87080724
	1988	418.885	20.	211.	88012024
	1989	337.250	20.	211.	89060824
	1990	407.516	70.	400.	90052903
	1991	358.079	360.	200.	91030115
HSH 3-Hour					
	1987	299.611	20.	300.	87012206
	1988	345.570	360.	200.	88090406
	1989	298.200	20.	211.	89120812
	1990	316.397	70.	400.	90052121
	1991	329.241	360.	200.	91032703
SOURCE GROUP ID:	LD5095				
Annual					
	1987	7.818	20.	300.	87123124
	1988	7.210	20.	300.	88123124
	1989	9.323	20.	300.	89123124
	1990	8.088	20.	300.	90123124
	1991	11.503	20.	300.	91123124
HIGH 24-Hour					
	1987	109.854	10.	300.	87022824
	1988	123.942	20.	300.	88012024
	1989	117.985	20.	300.	89060924
	1990	103.944	10.	300.	90071424
	1991	111.104	20.	300.	91032924
HSH 24-Hour					
	1987	78.194	20.	300.	87011824
	1988	103.184	20.	300.	88012124
	1989	78.004	10.	300.	89050124
	1990	88.945	20.	300.	90021624
	1991	108.340	20.	300.	91032224
HIGH 3-Hour					
	1987	314.943	20.	300.	87041509
	1988	337.225	360.	200.	88090406
	1989	351.356	20.	211.	89060824
	1990	385.175	70.	400.	90052903
	1991	319.866	20.	211.	91052903
HSH 3-Hour					
	1987	250.276	20.	300.	87072924
	1988	302.112	360.	200.	88090906
	1989	263.977	20.	211.	89031421
	1990	261.900	20.	300.	90092203
	1991	279.596	360.	200.	91121324
SOURCE GROUP ID:	LD5059				
Annual					
	1987	8.178	20.	300.	87123124
	1988	7.544	20.	300.	88123124
	1989	9.731	20.	300.	89123124
	1990	8.459	20.	300.	90123124
	1991	12.054	20.	300.	91123124
HIGH 24-Hour					
	1987	116.693	10.	300.	87022824
	1988	132.315	20.	300.	88012024
	1989	124.872	20.	300.	89060924
	1990	110.195	10.	300.	90071424
	1991	118.736	20.	300.	91032924
HSH 24-Hour					
	1987	81.394	20.	300.	87011824

	1988	109.761	20.	300.	88012124
	1989	83.402	10.	300.	89050124
	1990	94.405	20.	300.	90021624
	1991	113.709	20.	300.	91032224
HIGH 3-Hour					
	1987	335.807	20.	300.	87041509
	1988	357.596	360.	200.	88090406
	1989	371.107	20.	211.	89060824
	1990	409.179	70.	400.	90052903
	1991	338.783	20.	211.	91052903
HSH 3-Hour					
	1987	265.408	20.	300.	87072924
	1988	321.259	360.	200.	88090906
	1989	274.439	20.	211.	89031421
	1990	274.624	20.	300.	90092203
	1991	298.011	360.	200.	91121324
SOURCE GROUP ID:	LD5032				
Annual					
	1987	8.068	20.	300.	87123124
	1988	7.394	20.	300.	88123124
	1989	9.474	20.	300.	89123124
	1990	8.286	20.	300.	90123124
	1991	11.840	20.	300.	91123124
HIGH 24-Hour					
	1987	117.395	10.	300.	87022824
	1988	131.349	20.	300.	88012024
	1989	122.669	20.	300.	89060924
	1990	112.552	10.	300.	90071424
	1991	119.196	20.	300.	91032924
HSH 24-Hour					
	1987	82.767	20.	300.	87011824
	1988	112.335	20.	300.	88012124
	1989	81.662	20.	300.	89061324
	1990	94.611	20.	300.	90021624
	1991	109.769	20.	300.	91011124
HIGH 3-Hour					
	1987	409.828	10.	202.	87080724
	1988	382.436	360.	200.	88011824
	1989	368.110	20.	211.	89060824
	1990	410.848	70.	400.	90052903
	1991	337.840	20.	211.	91052903
HSH 3-Hour					
	1987	265.324	20.	300.	87072924
	1988	357.533	360.	200.	88090406
	1989	269.550	20.	211.	89120812
	1990	292.559	20.	300.	90121915
	1991	300.969	360.	200.	91121324

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

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CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/15/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 3
CO POLLUTID  SO2
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP      XS            YS              ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00    0.00
**  HRSG STACK LETTER CODE
** ----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP          XS          YS         ZS
**   UTM                          (m)         (m)        (m)
SO LOCATION  BASE195  POINT      0.00        0.00      0.0
SO LOCATION  BASE295  POINT    -14.07      -38.67      0.0
SO LOCATION  BASE395  POINT    -28.04      -77.05      0.0
SO LOCATION  BASE495  POINT    -42.12     -115.71      0.0
SO LOCATION  BASE595  POINT     89.60       75.08      0.0
SO LOCATION  BASE695  POINT    128.27       61.00      0.0
SO LOCATION  BASE795  POINT    166.65       47.03      0.0
SO LOCATION  BASE895  POINT    205.32       32.96      0.0

SO LOCATION  BASE159  POINT      0.00        0.00      0.0
SO LOCATION  BASE259  POINT    -14.07      -38.67      0.0
SO LOCATION  BASE359  POINT    -28.04      -77.05      0.0
SO LOCATION  BASE459  POINT    -42.12     -115.71      0.0
SO LOCATION  BASE559  POINT     89.60       75.08      0.0
SO LOCATION  BASE659  POINT    128.27       61.00      0.0
SO LOCATION  BASE759  POINT    166.65       47.03      0.0
SO LOCATION  BASE859  POINT    205.32       32.96      0.0

SO LOCATION  BASE132  POINT      0.00        0.00      0.0
SO LOCATION  BASE232  POINT    -14.07      -38.67      0.0
SO LOCATION  BASE332  POINT    -28.04      -77.05      0.0
SO LOCATION  BASE432  POINT    -42.12     -115.71      0.0
SO LOCATION  BASE532  POINT     89.60       75.08      0.0
SO LOCATION  BASE632  POINT    128.27       61.00      0.0
SO LOCATION  BASE732  POINT    166.65       47.03      0.0
SO LOCATION  BASE832  POINT    205.32       32.96      0.0

SO LOCATION  LD17595  POINT      0.00        0.00      0.0
SO LOCATION  LD27595  POINT    -14.07      -38.67      0.0
SO LOCATION  LD37595  POINT    -28.04      -77.05      0.0
SO LOCATION  LD47595  POINT    -42.12     -115.71      0.0
SO LOCATION  LD57595  POINT     89.60       75.08      0.0
SO LOCATION  LD67595  POINT    128.27       61.00      0.0
SO LOCATION  LD77595  POINT    166.65       47.03      0.0
SO LOCATION  LD87595  POINT    205.32       32.96      0.0

SO LOCATION  LD17559  POINT      0.00        0.00      0.0
SO LOCATION  LD27559  POINT    -14.07      -38.67      0.0
SO LOCATION  LD37559  POINT    -28.04      -77.05      0.0
SO LOCATION  LD47559  POINT    -42.12     -115.71      0.0
SO LOCATION  LD57559  POINT     89.60       75.08      0.0
SO LOCATION  LD67559  POINT    128.27       61.00      0.0
SO LOCATION  LD77559  POINT    166.65       47.03      0.0
SO LOCATION  LD87559  POINT    205.32       32.96      0.0

SO LOCATION  LD17532  POINT      0.00        0.00      0.0
SO LOCATION  LD27532  POINT    -14.07      -38.67      0.0
SO LOCATION  LD37532  POINT    -28.04      -77.05      0.0
SO LOCATION  LD47532  POINT    -42.12     -115.71      0.0
SO LOCATION  LD57532  POINT     89.60       75.08      0.0
SO LOCATION  LD67532  POINT    128.27       61.00      0.0
SO LOCATION  LD77532  POINT    166.65       47.03      0.0
SO LOCATION  LD87532  POINT    205.32       32.96      0.0
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SO LOCATION  LD15095  POINT      0.00        0.00   0.0
SO LOCATION  LD25095  POINT    -14.07      -38.67   0.0
SO LOCATION  LD35095  POINT    -28.04      -77.05   0.0
SO LOCATION  LD45095  POINT    -42.12     -115.71   0.0
SO LOCATION  LD55095  POINT     89.60       75.08   0.0
SO LOCATION  LD65095  POINT    128.27       61.00   0.0
SO LOCATION  LD75095  POINT    166.65       47.03   0.0
SO LOCATION  LD85095  POINT    205.32       32.96   0.0

SO LOCATION  LD15059  POINT      0.00        0.00   0.0
SO LOCATION  LD25059  POINT    -14.07      -38.67   0.0
SO LOCATION  LD35059  POINT    -28.04      -77.05   0.0
SO LOCATION  LD45059  POINT    -42.12     -115.71   0.0
SO LOCATION  LD55059  POINT     89.60       75.08   0.0
SO LOCATION  LD65059  POINT    128.27       61.00   0.0
SO LOCATION  LD75059  POINT    166.65       47.03   0.0
SO LOCATION  LD85059  POINT    205.32       32.96   0.0

SO LOCATION  LD15032  POINT      0.00        0.00   0.0
SO LOCATION  LD25032  POINT    -14.07      -38.67   0.0
SO LOCATION  LD35032  POINT    -28.04      -77.05   0.0
SO LOCATION  LD45032  POINT    -42.12     -115.71   0.0
SO LOCATION  LD55032  POINT     89.60       75.08   0.0
SO LOCATION  LD65032  POINT    128.27       61.00   0.0
SO LOCATION  LD75032  POINT    166.65       47.03   0.0
SO LOCATION  LD85032  POINT    205.32       32.96   0.0

**SO LOCATION  UNIT3     POINT    95.58      -125.94   0.0
**SO LOCATION  UNIT4     POINT    151.68     -101.92   0.0
**SO LOCATION  UNIT5     POINT    173.26      -42.63   0.0

** Source Parameter Cards:
** POINT:   SRCID            QS      HS        TS         VS        DS
**                          (g/s)   (m)       (K)        (m/s)     (m)
SO SRCPARAM   BASE195      0.554   38.1      377.6      19.02      5.79
SO SRCPARAM   BASE295      0.554   38.1      377.6      19.02      5.79
SO SRCPARAM   BASE395      0.554   38.1      377.6      19.02      5.79
SO SRCPARAM   BASE495      0.554   38.1      377.6      19.02      5.79
SO SRCPARAM   BASE595     11.768   38.1      377.6      20.39      5.79
SO SRCPARAM   BASE695     11.768   38.1      377.6      20.39      5.79
SO SRCPARAM   BASE795     11.768   38.1      377.6      20.39      5.79
SO SRCPARAM   BASE895     11.768   38.1      377.6      20.39      5.79

SO SRCPARAM   BASE159      0.617   38.1      377.6      20.51      5.79
SO SRCPARAM   BASE259      0.617   38.1      377.6      20.51      5.79
SO SRCPARAM   BASE359      0.617   38.1      377.6      20.51      5.79
SO SRCPARAM   BASE459      0.617   38.1      377.6      20.51      5.79
SO SRCPARAM   BASE559     12.537   38.1      377.6      21.34      5.79
SO SRCPARAM   BASE659     12.537   38.1      377.6      21.34      5.79
SO SRCPARAM   BASE759     12.537   38.1      377.6      21.34      5.79
SO SRCPARAM   BASE859     12.537   38.1      377.6      21.34      5.79

SO SRCPARAM   BASE132      0.643   38.1      377.6      21.43      5.79
SO SRCPARAM   BASE232      0.643   38.1      377.6      21.43      5.79
SO SRCPARAM   BASE332      0.643   38.1      377.6      21.43      5.79
SO SRCPARAM   BASE432      0.643   38.1      377.6      21.43      5.79
SO SRCPARAM   BASE532     12.789   38.1      377.6      22.34      5.79
SO SRCPARAM   BASE632     12.789   38.1      377.6      22.34      5.79
SO SRCPARAM   BASE732     12.789   38.1      377.6      22.34      5.79
SO SRCPARAM   BASE832     12.789   38.1      377.6      22.34      5.79

SO SRCPARAM   LD17595      0.454   38.1      377.6      15.76      5.79
SO SRCPARAM   LD27595      0.454   38.1      377.6      15.76      5.79
SO SRCPARAM   LD37595      0.454   38.1      377.6      15.76      5.79
SO SRCPARAM   LD47595      0.454   38.1      377.6      15.76      5.79
SO SRCPARAM   LD57595      9.425   38.1      377.6      16.52      5.79
SO SRCPARAM   LD67595      9.425   38.1      377.6      16.52      5.79
SO SRCPARAM   LD77595      9.425   38.1      377.6      16.52      5.79
SO SRCPARAM   LD87595      9.425   38.1      377.6      16.52      5.79

SO SRCPARAM   LD17559      0.504   38.1      377.6      16.79      5.79
SO SRCPARAM   LD27559      0.504   38.1      377.6      16.79      5.79
SO SRCPARAM   LD37559      0.504   38.1      377.6      16.79      5.79
SO SRCPARAM   LD47559      0.504   38.1      377.6      16.79      5.79
SO SRCPARAM   LD57559     10.193   38.1      377.6      16.37      5.79
SO SRCPARAM   LD67559     10.193   38.1      377.6      16.37      5.79
SO SRCPARAM   LD77559     10.193   38.1      377.6      16.37      5.79
SO SRCPARAM   LD87559     10.193   38.1      377.6      16.37      5.79

SO SRCPARAM   LD17532      0.517   38.1      377.6      17.28      5.79
SO SRCPARAM   LD27532      0.517   38.1      377.6      17.28      5.79
SO SRCPARAM   LD37532      0.517   38.1      377.6      17.28      5.79
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SO SRCPARAM    LD47532     0.517   38.1      377.6     17.28     5.79
SO SRCPARAM    LD57532    10.407   38.1      377.6     17.37     5.79
SO SRCPARAM    LD67532    10.407   38.1      377.6     17.37     5.79
SO SRCPARAM    LD77532    10.407   38.1      377.6     17.37     5.79
SO SRCPARAM    LD87532    10.407   38.1      377.6     17.37     5.79

SO SRCPARAM    LD15095    0.365    38.1      377.6     13.26     5.79
SO SRCPARAM    LD25095    0.365    38.1      377.6     13.26     5.79
SO SRCPARAM    LD35095    0.365    38.1      377.6     13.26     5.79
SO SRCPARAM    LD45095    0.365    38.1      377.6     13.26     5.79
SO SRCPARAM    LD55095    7.421    38.1      377.6     13.66     5.79
SO SRCPARAM    LD65095    7.421    38.1      377.6     13.66     5.79
SO SRCPARAM    LD75095    7.421    38.1      377.6     13.66     5.79
SO SRCPARAM    LD85095    7.421    38.1      377.6     13.66     5.79

SO SRCPARAM    LD15059    0.391    38.1      377.6     13.90     5.79
SO SRCPARAM    LD25059    0.391    38.1      377.6     13.90     5.79
SO SRCPARAM    LD35059    0.391    38.1      377.6     13.90     5.79
SO SRCPARAM    LD45059    0.391    38.1      377.6     13.90     5.79
SO SRCPARAM    LD55059    8.00     38.1      377.6     13.90     5.79
SO SRCPARAM    LD65059    8.00     38.1      377.6     13.90     5.79
SO SRCPARAM    LD75059    8.00     38.1      377.6     13.90     5.79
SO SRCPARAM    LD85059    8.00     38.1      377.6     13.90     5.79

SO SRCPARAM    LD15032    0.403    38.1      377.6     14.20     5.79
SO SRCPARAM    LD25032    0.403    38.1      377.6     14.20     5.79
SO SRCPARAM    LD35032    0.403    38.1      377.6     14.20     5.79
SO SRCPARAM    LD45032    0.403    38.1      377.6     14.20     5.79
SO SRCPARAM    LD55032    8.265    38.1      377.6     14.36     5.79
SO SRCPARAM    LD65032    8.265    38.1      377.6     14.36     5.79
SO SRCPARAM    LD75032    8.265    38.1      377.6     14.36     5.79
SO SRCPARAM    LD85032    8.265    38.1      377.6     14.36     5.79

**SO SRCPARAM    UNIT3     571.775    92.05     408.15    29.90     2.896
**SO SRCPARAM    UNIT4         0.0   121.92     408.15    19.2      5.85
**SO SRCPARAM    UNIT5         0.0   121.92     408.15    19.2      5.85


SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    49.28    40.23    40.23    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT BASE132-BASE195    49.28    49.28    40.23    40.23    26.21    26.21
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    96.39   128.84    12.19    15.61
SO BUILDWID BASE132-BASE195    18.55    93.10   132.86   122.72    24.05    23.65
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID BASE132-BASE195    96.39    93.10    84.53    82.17    24.05    23.65

SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    49.28    40.23    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT LD15032-LD17595    49.28    49.28    40.23    40.23    26.21    26.21
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    96.39   128.84    12.19    15.61
SO BUILDWID LD15032-LD17595    18.55    93.10   132.86   122.72    24.05    23.65
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID LD15032-LD17595    96.39    93.10    84.53    82.17    24.05    23.65

SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    49.28    49.28    40.23    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT BASE232-BASE295    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    86.98    93.10   121.95    15.61    12.19    15.61
SO BUILDWID BASE232-BASE295    96.39   138.96   132.86    23.71    24.05    23.65
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID BASE232-BASE295    96.39    84.32    84.53    23.71    24.05    23.65

SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    49.28    49.28    40.23    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    49.28    49.28    49.28    49.28    40.23    49.28
```

SO BUILDHGT LD25032-LD27595	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDWID LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD25032-LD27595	86.98	93.10	121.95	15.61	12.19	15.61
SO BUILDWID LD25032-LD27595	96.39	138.96	132.86	23.71	24.05	23.65
SO BUILDWID LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD25032-LD27595	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID LD25032-LD27595	96.39	84.32	84.53	23.71	24.05	23.65
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE332-BASE395	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE332-BASE395	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT BASE332-BASE395	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE332-BASE395	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID BASE332-BASE395	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE332-BASE395	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID BASE332-BASE395	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD35032-LD37595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD35032-LD37595	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD35032-LD37595	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID LD35032-LD37595	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD35032-LD37595	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID LD35032-LD37595	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE432-BASE495	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE432-BASE495	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE432-BASE495	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD45032-LD47595	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD45032-LD47595	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE532-BASE595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID BASE532-BASE595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDWID BASE532-BASE595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDHGT LD55032-LD57595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID LD55032-LD57595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD55032-LD57595	23.65	93.10	86.98	78.21	67.07	53.89

SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD55032-LD57595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDHGT	BASE632-BASE695	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE632-BASE695	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT	BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE632-BASE695	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDWID	BASE632-BASE695	60.77	49.59	15.61	18.55	20.92	22.66
SO BUILDWID	BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE632-BASE695	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDWID	BASE632-BASE695	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE632-BASE695	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDHGT	LD65032-LD67595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT	LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD65032-LD67595	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT	LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD65032-LD67595	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDWID	LD65032-LD67595	60.77	49.59	15.61	18.55	20.92	22.66
SO BUILDWID	LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD65032-LD67595	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDWID	LD65032-LD67595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD65032-LD67595	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDHGT	BASE732-BASE795	40.23	40.23	40.23	40.23	40.23	26.21
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	40.23	40.23	26.21
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDWID	BASE732-BASE795	60.77	49.59	46.27	41.54	44.43	22.66
SO BUILDWID	BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDWID	BASE732-BASE795	15.61	12.19	15.61	53.89	44.43	22.66
SO BUILDWID	BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDHGT	LD75032-LD77595	40.23	40.23	40.23	40.23	40.23	26.21
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	40.23	40.23	26.21
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDWID	LD75032-LD77595	60.77	49.59	46.27	41.54	44.43	22.66
SO BUILDWID	LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDWID	LD75032-LD77595	15.61	12.19	15.61	53.89	44.43	22.66
SO BUILDWID	LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDHGT	BASE832-BASE895	26.21	26.21	40.23	49.28	49.28	49.28
SO BUILDHGT	BASE832-BASE895	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE832-BASE895	26.21	26.21	26.21	49.28	49.28	49.28
SO BUILDHGT	BASE832-BASE895	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	BASE832-BASE895	15.61	12.19	46.27	53.89	67.07	78.22
SO BUILDWID	BASE832-BASE895	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID	BASE832-BASE895	15.61	12.19	15.61	53.89	67.07	78.22
SO BUILDWID	BASE832-BASE895	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT	LD85032-LD87595	26.21	26.21	40.23	49.28	49.28	49.28
SO BUILDHGT	LD85032-LD87595	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD85032-LD87595	26.21	26.21	26.21	49.28	49.28	49.28
SO BUILDHGT	LD85032-LD87595	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD85032-LD87595	15.61	12.19	46.27	53.89	67.07	78.22
SO BUILDWID	LD85032-LD87595	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID	LD85032-LD87595	15.61	12.19	15.61	53.89	67.07	78.22
SO BUILDWID	LD85032-LD87595	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55

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**SO BUILDHGT UNIT3       40.23   40.23   40.23   49.28   49.28   49.28
**SO BUILDHGT UNIT3       49.28   49.28   49.28   49.28   40.23   49.28
**SO BUILDHGT UNIT3       49.28   49.28   49.28   49.28   49.28   49.28
**SO BUILDHGT UNIT3       40.23   40.23   40.23   49.28   49.28   49.28
**SO BUILDHGT UNIT3       49.28   49.28   49.28   49.28   40.23   49.28
**SO BUILDHGT UNIT3       49.28   49.28   49.28   49.28   49.28   49.28
**SO BUILDWID UNIT3       60.77   49.59   46.27   53.89   67.07   78.22
**SO BUILDWID UNIT3       86.98   93.10   96.39   96.76   68.73   96.76
**SO BUILDWID UNIT3       96.39   93.10   86.98   78.21   67.07   53.89
**SO BUILDWID UNIT3       60.77   49.59   46.27   53.89   67.07   78.22
**SO BUILDWID UNIT3       86.98   93.10   96.39   96.76   68.73   96.76
**SO BUILDWID UNIT3       96.39   93.10   86.98   78.21   67.07   53.89

**SO BUILDHGT UNIT4        0.00    0.00    0.00    0.00   49.28   49.28
**SO BUILDHGT UNIT4       49.28   49.28   49.28   49.28   40.23   49.28
**SO BUILDHGT UNIT4       49.28   49.28   49.28   49.28   49.28   49.28
**SO BUILDHGT UNIT4        0.00    0.00    0.00    0.00   49.28   49.28
**SO BUILDHGT UNIT4       49.28   49.28   49.28   49.28   40.23   49.28
**SO BUILDHGT UNIT4       49.28   49.28   49.28   49.28   49.28   49.28
**SO BUILDWID UNIT4        0.00    0.00    0.00    0.00   67.07   78.22
**SO BUILDWID UNIT4       86.98   93.10   96.39   96.76   68.73   96.76
**SO BUILDWID UNIT4       96.39   93.10   86.98   78.21   67.07   53.89
**SO BUILDWID UNIT4        0.00    0.00    0.00    0.00   67.07   78.22
**SO BUILDWID UNIT4       86.98   93.10   96.39   96.76   68.73   96.76
**SO BUILDWID UNIT4       96.39   93.10   86.98   78.21   67.07   53.89

**SO BUILDHGT UNIT5        0.00    0.00   40.23   49.28   49.28   49.28
**SO BUILDHGT UNIT5       49.28   49.28   49.28   49.28   49.28   49.28
**SO BUILDHGT UNIT5       49.28   49.28   49.28   49.28   49.28   26.21
**SO BUILDHGT UNIT5        0.00    0.00   40.23   49.28   49.28   49.28
**SO BUILDHGT UNIT5       49.28   49.28   49.28   49.28   49.28   49.28
**SO BUILDHGT UNIT5       49.28   49.28   49.28   49.28   49.28    0.00
**SO BUILDWID UNIT5        0.00    0.00   46.27   53.89   67.07   78.22
**SO BUILDWID UNIT5       86.98   93.10   96.39   96.76   31.09   96.76
**SO BUILDWID UNIT5       96.39   93.10   86.98   78.21   67.07   18.55
**SO BUILDWID UNIT5        0.00    0.00   46.27   53.89   67.07   78.22
**SO BUILDWID UNIT5       86.98   93.10   96.39   96.76   31.09   96.76
**SO BUILDWID UNIT5       96.39   93.10   86.98   78.21   67.07    0.00

SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.         10
RE DISCPOLR BASE195      300.         10
RE DISCPOLR BASE195      400.         10
RE DISCPOLR BASE195      211.         20
RE DISCPOLR BASE195      300.         20
RE DISCPOLR BASE195      400.         20
RE DISCPOLR BASE195      229.         30
RE DISCPOLR BASE195      300.         30
RE DISCPOLR BASE195      400.         30
RE DISCPOLR BASE195      257.         40
RE DISCPOLR BASE195      300.         40
RE DISCPOLR BASE195      400.         40
RE DISCPOLR BASE195      305.         50
RE DISCPOLR BASE195      400.         50
RE DISCPOLR BASE195      296.         60
RE DISCPOLR BASE195      300.         60
RE DISCPOLR BASE195      400.         60
RE DISCPOLR BASE195      274.         70
RE DISCPOLR BASE195      300.         70
RE DISCPOLR BASE195      400.         70
RE DISCPOLR BASE195      262.         80
RE DISCPOLR BASE195      300.         80
RE DISCPOLR BASE195      400.         80
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RE DISCPOLR BASE195      259.        90
RE DISCPOLR BASE195      300.        90
RE DISCPOLR BASE195      400.        90
RE DISCPOLR BASE195      264.       100
RE DISCPOLR BASE195      300.       100
RE DISCPOLR BASE195      400.       100
RE DISCPOLR BASE195      275.       110
RE DISCPOLR BASE195      300.       110
RE DISCPOLR BASE195      400.       110
RE DISCPOLR BASE195      292.       120
RE DISCPOLR BASE195      300.       120
RE DISCPOLR BASE195      400.       120
RE DISCPOLR BASE195      317.       130
RE DISCPOLR BASE195      400.       130
RE DISCPOLR BASE195      351.       140
RE DISCPOLR BASE195      400.       140
RE DISCPOLR BASE195      404.       150
RE DISCPOLR BASE195      494.       160
RE DISCPOLR BASE195      515.       170
RE DISCPOLR BASE195      474.       180
RE DISCPOLR BASE195      451.       190
RE DISCPOLR BASE195      354.       190
RE DISCPOLR BASE195      289.       190
RE DISCPOLR BASE195      284.       200
RE DISCPOLR BASE195      300.       200
RE DISCPOLR BASE195      400.       200
RE DISCPOLR BASE195      289.       210
RE DISCPOLR BASE195      300.       210
RE DISCPOLR BASE195      400.       210
RE DISCPOLR BASE195      303.       220
RE DISCPOLR BASE195      400.       220
RE DISCPOLR BASE195      296.       230
RE DISCPOLR BASE195      300.       230
RE DISCPOLR BASE195      400.       230
RE DISCPOLR BASE195      230.       240
RE DISCPOLR BASE195      300.       240
RE DISCPOLR BASE195      400.       240
RE DISCPOLR BASE195      274.       250
RE DISCPOLR BASE195      300.       250
RE DISCPOLR BASE195      400.       250
RE DISCPOLR BASE195      352.       260
RE DISCPOLR BASE195      400.       260
RE DISCPOLR BASE195      389.       270
RE DISCPOLR BASE195      400.       270
RE DISCPOLR BASE195      394.       280
RE DISCPOLR BASE195      400.       280
RE DISCPOLR BASE195      412.       290
RE DISCPOLR BASE195      410.       300
RE DISCPOLR BASE195      316.       310
RE DISCPOLR BASE195      400.       310
RE DISCPOLR BASE195      264.       320
RE DISCPOLR BASE195      300.       320
RE DISCPOLR BASE195      400.       320
RE DISCPOLR BASE195      233.       330
RE DISCPOLR BASE195      300.       330
RE DISCPOLR BASE195      400.       330
RE DISCPOLR BASE195      214.       340
RE DISCPOLR BASE195      300.       340
RE DISCPOLR BASE195      400.       340
RE DISCPOLR BASE195      203.       350
RE DISCPOLR BASE195      300.       350
RE DISCPOLR BASE195      400.       350
RE DISCPOLR BASE195      200.       360
RE DISCPOLR BASE195      200.       360
RE DISCPOLR BASE195      300.       360
RE DISCPOLR BASE195      400.       360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                        UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987             ORLANDO
ME UAIRDATA  12842  1987             RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23     10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :NOXOILW.087
ISCST3 OUTPUT FILE NUMBER 2 :NOXOILW.088
ISCST3 OUTPUT FILE NUMBER 3 :NOXOILW.089
ISCST3 OUTPUT FILE NUMBER 4 :NOXOILW.090
ISCST3 OUTPUT FILE NUMBER 5 :NOXOILW.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/15/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating

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	19.227	20.	300.	87123124
	1988	18.359	20.	300.	88123124
	1989	21.088	20.	300.	89123124
	1990	19.441	20.	300.	90123124
	1991	29.146	20.	300.	91123124
SOURCE GROUP ID: BASE59					
Annual					
	1987	18.104	20.	300.	87123124
	1988	17.455	20.	300.	88123124
	1989	19.626	20.	300.	89123124
	1990	18.296	20.	300.	90123124
	1991	27.502	20.	300.	91123124
SOURCE GROUP ID: BASE32					
Annual					
	1987	16.491	20.	300.	87123124
	1988	16.047	20.	300.	88123124
	1989	17.542	20.	300.	89123124
	1990	16.613	20.	300.	90123124
	1991	25.016	20.	300.	91123124
SOURCE GROUP ID: LD7595					
Annual					
	1987	25.567	20.	300.	87123124
	1988	23.398	20.	300.	88123124
	1989	29.195	20.	300.	89123124
	1990	25.870	20.	300.	90123124
	1991	37.800	20.	300.	91123124
SOURCE GROUP ID: LD7559					
Annual					
	1987	27.484	20.	300.	87123124
	1988	25.121	20.	300.	88123124
	1989	31.361	20.	300.	89123124
	1990	27.801	20.	300.	90123124
	1991	40.548	20.	300.	91123124
SOURCE GROUP ID: LD7532					
Annual					
	1987	25.438	20.	300.	87123124
	1988	23.392	20.	300.	88123124
	1989	28.802	20.	300.	89123124
	1990	25.626	20.	300.	90123124
	1991	37.877	20.	300.	91123124
SOURCE GROUP ID: LD5095					
Annual					
	1987	27.785	20.	300.	87123124
	1988	25.650	20.	300.	88123124
	1989	33.149	20.	300.	89123124
	1990	28.739	20.	300.	90123124
	1991	40.860	20.	300.	91123124
SOURCE GROUP ID: LD5059					
Annual					
	1987	28.644	20.	300.	87123124
	1988	26.452	20.	300.	88123124
	1989	34.097	20.	300.	89123124
	1990	29.627	20.	300.	90123124
	1991	42.200	20.	300.	91123124
SOURCE GROUP ID: LD5032					
Annual					
	1987	28.519	20.	300.	87123124
	1988	26.167	20.	300.	88123124
	1989	33.504	20.	300.	89123124
	1990	29.288	20.	300.	90123124
	1991	41.839	20.	300.	91123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

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CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/15/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD
CO POLLUTID  NOX
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP       XS            YS             ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT  0.00       0.00     0.00
**  HRSG STACK LETTER CODE
** ------------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP        XS           YS        ZS
**   UTM                        (m)          (m)       (m)
SO LOCATION  BASE195  POINT     0.00        0.00     0.0
SO LOCATION  BASE295  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE395  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE495  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE595  POINT    89.60       75.08     0.0
SO LOCATION  BASE695  POINT   128.27       61.00     0.0
SO LOCATION  BASE795  POINT   166.65       47.03     0.0
SO LOCATION  BASE895  POINT   205.32       32.96     0.0

SO LOCATION  BASE159  POINT     0.00        0.00     0.0
SO LOCATION  BASE259  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE359  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE459  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE559  POINT    89.60       75.08     0.0
SO LOCATION  BASE659  POINT   128.27       61.00     0.0
SO LOCATION  BASE759  POINT   166.65       47.03     0.0
SO LOCATION  BASE859  POINT   205.32       32.96     0.0

SO LOCATION  BASE132  POINT     0.00        0.00     0.0
SO LOCATION  BASE232  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE332  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE432  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE532  POINT    89.60       75.08     0.0
SO LOCATION  BASE632  POINT   128.27       61.00     0.0
SO LOCATION  BASE732  POINT   166.65       47.03     0.0
SO LOCATION  BASE832  POINT   205.32       32.96     0.0

SO LOCATION  LD17595  POINT     0.00        0.00     0.0
SO LOCATION  LD27595  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37595  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47595  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57595  POINT    89.60       75.08     0.0
SO LOCATION  LD67595  POINT   128.27       61.00     0.0
SO LOCATION  LD77595  POINT   166.65       47.03     0.0
SO LOCATION  LD87595  POINT   205.32       32.96     0.0

SO LOCATION  LD17559  POINT     0.00        0.00     0.0
SO LOCATION  LD27559  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37559  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47559  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57559  POINT    89.60       75.08     0.0
SO LOCATION  LD67559  POINT   128.27       61.00     0.0
SO LOCATION  LD77559  POINT   166.65       47.03     0.0
SO LOCATION  LD87559  POINT   205.32       32.96     0.0

SO LOCATION  LD17532  POINT     0.00        0.00     0.0
SO LOCATION  LD27532  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37532  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47532  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57532  POINT    89.60       75.08     0.0
SO LOCATION  LD67532  POINT   128.27       61.00     0.0
SO LOCATION  LD77532  POINT   166.65       47.03     0.0
SO LOCATION  LD87532  POINT   205.32       32.96     0.0
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SO LOCATION  LD15095  POINT      0.00        0.00    0.0
SO LOCATION  LD25095  POINT    -14.07      -38.67    0.0
SO LOCATION  LD35095  POINT    -28.04      -77.05    0.0
SO LOCATION  LD45095  POINT    -42.12     -115.71    0.0
SO LOCATION  LD55095  POINT     89.60       75.08    0.0
SO LOCATION  LD65095  POINT    128.27       61.00    0.0
SO LOCATION  LD75095  POINT    166.65       47.03    0.0
SO LOCATION  LD85095  POINT    205.32       32.96    0.0

SO LOCATION  LD15059  POINT      0.00        0.00    0.0
SO LOCATION  LD25059  POINT    -14.07      -38.67    0.0
SO LOCATION  LD35059  POINT    -28.04      -77.05    0.0
SO LOCATION  LD45059  POINT    -42.12     -115.71    0.0
SO LOCATION  LD55059  POINT     89.60       75.08    0.0
SO LOCATION  LD65059  POINT    128.27       61.00    0.0
SO LOCATION  LD75059  POINT    166.65       47.03    0.0
SO LOCATION  LD85059  POINT    205.32       32.96    0.0

SO LOCATION  LD15032  POINT      0.00        0.00    0.0
SO LOCATION  LD25032  POINT    -14.07      -38.67    0.0
SO LOCATION  LD35032  POINT    -28.04      -77.05    0.0
SO LOCATION  LD45032  POINT    -42.12     -115.71    0.0
SO LOCATION  LD55032  POINT     89.60       75.08    0.0
SO LOCATION  LD65032  POINT    128.27       61.00    0.0
SO LOCATION  LD75032  POINT    166.65       47.03    0.0
SO LOCATION  LD85032  POINT    205.32       32.96    0.0

**SO LOCATION  UNIT3     POINT     95.58      -125.94    0.0
**SO LOCATION  UNIT4     POINT    151.68      -101.92    0.0
**SO LOCATION  UNIT5     POINT    173.26       -42.63    0.0

** Source Parameter Cards:
** POINT:   SRCID           QS      HS        TS        VS        DS
**                        (g/s)    (m)       (K)      (m/s)      (m)
SO SRCPARAM   BASE195     7.421   38.1      377.6     19.02      5.79
SO SRCPARAM   BASE295     7.421   38.1      377.6     19.02      5.79
SO SRCPARAM   BASE395     7.421   38.1      377.6     19.02      5.79
SO SRCPARAM   BASE495     7.421   38.1      377.6     19.02      5.79
SO SRCPARAM   BASE595    42.096   38.1      377.6     20.39      5.79
SO SRCPARAM   BASE695    42.096   38.1      377.6     20.39      5.79
SO SRCPARAM   BASE795    42.096   38.1      377.6     20.39      5.79
SO SRCPARAM   BASE895    42.096   38.1      377.6     20.39      5.79

SO SRCPARAM   BASE159     8.190   38.1      377.6     20.51      5.79
SO SRCPARAM   BASE259     8.190   38.1      377.6     20.51      5.79
SO SRCPARAM   BASE359     8.190   38.1      377.6     20.51      5.79
SO SRCPARAM   BASE459     8.190   38.1      377.6     20.51      5.79
SQ SRCPARAM   BASE559    44.679   38.1      377.6     21.34      5.79
SO SRCPARAM   BASE659    44.679   38.1      377.6     21.34      5.79
SO SRCPARAM   BASE759    44.679   38.1      377.6     21.34      5.79
SO SRCPARAM   BASE859    44.679   38.1      377.6     21.34      5.79

SO SRCPARAM   BASE132     8.568   38.1      377.6     21.43      5.79
SO SRCPARAM   BASE232     8.568   38.1      377.6     21.43      5.79
SO SRCPARAM   BASE332     8.568   38.1      377.6     21.43      5.79
SO SRCPARAM   BASE432     8.568   38.1      377.6     21.43      5.79
SO SRCPARAM   BASE532    46.014   38.1      377.6     22.34      5.79
SO SRCPARAM   BASE632    46.014   38.1      377.6     22.34      5.79
SO SRCPARAM   BASE732    46.014   38.1      377.6     22.34      5.79
SO SRCPARAM   BASE832    46.014   38.1      377.6     22.34      5.79

SO SRCPARAM   LD17595     6.035   38.1      377.6     15.76      5.79
SO SRCPARAM   LD27595     6.035   38.1      377.6     15.76      5.79
SO SRCPARAM   LD37595     6.035   38.1      377.6     15.76      5.79
SO SRCPARAM   LD47595     6.035   38.1      377.6     15.76      5.79
SO SRCPARAM   LD57595    34.057   38.1      377.6     16.52      5.79
SO SRCPARAM   LD67595    34.057   38.1      377.6     16.52      5.79
SO SRCPARAM   LD77595    34.057   38.1      377.6     16.52      5.79
SO SRCPARAM   LD87595    34.057   38.1      377.6     16.52      5.79

SO SRCPARAM   LD17559     6.602   38.1      377.6     16.79      5.79
SO SRCPARAM   LD27559     6.602   38.1      377.6     16.79      5.79
SO SRCPARAM   LD37559     6.602   38.1      377.6     16.79      5.79
SO SRCPARAM   LD47559     6.602   38.1      377.6     16.79      5.79
SO SRCPARAM   LD57559    35.934   38.1      377.6     16.37      5.79
SO SRCPARAM   LD67559    35.934   38.1      377.6     16.37      5.79
SO SRCPARAM   LD77559    35.934   38.1      377.6     16.37      5.79
SO SRCPARAM   LD87559    35.934   38.1      377.6     16.37      5.79

SO SRCPARAM   LD17532     6.842   38.1      377.6     17.28      5.79
SO SRCPARAM   LD27532     6.842   38.1      377.6     17.28      5.79
SO SRCPARAM   LD37532     6.842   38.1      377.6     17.28      5.79
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SO SRCPARAM    LD47532      6.842   38.1        377.6      17.28      5.79
SO SRCPARAM    LD57532     37.724   38.1        377.6      17.37      5.79
SO SRCPARAM    LD67532     37.724   38.1        377.6      17.37      5.79
SO SRCPARAM    LD77532     37.724   38.1        377.6      17.37      5.79
SO SRCPARAM    LD87532     37.724   38.1        377.6      17.37      5.79

SO SRCPARAM    LD15095     4.826    38.1        377.6      13.26      5.79
SO SRCPARAM    LD25095     4.826    38.1        377.6      13.26      5.79
SO SRCPARAM    LD35095     4.826    38.1        377.6      13.26      5.79
SO SRCPARAM    LD45095     4.826    38.1        377.6      13.26      5.79
SO SRCPARAM    LD55095    26.308    38.1        377.6      13.66      5.79
SO SRCPARAM    LD65095    26.308    38.1        377.6      13.66      5.79
SO SRCPARAM    LD75095    26.308    38.1        377.6      13.66      5.79
SO SRCPARAM    LD85095    26.308    38.1        377.6      13.66      5.79

SO SRCPARAM    LD15059     5.241    38.1        377.6      13.90      5.79
SO SRCPARAM    LD25059     5.241    38.1        377.6      13.90      5.79
SO SRCPARAM    LD35059     5.241    38.1        377.6      13.90      5.79
SO SRCPARAM    LD45059     5.241    38.1        377.6      13.90      5.79
SO SRCPARAM    LD55059    27.959    38.1        377.6      13.90      5.79
SO SRCPARAM    LD65059    27.959    38.1        377.6      13.90      5.79
SO SRCPARAM    LD75059    27.959    38.1        377.6      13.90      5.79
SO SRCPARAM    LD85059    27.959    38.1        377.6      13.90      5.79

SO SRCPARAM    LD15032     5.418    38.1        377.6      14.20      5.79
SO SRCPARAM    LD25032     5.418    38.1        377.6      14.20      5.79
SO SRCPARAM    LD35032     5.418    38.1        377.6      14.20      5.79
SO SRCPARAM    LD45032     5.418    38.1        377.6      14.20      5.79
SO SRCPARAM    LD55032    29.156    38.1        377.6      14.36      5.79
SO SRCPARAM    LD65032    29.156    38.1        377.6      14.36      5.79
SO SRCPARAM    LD75032    29.156    38.1        377.6      14.36      5.79
SO SRCPARAM    LD85032    29.156    38.1        377.6      14.36      5.79

**SO SRCPARAM    UNIT3      571.775    92.05      408.15     29.90     2.896
**SO SRCPARAM    UNIT4          0.0   121.92      408.15     19.2      5.85
**SO SRCPARAM    UNIT5          0.0   121.92      408.15     19.2      5.85


SO BUILDHGT BASE132-BASE195     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195     26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT BASE132-BASE195     26.21    49.28    40.23    40.23    26.21    26.21
SO BUILDHGT BASE132-BASE195     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195     26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT BASE132-BASE195     49.28    49.28    40.23    40.23    26.21    26.21
SO BUILDWID BASE132-BASE195     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195     22.66    20.92    96.39   128.84    12.19    15.61
SO BUILDWID BASE132-BASE195     18.55    93.10   132.86   122.72    24.05    23.65
SO BUILDWID BASE132-BASE195     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195     22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID BASE132-BASE195     96.39    93.10    84.53    82.17    24.05    23.65

SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    49.28    40.23    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT LD15032-LD17595     49.28    49.28    40.23    40.23    26.21    26.21
SO BUILDWID LD15032-LD17595     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595     22.66    20.92    96.39   128.84    12.19    15.61
SO BUILDWID LD15032-LD17595     18.55    93.10   132.86   122.72    24.05    23.65
SO BUILDWID LD15032-LD17595     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595     22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID LD15032-LD17595     96.39    93.10    84.53    82.17    24.05    23.65

SO BUILDHGT BASE232-BASE295     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295     49.28    49.28    40.23    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295     49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295     49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT BASE232-BASE295     49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDWID BASE232-BASE295     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295     86.98    93.10   121.95    15.61    12.19    15.61
SO BUILDWID BASE232-BASE295     96.39   138.96   132.86    23.71    24.05    23.65
SO BUILDWID BASE232-BASE295     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295     86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID BASE232-BASE295     96.39    84.32    84.53    23.71    24.05    23.65

SO BUILDHGT LD25032-LD27595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595     49.28    49.28    40.23    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595     49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595     49.28    49.28    49.28    49.28    40.23    49.28
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SO BUILDHGT LD25032-LD27595    49.28   40.23   40.23   26.21   26.21   26.21
SO BUILDWID LD25032-LD27595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD25032-LD27595    86.98   93.10  121.95   15.61   12.19   15.61
SO BUILDWID LD25032-LD27595    96.39  138.96  132.86   23.71   24.05   23.65
SO BUILDWID LD25032-LD27595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD25032-LD27595    86.98   93.10   96.39   96.76   68.73   96.76
SO BUILDWID LD25032-LD27595    96.39   84.32   84.53   23.71   24.05   23.65

SO BUILDHGT BASE332-BASE395    26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT BASE332-BASE395    40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395    40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395    26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT BASE332-BASE395    49.28   49.28   49.28   49.28   40.23   40.23
SO BUILDHGT BASE332-BASE395    40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE332-BASE395    22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID BASE332-BASE395    97.36   56.70   18.55   15.61   12.19   15.61
SO BUILDWID BASE332-BASE395   140.84   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE332-BASE395    22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID BASE332-BASE395    86.98   93.10   96.39   96.76   68.73   76.30
SO BUILDWID BASE332-BASE395    81.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT LD35032-LD37595    40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT LD35032-LD37595    49.28   49.28   49.28   49.28   40.23   40.23
SO BUILDHGT LD35032-LD37595    40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD35032-LD37595    22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID LD35032-LD37595    97.36   56.70   18.55   15.61   12.19   15.61
SO BUILDWID LD35032-LD37595   140.84   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD35032-LD37595    22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID LD35032-LD37595    86.98   93.10   96.39   96.76   68.73   76.30
SO BUILDWID LD35032-LD37595    81.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT BASE432-BASE495    49.28   49.28   49.28   40.23   26.21   26.21
SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE432-BASE495    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE432-BASE495    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE432-BASE495    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE432-BASE495    22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID BASE432-BASE495    86.98   93.10   96.39   66.71   12.19   15.61
SO BUILDWID BASE432-BASE495    18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT LD45032-LD47595    49.28   49.28   49.28   40.23   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD45032-LD47595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD45032-LD47595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD45032-LD47595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD45032-LD47595    22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID LD45032-LD47595    86.98   93.10   96.39   66.71   12.19   15.61
SO BUILDWID LD45032-LD47595    18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BASE532-BASE595    40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595    26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT BASE532-BASE595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595    26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDWID BASE532-BASE595    60.77   12.19   15.61   18.55   24.05   23.71
SO BUILDWID BASE532-BASE595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE532-BASE595    23.65   93.10   86.98   78.21   67.07   53.89
SO BUILDWID BASE532-BASE595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE532-BASE595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE532-BASE595    23.65   93.10   86.98   78.21   67.07   53.89

SO BUILDHGT LD55032-LD57595    40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDWID LD55032-LD57595    60.77   12.19   15.61   18.55   24.05   23.71
SO BUILDWID LD55032-LD57595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595    23.65   93.10   86.98   78.21   67.07   53.89
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SO BUILDWID LD55032-LD57595   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD55032-LD57595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595   23.65   93.10   86.98   78.21   67.07   53.89

SO BUILDHGT BASE632-BASE695   40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT BASE632-BASE695   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDWID BASE632-BASE695   60.77   49.59   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695   23.65   24.05   86.98   78.21   67.07   53.89
SO BUILDWID BASE632-BASE695   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695   23.65   24.05   86.98   78.21   67.07   53.89

SO BUILDHGT LD65032-LD67595   40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDWID LD65032-LD67595   60.77   49.59   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89
SO BUILDWID LD65032-LD67595   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89

SO BUILDHGT BASE732-BASE795   40.23   40.23   40.23   40.23   40.23   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   40.23   40.23   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDWID BASE732-BASE795   60.77   49.59   46.27   41.54   44.43   22.66
SO BUILDWID BASE732-BASE795   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795   23.65   24.05   23.71   22.66   20.92   91.69
SO BUILDWID BASE732-BASE795   15.61   12.19   15.61   53.89   44.43   22.66
SO BUILDWID BASE732-BASE795   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795   23.65   24.05   23.71   22.66   20.92   91.69

SO BUILDHGT LD75032-LD77595   40.23   40.23   40.23   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDWID LD75032-LD77595   60.77   49.59   46.27   41.54   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69
SO BUILDWID LD75032-LD77595   15.61   12.19   15.61   53.89   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69

SO BUILDHGT BASE832-BASE895   26.21   26.21   40.23   49.28   49.28   49.28
SO BUILDHGT BASE832-BASE895   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895   26.21   26.21   26.21   49.28   49.28   49.28
SO BUILDHGT BASE832-BASE895   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE832-BASE895   15.61   12.19   46.27   53.89   67.07   78.22
SO BUILDWID BASE832-BASE895   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895   23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE832-BASE895   15.61   12.19   15.61   53.89   67.07   78.22
SO BUILDWID BASE832-BASE895   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895   23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD85032-LD87595   26.21   26.21   40.23   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD85032-LD87595   15.61   12.19   46.27   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD85032-LD87595   15.61   12.19   15.61   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55
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**SO BUILDHGT UNIT3       40.23    40.23    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT3       49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT3       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT3       40.23    40.23    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT3       49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT3       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT3       60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3       86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3       96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT3       60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3       86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3       96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT4        0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4       49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT4        0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4       49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT4        0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4       86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4       96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT4        0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4       86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4       96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT5        0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5       49.28    49.28    49.28    49.28    49.28    26.21
**SO BUILDHGT UNIT5        0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5       49.28    49.28    49.28    49.28    49.28     0.00
**SO BUILDWID UNIT5        0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5       86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5       96.39    93.10    86.98    78.21    67.07    18.55
**SO BUILDWID UNIT5        0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5       86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5       96.39    93.10    86.98    78.21    67.07     0.00

SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.        10
RE DISCPOLR BASE195      300.        10
RE DISCPOLR BASE195      400.        10
RE DISCPOLR BASE195      211.        20
RE DISCPOLR BASE195      300.        20
RE DISCPOLR BASE195      400.        20
RE DISCPOLR BASE195      229.        30
RE DISCPOLR BASE195      300.        30
RE DISCPOLR BASE195      400.        30
RE DISCPOLR BASE195      257.        40
RE DISCPOLR BASE195      300.        40
RE DISCPOLR BASE195      400.        40
RE DISCPOLR BASE195      305.        50
RE DISCPOLR BASE195      400.        50
RE DISCPOLR BASE195      296.        60
RE DISCPOLR BASE195      300.        60
RE DISCPOLR BASE195      400.        60
RE DISCPOLR BASE195      274.        70
RE DISCPOLR BASE195      300.        70
RE DISCPOLR BASE195      400.        70
RE DISCPOLR BASE195      262.        80
RE DISCPOLR BASE195      300.        80
RE DISCPOLR BASE195      400.        80
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RE DISCPOLR BASE195      259.       90
RE DISCPOLR BASE195      300.       90
RE DISCPOLR BASE195      400.       90
RE DISCPOLR BASE195      264.      100
RE DISCPOLR BASE195      300.      100
RE DISCPOLR BASE195      400.      100
RE DISCPOLR BASE195      275.      110
RE DISCPOLR BASE195      300.      110
RE DISCPOLR BASE195      400.      110
RE DISCPOLR BASE195      292.      120
RE DISCPOLR BASE195      300.      120
RE DISCPOLR BASE195      400.      120
RE DISCPOLR BASE195      317.      130
RE DISCPOLR BASE195      400.      130
RE DISCPOLR BASE195      351.      140
RE DISCPOLR BASE195      400.      140
RE DISCPOLR BASE195      404.      150
RE DISCPOLR BASE195      494.      160
RE DISCPOLR BASE195      515.      170
RE DISCPOLR BASE195      474.      180
RE DISCPOLR BASE195      451.      190
RE DISCPOLR BASE195      354.      190
RE DISCPOLR BASE195      289.      190
RE DISCPOLR BASE195      284.      200
RE DISCPOLR BASE195      300.      200
RE DISCPOLR BASE195      400.      200
RE DISCPOLR BASE195      289.      210
RE DISCPOLR BASE195      300.      210
RE DISCPOLR BASE195      400.      210
RE DISCPOLR BASE195      303.      220
RE DISCPOLR BASE195      400.      220
RE DISCPOLR BASE195      296.      230
RE DISCPOLR BASE195      300.      230
RE DISCPOLR BASE195      400.      230
RE DISCPOLR BASE195      230.      240
RE DISCPOLR BASE195      300.      240
RE DISCPOLR BASE195      400.      240
RE DISCPOLR BASE195      274.      250
RE DISCPOLR BASE195      300.      250
RE DISCPOLR BASE195      400.      250
RE DISCPOLR BASE195      352.      260
RE DISCPOLR BASE195      400.      260
RE DISCPOLR BASE195      389.      270
RE DISCPOLR BASE195      400.      270
RE DISCPOLR BASE195      394.      280
RE DISCPOLR BASE195      400.      280
RE DISCPOLR BASE195      412.      290
RE DISCPOLR BASE195      410.      300
RE DISCPOLR BASE195      316.      310
RE DISCPOLR BASE195      400.      310
RE DISCPOLR BASE195      264.      320
RE DISCPOLR BASE195      300.      320
RE DISCPOLR BASE195      400.      320
RE DISCPOLR BASE195      233.      330
RE DISCPOLR BASE195      300.      330
RE DISCPOLR BASE195      400.      330
RE DISCPOLR BASE195      214.      340
RE DISCPOLR BASE195      300.      340
RE DISCPOLR BASE195      400.      340
RE DISCPOLR BASE195      203.      350
RE DISCPOLR BASE195      300.      350
RE DISCPOLR BASE195      400.      350
RE DISCPOLR BASE195      200.      360
RE DISCPOLR BASE195      200.      360
RE DISCPOLR BASE195      300.      360
RE DISCPOLR BASE195      400.      360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                     UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987              ORLANDO
ME UAIRDATA  12842  1987              RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :PM_OILW.087
ISCST3 OUTPUT FILE NUMBER 2 :PM_OILW.088
ISCST3 OUTPUT FILE NUMBER 3 :PM_OILW.089
ISCST3 OUTPUT FILE NUMBER 4 :PM_OILW.090
ISCST3 OUTPUT FILE NUMBER 5 :PM_OILW.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/18/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating

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	2.229	240.	230.	87123124
	1988	2.128	240.	230.	88123124
	1989	1.080	20.	300.	89123124
	1990	2.469	240.	230.	90123124
	1991	2.256	240.	230.	91123124
HIGH 24-Hour					
	1987	27.680	240.	230.	87110324
	1988	24.290	240.	230.	88091124
	1989	24.072	130.	317.	89030924
	1990	30.107	240.	230.	90030824
	1991	24.045	20.	300.	91032924
HSH 24-Hour					
	1987	26.191	240.	230.	87032324
	1988	22.373	240.	230.	88091224
	1989	16.442	240.	230.	89031724
	1990	23.293	240.	230.	90041924
	1991	21.468	20.	300.	91011124
SOURCE GROUP ID:	BASE59				
Annual					
	1987	1.879	240.	230.	87123124
	1988	1.758	240.	230.	88123124
	1989	0.946	20.	300.	89123124
	1990	2.094	240.	230.	90123124
	1991	1.899	240.	230.	91123124
HIGH 24-Hour					
	1987	25.308	240.	230.	87110324
	1988	22.648	20.	300.	88012024
	1989	22.326	130.	317.	89030924
	1990	29.688	240.	230.	90030824
	1991	23.112	20.	300.	91032924
HSH 24-Hour					
	1987	24.987	240.	230.	87032324
	1988	20.781	240.	230.	88091224
	1989	15.934	20.	300.	89050124
	1990	21.128	240.	230.	90052524
	1991	20.436	20.	300.	91011124
SOURCE GROUP ID:	BASE32				
Annual					
	1987	1.678	240.	230.	87123124
	1988	1.549	240.	230.	88123124
	1989	0.820	20.	300.	89123124
	1990	1.878	240.	230.	90123124
	1991	1.694	240.	230.	91123124
HIGH 24-Hour					
	1987	23.972	240.	230.	87032324
	1988	20.949	20.	300.	88012024
	1989	20.468	130.	317.	89030924
	1990	28.029	240.	230.	90030824
	1991	21.674	20.	300.	91032924
HSH 24-Hour					
	1987	23.786	240.	230.	87110324
	1988	19.137	240.	230.	88091124
	1989	15.334	20.	300.	89050124
	1990	20.327	240.	230.	90052524
	1991	19.399	20.	300.	91011124
SOURCE GROUP ID:	LD7595				
Annual					
	1987	3.301	240.	230.	87123124
	1988	3.251	240.	230.	88123124
	1989	1.849	20.	300.	89123124
	1990	3.580	240.	230.	90123124
	1991	3.314	240.	230.	91123124
HIGH 24-Hour					
	1987	33.074	240.	230.	87110324
	1988	32.308	240.	230.	88091124
	1989	30.560	130.	317.	89030924

	1990	33.674	240.	230.	90030824
	1991	29.393	20.	300.	91032924
HSH 24-Hour					
	1987	28.204	240.	230.	87032324
	1988	29.224	240.	230.	88091624
	1989	22.048	240.	230.	89051824
	1990	29.318	240.	230.	90041924
	1991	25.014	20.	300.	91011124
SOURCE GROUP ID:	LD7559				
Annual					
	1987	3.001	240.	230.	87123124
	1988	2.935	240.	230.	88123124
	1989	1.880	20.	300.	89123124
	1990	3.285	240.	230.	90123124
	1991	3.011	240.	230.	91123124
HIGH 24-Hour					
	1987	31.966	240.	230.	87110324
	1988	30.862	20.	300.	88012024
	1989	30.732	130.	317.	89030924
	1990	33.763	240.	230.	90030824
	1991	29.519	20.	300.	91032924
HSH 24-Hour					
	1987	27.596	240.	230.	87032324
	1988	26.936	240.	230.	88070824
	1989	20.379	240.	230.	89052924
	1990	28.601	240.	230.	90041924
	1991	25.234	20.	300.	91011124
SOURCE GROUP ID:	LD7532				
Annual					
	1987	2.802	240.	230.	87123124
	1988	2.727	240.	230.	88123124
	1989	1.645	20.	300.	89123124
	1990	3.080	240.	230.	90123124
	1991	2.816	240.	230.	91123124
HIGH 24-Hour					
	1987	31.117	240.	230.	87110324
	1988	29.235	20.	300.	88012024
	1989	28.926	130.	317.	89030924
	1990	32.833	240.	230.	90030824
	1991	28.471	20.	300.	91032924
HSH 24-Hour					
	1987	26.965	240.	230.	87032324
	1988	25.428	240.	230.	88070824
	1989	19.779	240.	230.	89052924
	1990	27.809	240.	230.	90041924
	1991	24.116	20.	300.	91011124
SOURCE GROUP ID:	LD5095				
Annual					
	1987	4.333	240.	230.	87123124
	1988	4.386	240.	230.	88123124
	1989	2.723	20.	300.	89123124
	1990	4.668	240.	230.	90123124
	1991	4.313	240.	230.	91123124
HIGH 24-Hour					
	1987	33.592	240.	230.	87110324
	1988	38.962	240.	230.	88091624
	1989	34.455	20.	300.	89060924
	1990	37.006	240.	230.	90030824
	1991	32.953	20.	300.	91032924
HSH 24-Hour					
	1987	29.311	240.	230.	87032324
	1988	36.183	240.	230.	88091124
	1989	27.496	240.	230.	89051824
	1990	33.439	240.	230.	90041924
	1991	31.279	20.	300.	91032224
SOURCE GROUP ID:	LD5059				
Annual					
	1987	4.068	240.	230.	87123124
	1988	4.091	240.	230.	88123124
	1989	2.631	20.	300.	89123124
	1990	4.388	240.	230.	90123124
	1991	4.049	240.	230.	91123124
HIGH 24-Hour					
	1987	32.833	240.	230.	87110324
	1988	36.547	240.	230.	88091624
	1989	33.815	20.	300.	89060924
	1990	35.862	240.	230.	90030824
	1991	32.622	20.	300.	91032924
HSH 24-Hour					
	1987	28.882	240.	230.	87032324
	1988	34.973	240.	230.	88091124
	1989	25.970	240.	230.	89051824

	1990	32.367	240.	230.	90041924
	1991	30.453	20.	300.	91032224
SOURCE GROUP ID:	LD5032				
Annual					
	1987	3.947	240.	230.	87123124
	1988	3.958	240.	230.	88123124
	1989	2.479	20.	300.	89123124
	1990	4.258	240.	230.	90123124
	1991	3.961	240.	230.	91123124
HIGH 24-Hour					
	1987	32.252	240.	230.	87110324
	1988	36.002	240.	230.	88091124
	1989	32.163	20.	300.	89060924
	1990	35.074	240.	230.	90030824
	1991	31.698	20.	300.	91032924
HSH 24-Hour					
	1987	28.822	240.	230.	87032324
	1988	35.348	240.	230.	88091624
	1989	25.976	240.	230.	89051824
	1990	31.346	240.	230.	90041924
	1991	28.451	20.	300.	91011124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

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CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/18/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD  24
CO POLLUTID  PM
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**         SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00       0.00     0.00
**  HRSG STACK LETTER CODE
** ------------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**         SRCID SRCTYP         XS          YS        ZS
**  UTM                         (m)         (m)       (m)
SO LOCATION  BASE195  POINT     0.00        0.00    0.0
SO LOCATION  BASE295  POINT   -14.07      -38.67    0.0
SO LOCATION  BASE395  POINT   -28.04      -77.05    0.0
SO LOCATION  BASE495  POINT   -42.12     -115.71    0.0
SO LOCATION  BASE595  POINT    89.60       75.08    0.0
SO LOCATION  BASE695  POINT   128.27       61.00    0.0
SO LOCATION  BASE795  POINT   166.65       47.03    0.0
SO LOCATION  BASE895  POINT   205.32       32.96    0.0

SO LOCATION  BASE159  POINT     0.00        0.00    0.0
SO LOCATION  BASE259  POINT   -14.07      -38.67    0.0
SO LOCATION  BASE359  POINT   -28.04      -77.05    0.0
SO LOCATION  BASE459  POINT   -42.12     -115.71    0.0
SO LOCATION  BASE559  POINT    89.60       75.08    0.0
SO LOCATION  BASE659  POINT   128.27       61.00    0.0
SO LOCATION  BASE759  POINT   166.65       47.03    0.0
SO LOCATION  BASE859  POINT   205.32       32.96    0.0

SO LOCATION  BASE132  POINT     0.00        0.00    0.0
SO LOCATION  BASE232  POINT   -14.07      -38.67    0.0
SO LOCATION  BASE332  POINT   -28.04      -77.05    0.0
SO LOCATION  BASE432  POINT   -42.12     -115.71    0.0
SO LOCATION  BASE532  POINT    89.60       75.08    0.0
SO LOCATION  BASE632  POINT   128.27       61.00    0.0
SO LOCATION  BASE732  POINT   166.65       47.03    0.0
SO LOCATION  BASE832  POINT   205.32       32.96    0.0

SO LOCATION  LD17595  POINT     0.00        0.00    0.0
SO LOCATION  LD27595  POINT   -14.07      -38.67    0.0
SO LOCATION  LD37595  POINT   -28.04      -77.05    0.0
SO LOCATION  LD47595  POINT   -42.12     -115.71    0.0
SO LOCATION  LD57595  POINT    89.60       75.08    0.0
SO LOCATION  LD67595  POINT   128.27       61.00    0.0
SO LOCATION  LD77595  POINT   166.65       47.03    0.0
SO LOCATION  LD87595  POINT   205.32       32.96    0.0

SO LOCATION  LD17559  POINT     0.00        0.00    0.0
SO LOCATION  LD27559  POINT   -14.07      -38.67    0.0
SO LOCATION  LD37559  POINT   -28.04      -77.05    0.0
SO LOCATION  LD47559  POINT   -42.12     -115.71    0.0
SO LOCATION  LD57559  POINT    89.60       75.08    0.0
SO LOCATION  LD67559  POINT   128.27       61.00    0.0
SO LOCATION  LD77559  POINT   166.65       47.03    0.0
SO LOCATION  LD87559  POINT   205.32       32.96    0.0

SO LOCATION  LD17532  POINT     0.00        0.00    0.0
SO LOCATION  LD27532  POINT   -14.07      -38.67    0.0
SO LOCATION  LD37532  POINT   -28.04      -77.05    0.0
SO LOCATION  LD47532  POINT   -42.12     -115.71    0.0
SO LOCATION  LD57532  POINT    89.60       75.08    0.0
SO LOCATION  LD67532  POINT   128.27       61.00    0.0
SO LOCATION  LD77532  POINT   166.65       47.03    0.0
SO LOCATION  LD87532  POINT   205.32       32.96    0.0
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SO LOCATION  LD15095  POINT     0.00      0.00   0.0
SO LOCATION  LD25095  POINT   -14.07    -38.67   0.0
SO LOCATION  LD35095  POINT   -28.04    -77.05   0.0
SO LOCATION  LD45095  POINT   -42.12   -115.71   0.0
SO LOCATION  LD55095  POINT    89.60     75.08   0.0
SO LOCATION  LD65095  POINT   128.27     61.00   0.0
SO LOCATION  LD75095  POINT   166.65     47.03   0.0
SO LOCATION  LD85095  POINT   205.32     32.96   0.0

SO LOCATION  LD15059  POINT     0.00      0.00   0.0
SO LOCATION  LD25059  POINT   -14.07    -38.67   0.0
SO LOCATION  LD35059  POINT   -28.04    -77.05   0.0
SO LOCATION  LD45059  POINT   -42.12   -115.71   0.0
SO LOCATION  LD55059  POINT    89.60     75.08   0.0
SO LOCATION  LD65059  POINT   128.27     61.00   0.0
SO LOCATION  LD75059  POINT   166.65     47.03   0.0
SO LOCATION  LD85059  POINT   205.32     32.96   0.0

SO LOCATION  LD15032  POINT     0.00      0.00   0.0
SO LOCATION  LD25032  POINT   -14.07    -38.67   0.0
SO LOCATION  LD35032  POINT   -28.04    -77.05   0.0
SO LOCATION  LD45032  POINT   -42.12   -115.71   0.0
SO LOCATION  LD55032  POINT    89.60     75.08   0.0
SO LOCATION  LD65032  POINT   128.27     61.00   0.0
SO LOCATION  LD75032  POINT   166.65     47.03   0.0
SO LOCATION  LD85032  POINT   205.32     32.96   0.0

**SO LOCATION  UNIT3    POINT    95.58    -125.94   0.0
**SO LOCATION  UNIT4    POINT   151.68    -101.92   0.0
**SO LOCATION  UNIT5    POINT   173.26     -42.63   0.0

** Source Parameter Cards:
** POINT:   SRCID           QS      HS       TS        VS        DS
**                         (g/s)   (m)      (K)      (m/s)      (m)
SO SRCPARAM    BASE195     1.260   38.1     377.6     19.02      5.79
SO SRCPARAM    BASE295     1.260   38.1     377.6     19.02      5.79
SO SRCPARAM    BASE395     1.260   38.1     377.6     19.02      5.79
SO SRCPARAM    BASE495     1.260   38.1     377.6     19.02      5.79
SO SRCPARAM    BASE595     2.142   38.1     377.6     20.39      5.79
SO SRCPARAM    BASE695     2.142   38.1     377.6     20.39      5.79
SO SRCPARAM    BASE795     2.142   38.1     377.6     20.39      5.79
SO SRCPARAM    BASE895     2.142   38.1     377.6     20.39      5.79

SO SRCPARAM    BASE159     1.260   38.1     377.6     20.51      5.79
SO SRCPARAM    BASE259     1.260   38.1     377.6     20.51      5.79
SO SRCPARAM    BASE359     1.260   38.1     377.6     20.51      5.79
SO SRCPARAM    BASE459     1.260   38.1     377.6     20.51      5.79
SO SRCPARAM    BASE559     2.142   38.1     377.6     21.34      5.79
SO SRCPARAM    BASE659     2.142   38.1     377.6     21.34      5.79
SO SRCPARAM    BASE759     2.142   38.1     377.6     21.34      5.79
SO SRCPARAM    BASE859     2.142   38.1     377.6     21.34      5.79

SO SRCPARAM    BASE132     1.260   38.1     377.6     21.43      5.79
SO SRCPARAM    BASE232     1.260   38.1     377.6     21.43      5.79
SO SRCPARAM    BASE332     1.260   38.1     377.6     21.43      5.79
SO SRCPARAM    BASE432     1.260   38.1     377.6     21.43      5.79
SO SRCPARAM    BASE532     2.142   38.1     377.6     22.34      5.79
SO SRCPARAM    BASE632     2.142   38.1     377.6     22.34      5.79
SO SRCPARAM    BASE732     2.142   38.1     377.6     22.34      5.79
SO SRCPARAM    BASE832     2.142   38.1     377.6     22.34      5.79

SO SRCPARAM    LD17595     1.260   38.1     377.6     15.76      5.79
SO SRCPARAM    LD27595     1.260   38.1     377.6     15.76      5.79
SO SRCPARAM    LD37595     1.260   38.1     377.6     15.76      5.79
SO SRCPARAM    LD47595     1.260   38.1     377.6     15.76      5.79
SO SRCPARAM    LD57595     2.142   38.1     377.6     16.52      5.79
SO SRCPARAM    LD67595     2.142   38.1     377.6     16.52      5.79
SO SRCPARAM    LD77595     2.142   38.1     377.6     16.52      5.79
SO SRCPARAM    LD87595     2.142   38.1     377.6     16.52      5.79

SO SRCPARAM    LD17559     1.260   38.1     377.6     16.79      5.79
SO SRCPARAM    LD27559     1.260   38.1     377.6     16.79      5.79
SO SRCPARAM    LD37559     1.260   38.1     377.6     16.79      5.79
SO SRCPARAM    LD47559     1.260   38.1     377.6     16.79      5.79
SO SRCPARAM    LD57559     2.142   38.1     377.6     16.37      5.79
SO SRCPARAM    LD67559     2.142   38.1     377.6     16.37      5.79
SO SRCPARAM    LD77559     2.142   38.1     377.6     16.37      5.79
SO SRCPARAM    LD87559     2.142   38.1     377.6     16.37      5.79

SO SRCPARAM    LD17532     1.260   38.1     377.6     17.28      5.79
SO SRCPARAM    LD27532     1.260   38.1     377.6     17.28      5.79
SO SRCPARAM    LD37532     1.260   38.1     377.6     17.28      5.79
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SO SRCPARAM   LD47532       1.260   38.1        377.6      17.28      5.79
SO SRCPARAM   LD57532       2.142   38.1        377.6      17.37      5.79
SO SRCPARAM   LD67532       2.142   38.1        377.6      17.37      5.79
SO SRCPARAM   LD77532       2.142   38.1        377.6      17.37      5.79
SO SRCPARAM   LD87532       2.142   38.1        377.6      17.37      5.79

SO SRCPARAM   LD15095       1.260   38.1        377.6      13.26      5.79
SO SRCPARAM   LD25095       1.260   38.1        377.6      13.26      5.79
SO SRCPARAM   LD35095       1.260   38.1        377.6      13.26      5.79
SO SRCPARAM   LD45095       1.260   38.1        377.6      13.26      5.79
SO SRCPARAM   LD55095       2.142   38.1        377.6      13.66      5.79
SO SRCPARAM   LD65095       2.142   38.1        377.6      13.66      5.79
SO SRCPARAM   LD75095       2.142   38.1        377.6      13.66      5.79
SO SRCPARAM   LD85095       2.142   38.1        377.6      13.66      5.79

SO SRCPARAM   LD15059       1.260   38.1        377.6      13.90      5.79
SO SRCPARAM   LD25059       1.260   38.1        377.6      13.90      5.79
SO SRCPARAM   LD35059       1.260   38.1        377.6      13.90      5.79
SO SRCPARAM   LD45059       1.260   38.1        377.6      13.90      5.79
SO SRCPARAM   LD55059       2.142   38.1        377.6      13.90      5.79
SO SRCPARAM   LD65059       2.142   38.1        377.6      13.90      5.79
SO SRCPARAM   LD75059       2.142   38.1        377.6      13.90      5.79
SO SRCPARAM   LD85059       2.142   38.1        377.6      13.90      5.79

SO SRCPARAM   LD15032       1.260   38.1        377.6      14.20      5.79
SO SRCPARAM   LD25032       1.260   38.1        377.6      14.20      5.79
SO SRCPARAM   LD35032       1.260   38.1        377.6      14.20      5.79
SO SRCPARAM   LD45032       1.260   38.1        377.6      14.20      5.79
SO SRCPARAM   LD55032       2.142   38.1        377.6      14.36      5.79
SO SRCPARAM   LD65032       2.142   38.1        377.6      14.36      5.79
SO SRCPARAM   LD75032       2.142   38.1        377.6      14.36      5.79
SO SRCPARAM   LD85032       2.142   38.1        377.6      14.36      5.79

**SO SRCPARAM   UNIT3       571.775    92.05       408.15     29.90    2.896
**SO SRCPARAM   UNIT4         0.0     121.92       408.15     19.2      5.85
**SO SRCPARAM   UNIT5         0.0     121.92       408.15     19.2      5.85


SO BUILDHGT BASE132-BASE195     26.21     26.21     26.21     26.21     26.21     26.21
SO BUILDHGT BASE132-BASE195     26.21     26.21     49.28     40.23     26.21     26.21
SO BUILDHGT BASE132-BASE195     26.21     49.28     40.23     40.23     26.21     26.21
SO BUILDHGT BASE132-BASE195     26.21     26.21     26.21     26.21     26.21     26.21
SO BUILDHGT BASE132-BASE195     26.21     26.21     49.28     49.28     49.28     49.28
SO BUILDHGT BASE132-BASE195     49.28     49.28     40.23     40.23     26.21     26.21
SO BUILDWID BASE132-BASE195     22.53     20.73     22.53     23.65     24.05     23.71
SO BUILDWID BASE132-BASE195     22.66     20.92     96.39    128.84     12.19     15.61
SO BUILDWID BASE132-BASE195     18.55     93.10    132.86    122.72     24.05     23.65
SO BUILDWID BASE132-BASE195     22.53     20.73     22.53     23.65     24.05     23.71
SO BUILDWID BASE132-BASE195     22.66     20.92     96.39     96.76     31.09     96.76
SO BUILDWID BASE132-BASE195     96.39     93.10     84.53     82.17     24.05     23.65

SO BUILDHGT LD15032-LD17595     26.21     26.21     26.21     26.21     26.21     26.21
SO BUILDHGT LD15032-LD17595     26.21     26.21     49.28     40.23     26.21     26.21
SO BUILDHGT LD15032-LD17595     26.21     49.28     40.23     40.23     26.21     26.21
SO BUILDHGT LD15032-LD17595     26.21     26.21     26.21     26.21     26.21     26.21
SO BUILDHGT LD15032-LD17595     26.21     26.21     49.28     49.28     49.28     49.28
SO BUILDHGT LD15032-LD17595     49.28     49.28     40.23     40.23     26.21     26.21
SO BUILDWID LD15032-LD17595     22.53     20.73     22.53     23.65     24.05     23.71
SO BUILDWID LD15032-LD17595     22.66     20.92     96.39    128.84     12.19     15.61
SO BUILDWID LD15032-LD17595     18.55     93.10    132.86    122.72     24.05     23.65
SO BUILDWID LD15032-LD17595     22.53     20.73     22.53     23.65     24.05     23.71
SO BUILDWID LD15032-LD17595     22.66     20.92     96.39     96.76     31.09     96.76
SO BUILDWID LD15032-LD17595     96.39     93.10     84.53     82.17     24.05     23.65

SO BUILDHGT BASE232-BASE295     26.21     26.21     26.21     26.21     26.21     26.21
SO BUILDHGT BASE232-BASE295     49.28     49.28     40.23     26.21     26.21     26.21
SO BUILDHGT BASE232-BASE295     49.28     40.23     40.23     26.21     26.21     26.21
SO BUILDHGT BASE232-BASE295     26.21     26.21     26.21     26.21     26.21     26.21
SO BUILDHGT BASE232-BASE295     49.28     49.28     49.28     49.28     40.23     49.28
SO BUILDHGT BASE232-BASE295     49.28     40.23     40.23     26.21     26.21     26.21
SO BUILDWID BASE232-BASE295     22.53     20.73     22.53     23.65     24.05     23.71
SO BUILDWID BASE232-BASE295     86.98     93.10    121.95     15.61     12.19     15.61
SO BUILDWID BASE232-BASE295     96.39    138.96    132.86     23.71     24.05     23.65
SO BUILDWID BASE232-BASE295     22.53     20.73     22.53     23.65     24.05     23.71
SO BUILDWID BASE232-BASE295     86.98     93.10     96.39     96.76     68.73     96.76
SO BUILDWID BASE232-BASE295     96.39     84.32     84.53     23.71     24.05     23.65

SO BUILDHGT LD25032-LD27595     26.21     26.21     26.21     26.21     26.21     26.21
SO BUILDHGT LD25032-LD27595     49.28     49.28     40.23     26.21     26.21     26.21
SO BUILDHGT LD25032-LD27595     49.28     40.23     40.23     26.21     26.21     26.21
SO BUILDHGT LD25032-LD27595     26.21     26.21     26.21     26.21     26.21     26.21
SO BUILDHGT LD25032-LD27595     49.28     49.28     49.28     49.28     40.23     49.28
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SO BUILDHGT LD25032-LD27595	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDWID LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD25032-LD27595	86.98	93.10	121.95	15.61	12.19	15.61
SO BUILDWID LD25032-LD27595	96.39	138.96	132.86	23.71	24.05	23.65
SO BUILDWID LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD25032-LD27595	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID LD25032-LD27595	96.39	84.32	84.53	23.71	24.05	23.65
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE332-BASE395	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE332-BASE395	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT BASE332-BASE395	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE332-BASE395	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID BASE332-BASE395	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE332-BASE395	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID BASE332-BASE395	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD35032-LD37595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD35032-LD37595	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD35032-LD37595	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID LD35032-LD37595	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD35032-LD37595	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID LD35032-LD37595	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE432-BASE495	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE432-BASE495	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE432-BASE495	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD45032-LD47595	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD45032-LD47595	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE532-BASE595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID BASE532-BASE595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDWID BASE532-BASE595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDHGT LD55032-LD57595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID LD55032-LD57595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD55032-LD57595	23.65	93.10	86.98	78.21	67.07	53.89

SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD55032-LD57595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDHGT	BASE632-BASE695	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE632-BASE695	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT	BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE632-BASE695	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDWID	BASE632-BASE695	60.77	49.59	15.61	18.55	20.92	22.66
SO BUILDWID	BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE632-BASE695	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDWID	BASE632-BASE695	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE632-BASE695	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDHGT	LD65032-LD67595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT	LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD65032-LD67595	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT	LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD65032-LD67595	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDWID	LD65032-LD67595	60.77	49.59	15.61	18.55	20.92	22.66
SO BUILDWID	LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD65032-LD67595	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDWID	LD65032-LD67595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD65032-LD67595	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDHGT	BASE732-BASE795	40.23	40.23	40.23	40.23	40.23	26.21
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	40.23	40.23	26.21
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDWID	BASE732-BASE795	60.77	49.59	46.27	41.54	44.43	22.66
SO BUILDWID	BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDWID	BASE732-BASE795	15.61	12.19	15.61	53.89	44.43	22.66
SO BUILDWID	BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDHGT	LD75032-LD77595	40.23	40.23	40.23	40.23	40.23	26.21
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	40.23	40.23	26.21
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDWID	LD75032-LD77595	60.77	49.59	46.27	41.54	44.43	22.66
SO BUILDWID	LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDWID	LD75032-LD77595	15.61	12.19	15.61	53.89	44.43	22.66
SO BUILDWID	LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDHGT	BASE832-BASE895	26.21	26.21	40.23	49.28	49.28	49.28
SO BUILDHGT	BASE832-BASE895	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE832-BASE895	26.21	26.21	26.21	49.28	49.28	49.28
SO BUILDHGT	BASE832-BASE895	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	BASE832-BASE895	15.61	12.19	46.27	53.89	67.07	78.22
SO BUILDWID	BASE832-BASE895	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID	BASE832-BASE895	15.61	12.19	15.61	53.89	67.07	78.22
SO BUILDWID	BASE832-BASE895	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT	LD85032-LD87595	26.21	26.21	40.23	49.28	49.28	49.28
SO BUILDHGT	LD85032-LD87595	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD85032-LD87595	26.21	26.21	26.21	49.28	49.28	49.28
SO BUILDHGT	LD85032-LD87595	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD85032-LD87595	15.61	12.19	46.27	53.89	67.07	78.22
SO BUILDWID	LD85032-LD87595	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID	LD85032-LD87595	15.61	12.19	15.61	53.89	67.07	78.22
SO BUILDWID	LD85032-LD87595	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55

```
**SO BUILDHGT UNIT3       40.23    40.23    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT3       49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT3       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT3       40.23    40.23    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT3       49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT3       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT3       60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3       86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3       96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT3       60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3       86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3       96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT4        0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4       49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT4        0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4       49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT4        0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4       86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4       96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT4        0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4       86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4       96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT5        0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5       49.28    49.28    49.28    49.28    49.28    26.21
**SO BUILDHGT UNIT5        0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5       49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5       49.28    49.28    49.28    49.28    49.28     0.00
**SO BUILDWID UNIT5        0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5       86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5       96.39    93.10    86.98    78.21    67.07    18.55
**SO BUILDWID UNIT5        0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5       86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5       96.39    93.10    86.98    78.21    67.07     0.00

SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.        10
RE DISCPOLR BASE195      300.        10
RE DISCPOLR BASE195      400.        10
RE DISCPOLR BASE195      211.        20
RE DISCPOLR BASE195      300.        20
RE DISCPOLR BASE195      400.        20
RE DISCPOLR BASE195      229.        30
RE DISCPOLR BASE195      300.        30
RE DISCPOLR BASE195      400.        30
RE DISCPOLR BASE195      257.        40
RE DISCPOLR BASE195      300.        40
RE DISCPOLR BASE195      400.        40
RE DISCPOLR BASE195      305.        50
RE DISCPOLR BASE195      400.        50
RE DISCPOLR BASE195      296.        60
RE DISCPOLR BASE195      300.        60
RE DISCPOLR BASE195      400.        60
RE DISCPOLR BASE195      274.        70
RE DISCPOLR BASE195      300.        70
RE DISCPOLR BASE195      400.        70
RE DISCPOLR BASE195      262.        80
RE DISCPOLR BASE195      300.        80
RE DISCPOLR BASE195      400.        80
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RE DISCPOLR BASE195      259.       90
RE DISCPOLR BASE195      300.       90
RE DISCPOLR BASE195      400.       90
RE DISCPOLR BASE195      264.      100
RE DISCPOLR BASE195      300.      100
RE DISCPOLR BASE195      400.      100
RE DISCPOLR BASE195      275.      110
RE DISCPOLR BASE195      300.      110
RE DISCPOLR BASE195      400.      110
RE DISCPOLR BASE195      292.      120
RE DISCPOLR BASE195      300.      120
RE DISCPOLR BASE195      400.      120
RE DISCPOLR BASE195      317.      130
RE DISCPOLR BASE195      400.      130
RE DISCPOLR BASE195      351.      140
RE DISCPOLR BASE195      400.      140
RE DISCPOLR BASE195      404.      150
RE DISCPOLR BASE195      494.      160
RE DISCPOLR BASE195      515.      170
RE DISCPOLR BASE195      474.      180
RE DISCPOLR BASE195      451.      190
RE DISCPOLR BASE195      354.      190
RE DISCPOLR BASE195      289.      190
RE DISCPOLR BASE195      284.      200
RE DISCPOLR BASE195      300.      200
RE DISCPOLR BASE195      400.      200
RE DISCPOLR BASE195      289.      210
RE DISCPOLR BASE195      300.      210
RE DISCPOLR BASE195      400.      210
RE DISCPOLR BASE195      303.      220
RE DISCPOLR BASE195      400.      220
RE DISCPOLR BASE195      296.      230
RE DISCPOLR BASE195      300.      230
RE DISCPOLR BASE195      400.      230
RE DISCPOLR BASE195      230.      240
RE DISCPOLR BASE195      300.      240
RE DISCPOLR BASE195      400.      240
RE DISCPOLR BASE195      274.      250
RE DISCPOLR BASE195      300.      250
RE DISCPOLR BASE195      400.      250
RE DISCPOLR BASE195      352.      260
RE DISCPOLR BASE195      400.      260
RE DISCPOLR BASE195      389.      270
RE DISCPOLR BASE195      400.      270
RE DISCPOLR BASE195      394.      280
RE DISCPOLR BASE195      400.      280
RE DISCPOLR BASE195      412.      290
RE DISCPOLR BASE195      410.      300
RE DISCPOLR BASE195      316.      310
RE DISCPOLR BASE195      400.      310
RE DISCPOLR BASE195      264.      320
RE DISCPOLR BASE195      300.      320
RE DISCPOLR BASE195      400.      320
RE DISCPOLR BASE195      233.      330
RE DISCPOLR BASE195      300.      330
RE DISCPOLR BASE195      400.      330
RE DISCPOLR BASE195      214.      340
RE DISCPOLR BASE195      300.      340
RE DISCPOLR BASE195      400.      340
RE DISCPOLR BASE195      203.      350
RE DISCPOLR BASE195      300.      350
RE DISCPOLR BASE195      400.      350
RE DISCPOLR BASE195      200.      360
RE DISCPOLR BASE195      200.      360
RE DISCPOLR BASE195      300.      360
RE DISCPOLR BASE195      400.      360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                          UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987              ORLANDO
ME UAIRDATA  12842  1987              RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :CO_OILW.087
ISCST3 OUTPUT FILE NUMBER 2 :CO_OILW.088
ISCST3 OUTPUT FILE NUMBER 3 :CO_OILW.089
ISCST3 OUTPUT FILE NUMBER 4 :CO_OILW.090
ISCST3 OUTPUT FILE NUMBER 5 :CO_OILW.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/1/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	BASE95				
HIGH 8-Hour					
	1987	172.462	240.	230.	87032316
	1988	196.695	240.	230.	88091216
	1989	154.177	10.	300.	89050116
	1990	168.091	240.	230.	90052516
	1991	174.463	20.	300.	91011116
HSH 8-Hour					
	1987	159.165	240.	230.	87060716
	1988	165.540	240.	230.	88091316
	1989	127.888	10.	300.	89060908
	1990	160.178	240.	230.	90041924
	1991	143.209	20.	300.	91021316
HIGH 1-Hour					
	1987	516.815	20.	211.	87081701
	1988	509.149	20.	211.	88092305
	1989	509.149	20.	211.	89052701
	1990	515.261	20.	211.	90070823
	1991	512.185	20.	211.	91081202
HSH 1-Hour					
	1987	417.954	360.	200.	87061721
	1988	483.058	20.	211.	88092403
	1989	497.394	20.	211.	89011302
	1990	423.984	20.	211.	90031701
	1991	501.730	20.	211.	91112101
SOURCE GROUP ID:	BASE59				
HIGH 8-Hour					
	1987	191.451	240.	230.	87032316
	1988	200.312	240.	230.	88091216
	1989	165.181	10.	300.	89050116
	1990	177.170	240.	230.	90052516
	1991	188.683	240.	230.	91112816
HSH 8-Hour					
	1987	166.521	240.	230.	87060716
	1988	164.413	240.	230.	88091316
	1989	126.628	10.	300.	89060908
	1990	174.793	240.	230.	90030816
	1991	156.622	240.	230.	91102516
HIGH 1-Hour					
	1987	497.290	20.	211.	87081701
	1988	489.117	20.	211.	88092305
	1989	489.117	20.	211.	89052701
	1990	495.632	20.	211.	90070823
	1991	492.351	20.	211.	91081202
HSH 1-Hour					
	1987	431.949	360.	200.	87061721
	1988	464.055	20.	211.	88092403
	1989	476.635	20.	211.	89011302
	1990	437.818	20.	211.	90031701
	1991	481.231	20.	211.	91112101
SOURCE GROUP ID:	BASE32				
HIGH 8-Hour					
	1987	197.527	240.	230.	87032316
	1988	201.559	240.	230.	88091216
	1989	169.003	10.	300.	89050116
	1990	181.172	240.	230.	90052516
	1991	190.359	240.	230.	91112816
HSH 8-Hour					
	1987	169.040	240.	230.	87060716
	1988	160.601	240.	230.	88091316
	1989	129.642	120.	292.	89031008
	1990	180.817	240.	230.	90030816
	1991	159.868	240.	230.	91102516
HIGH 1-Hour					
	1987	459.295	20.	211.	87081701
	1988	450.912	20.	211.	88092305
	1989	450.912	20.	211.	89052701
	1990	457.592	20.	211.	90070823

	1991	454.225	20.	211.	91081202
HSH 1-Hour					
	1987	422.702	360.	200.	87060224
	1988	427.812	20.	211.	88092403
	1989	438.168	20.	211.	89011302
	1990	439.897	20.	211.	90031701
	1991	453.230	20.	211.	91022602
SOURCE GROUP ID:	LD7595				
HIGH 8-Hour					
	1987	145.639	240.	230.	87052716
	1988	175.230	120.	292.	88031508
	1989	160.205	240.	230.	89031724
	1990	161.262	240.	230.	90122908
	1991	166.053	10.	300.	91032908
HSH 8-Hour					
	1987	136.228	240.	230.	87032316
	1988	166.404	240.	230.	88091316
	1989	126.337	130.	317.	89030924
	1990	161.210	240.	230.	90041924
	1991	144.550	10.	300.	91120308
HIGH 1-Hour					
	1987	587.061	20.	211.	87081701
	1988	581.510	20.	211.	88092305
	1989	581.510	20.	211.	89052701
	1990	585.941	20.	211.	90070823
	1991	583.716	20.	211.	91081202
HSH 1-Hour					
	1987	471.287	360.	200.	87070824
	1988	551.701	20.	211.	88092403
	1989	572.879	20.	211.	89011302
	1990	400.584	20.	211.	90091505
	1991	576.080	20.	211.	91112101
SOURCE GROUP ID:	LD7559				
HIGH 8-Hour					
	1987	147.120	240.	230.	87052716
	1988	191.653	240.	230.	88091216
	1989	158.883	240.	230.	89031724
	1990	171.401	240.	230.	90041924
	1991	169.219	10.	300.	91032908
HSH 8-Hour					
	1987	144.644	240.	230.	87060716
	1988	172.761	240.	230.	88091316
	1989	128.359	130.	317.	89030924
	1990	158.160	240.	230.	90122024
	1991	147.232	10.	300.	91120308
HIGH 1-Hour					
	1987	597.399	20.	211.	87081701
	1988	591.855	20.	211.	88092305
	1989	591.855	20.	211.	89052701
	1990	596.281	20.	211.	90070823
	1991	594.058	20.	211.	91081202
HSH 1-Hour					
	1987	479.737	360.	200.	87070824
	1988	561.515	20.	211.	88092403
	1989	583.229	20.	211.	89011302
	1990	413.038	20.	211.	90091505
	1991	586.429	20.	211.	91112101
SOURCE GROUP ID:	LD7532				
HIGH 8-Hour					
	1987	150.663	240.	230.	87060716
	1988	195.649	240.	230.	88091216
	1989	153.154	240.	230.	89031724
	1990	175.271	240.	230.	90041924
	1991	167.645	230.	296.	91090416
HSH 8-Hour					
	1987	148.139	240.	230.	87032316
	1988	175.354	240.	230.	88091316
	1989	129.644	10.	300.	89060908
	1990	155.575	240.	230.	90122024
	1991	150.962	10.	300.	91120308
HIGH 1-Hour					
	1987	590.166	20.	211.	87081701
	1988	583.977	20.	211.	88092305
	1989	583.977	20.	211.	89052701
	1990	588.916	20.	211.	90070823
	1991	586.435	20.	211.	91081202
HSH 1-Hour					
	1987	472.882	360.	200.	87070824
	1988	554.043	20.	211.	88092403
	1989	574.379	20.	211.	89011302
	1990	408.701	20.	211.	90122222
	1991	577.935	20.	211.	91112101

SOURCE GROUP ID: LD5095

HIGH 8-Hour					
	1987	198.054	20.	300.	87072924
	1988	222.434	20.	300.	88090608
	1989	227.147	130.	317.	89121708
	1990	222.073	70.	400.	90052908
	1991	251.098	10.	300.	91032908
HSH 8-Hour					
	1987	190.746	20.	300.	87011816
	1988	195.546	20.	300.	88012108
	1989	181.113	10.	300.	89032108
	1990	194.825	360.	200.	90042808
	1991	218.665	10.	300.	91120308
HIGH 1-Hour					
	1987	877.186	20.	211.	87081701
	1988	871.462	20.	211.	88092305
	1989	871.462	20.	211.	89052701
	1990	876.034	20.	211.	90070823
	1991	873.741	20.	211.	91081202
HSH 1-Hour					
	1987	774.398	20.	211.	87062205
	1988	827.206	20.	211.	88092403
	1989	862.489	20.	211.	89011302
	1990	734.713	20.	211.	90091505
	1991	865.828	20.	211.	91112101

SOURCE GROUP ID: LD5059

HIGH 8-Hour					
	1987	200.445	20.	300.	87072924
	1988	224.501	20.	300.	88090608
	1989	227.782	130.	317.	89121708
	1990	224.518	70.	400.	90052908
	1991	254.406	10.	300.	91032908
HSH 8-Hour					
	1987	191.615	20.	300.	87011816
	1988	199.017	20.	300.	88012108
	1989	181.851	10.	300.	89060408
	1990	195.735	360.	200.	90042808
	1991	221.746	10.	300.	91120308
HIGH 1-Hour					
	1987	890.961	20.	211.	87081701
	1988	884.955	20.	211.	88092305
	1989	884.955	20.	211.	89052701
	1990	889.752	20.	211.	90070823
	1991	887.346	20.	211.	91081202
HSH 1-Hour					
	1987	775.601	20.	211.	87062205
	1988	840.012	20.	211.	88092403
	1989	875.544	20.	211.	89011302
	1990	735.855	20.	211.	90091505
	1991	879.044	20.	211.	91112101

SOURCE GROUP ID: LD5032

HIGH 8-Hour					
	1987	228.423	10.	202.	87080724
	1988	224.931	20.	300.	88090608
	1989	225.252	130.	317.	89121708
	1990	225.741	70.	400.	90052908
	1991	261.088	10.	300.	91032908
HSH 8-Hour					
	1987	199.074	20.	300.	87011908
	1988	202.716	20.	300.	88012108
	1989	181.918	10.	300.	89060408
	1990	197.506	20.	300.	90021616
	1991	223.930	10.	300.	91120308
HIGH 1-Hour					
	1987	903.739	20.	211.	87081701
	1988	897.258	20.	211.	88092305
	1989	897.258	20.	211.	89052701
	1990	902.434	20.	211.	90070823
	1991	899.837	20.	211.	91081202
HSH 1-Hour					
	1987	764.699	20.	211.	87062205
	1988	851.690	20.	211.	88092403
	1989	887.116	20.	211.	89011302
	1990	725.515	20.	211.	90091505
	1991	890.887	20.	211.	91112101

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)4/1/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, Unit 3 not operating
CO MODELOPT  DFAULT CONC RURAL NOCMPL
CO AVERTIME  8  1
CO POLLUTID  CO
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP       XS           YS             ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00     0.00
**  HRSG STACK LETTER CODE
** ----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP        XS          YS        ZS
**  UTM                         (m)         (m)       (m)
SO LOCATION  BASE195  POINT     0.00        0.00      0.0
SO LOCATION  BASE295  POINT   -14.07      -38.67      0.0
SO LOCATION  BASE395  POINT   -28.04      -77.05      0.0
SO LOCATION  BASE495  POINT   -42.12     -115.71      0.0
SO LOCATION  BASE595  POINT    89.60       75.08      0.0
SO LOCATION  BASE695  POINT   128.27       61.00      0.0
SO LOCATION  BASE795  POINT   166.65       47.03      0.0
SO LOCATION  BASE895  POINT   205.32       32.96      0.0

SO LOCATION  BASE159  POINT     0.00        0.00      0.0
SO LOCATION  BASE259  POINT   -14.07      -38.67      0.0
SO LOCATION  BASE359  POINT   -28.04      -77.05      0.0
SO LOCATION  BASE459  POINT   -42.12     -115.71      0.0
SO LOCATION  BASE559  POINT    89.60       75.08      0.0
SO LOCATION  BASE659  POINT   128.27       61.00      0.0
SO LOCATION  BASE759  POINT   166.65       47.03      0.0
SO LOCATION  BASE859  POINT   205.32       32.96      0.0

SO LOCATION  BASE132  POINT     0.00        0.00      0.0
SO LOCATION  BASE232  POINT   -14.07      -38.67      0.0
SO LOCATION  BASE332  POINT   -28.04      -77.05      0.0
SO LOCATION  BASE432  POINT   -42.12     -115.71      0.0
SO LOCATION  BASE532  POINT    89.60       75.08      0.0
SO LOCATION  BASE632  POINT   128.27       61.00      0.0
SO LOCATION  BASE732  POINT   166.65       47.03      0.0
SO LOCATION  BASE832  POINT   205.32       32.96      0.0

SO LOCATION  LD17595  POINT     0.00        0.00      0.0
SO LOCATION  LD27595  POINT   -14.07      -38.67      0.0
SO LOCATION  LD37595  POINT   -28.04      -77.05      0.0
SO LOCATION  LD47595  POINT   -42.12     -115.71      0.0
SO LOCATION  LD57595  POINT    89.60       75.08      0.0
SO LOCATION  LD67595  POINT   128.27       61.00      0.0
SO LOCATION  LD77595  POINT   166.65       47.03      0.0
SO LOCATION  LD87595  POINT   205.32       32.96      0.0

SO LOCATION  LD17559  POINT     0.00        0.00      0.0
SO LOCATION  LD27559  POINT   -14.07      -38.67      0.0
SO LOCATION  LD37559  POINT   -28.04      -77.05      0.0
SO LOCATION  LD47559  POINT   -42.12     -115.71      0.0
SO LOCATION  LD57559  POINT    89.60       75.08      0.0
SO LOCATION  LD67559  POINT   128.27       61.00      0.0
SO LOCATION  LD77559  POINT   166.65       47.03      0.0
SO LOCATION  LD87559  POINT   205.32       32.96      0.0

SO LOCATION  LD17532  POINT     0.00        0.00      0.0
SO LOCATION  LD27532  POINT   -14.07      -38.67      0.0
SO LOCATION  LD37532  POINT   -28.04      -77.05      0.0
SO LOCATION  LD47532  POINT   -42.12     -115.71      0.0
SO LOCATION  LD57532  POINT    89.60       75.08      0.0
SO LOCATION  LD67532  POINT   128.27       61.00      0.0
SO LOCATION  LD77532  POINT   166.65       47.03      0.0
SO LOCATION  LD87532  POINT   205.32       32.96      0.0
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SO LOCATION  LD15095  POINT     0.00      0.00    0.0
SO LOCATION  LD25095  POINT   -14.07    -38.67    0.0
SO LOCATION  LD35095  POINT   -28.04    -77.05    0.0
SO LOCATION  LD45095  POINT   -42.12   -115.71    0.0
SO LOCATION  LD55095  POINT    89.60     75.08    0.0
SO LOCATION  LD65095  POINT   128.27     61.00    0.0
SO LOCATION  LD75095  POINT   166.65     47.03    0.0
SO LOCATION  LD85095  POINT   205.32     32.96    0.0

SO LOCATION  LD15059  POINT     0.00      0.00    0.0
SO LOCATION  LD25059  POINT   -14.07    -38.67    0.0
SO LOCATION  LD35059  POINT   -28.04    -77.05    0.0
SO LOCATION  LD45059  POINT   -42.12   -115.71    0.0
SO LOCATION  LD55059  POINT    89.60     75.08    0.0
SO LOCATION  LD65059  POINT   128.27     61.00    0.0
SO LOCATION  LD75059  POINT   166.65     47.03    0.0
SO LOCATION  LD85059  POINT   205.32     32.96    0.0

SO LOCATION  LD15032  POINT     0.00      0.00    0.0
SO LOCATION  LD25032  POINT   -14.07    -38.67    0.0
SO LOCATION  LD35032  POINT   -28.04    -77.05    0.0
SO LOCATION  LD45032  POINT   -42.12   -115.71    0.0
SO LOCATION  LD55032  POINT    89.60     75.08    0.0
SO LOCATION  LD65032  POINT   128.27     61.00    0.0
SO LOCATION  LD75032  POINT   166.65     47.03    0.0
SO LOCATION  LD85032  POINT   205.32     32.96    0.0

**SO LOCATION  UNIT3     POINT    95.58     -125.94    0.0
**SO LOCATION  UNIT4     POINT   151.68     -101.92    0.0
**SO LOCATION  UNIT5     POINT   173.26      -42.63    0.0

** Source Parameter Cards:
** POINT:   SRCID            QS      HS      TS       VS       DS
**                          (g/s)   (m)     (K)      (m/s)    (m)
SO SRCPARAM   BASE195      4.889   38.1    377.6    19.02    5.79
SO SRCPARAM   BASE295      4.889   38.1    377.6    19.02    5.79
SO SRCPARAM   BASE395      4.889   38.1    377.6    19.02    5.79
SO SRCPARAM   BASE495      4.889   38.1    377.6    19.02    5.79
SO SRCPARAM   BASE595      8.417   38.1    377.6    20.39    5.79
SO SRCPARAM   BASE695      8.417   38.1    377.6    20.39    5.79
SO SRCPARAM   BASE795      8.417   38.1    377.6    20.39    5.79
SO SRCPARAM   BASE895      8.417   38.1    377.6    20.39    5.79

SO SRCPARAM   BASE159      5.367   38.1    377.6    20.51    5.79
SO SRCPARAM   BASE259      5.367   38.1    377.6    20.51    5.79
SO SRCPARAM   BASE359      5.367   38.1    377.6    20.51    5.79
SO SRCPARAM   BASE459      5.367   38.1    377.6    20.51    5.79
SO SRCPARAM   BASE559      9.021   38.1    377.6    21.34    5.79
SO SRCPARAM   BASE659      9.021   38.1    377.6    21.34    5.79
SO SRCPARAM   BASE759      9.021   38.1    377.6    21.34    5.79
SO SRCPARAM   BASE859      9.021   38.1    377.6    21.34    5.79

SO SRCPARAM   BASE132      5.657   38.1    377.6    21.43    5.79
SO SRCPARAM   BASE232      5.657   38.1    377.6    21.43    5.79
SO SRCPARAM   BASE332      5.657   38.1    377.6    21.43    5.79
SO SRCPARAM   BASE432      5.657   38.1    377.6    21.43    5.79
SO SRCPARAM   BASE532      9.462   38.1    377.6    22.34    5.79
SO SRCPARAM   BASE632      9.462   38.1    377.6    22.34    5.79
SO SRCPARAM   BASE732      9.462   38.1    377.6    22.34    5.79
SO SRCPARAM   BASE832      9.462   38.1    377.6    22.34    5.79

SO SRCPARAM   LD17595      4.057   38.1    377.6    15.76    5.79
SO SRCPARAM   LD27595      4.057   38.1    377.6    15.76    5.79
SO SRCPARAM   LD37595      4.057   38.1    377.6    15.76    5.79
SO SRCPARAM   LD47595      4.057   38.1    377.6    15.76    5.79
SO SRCPARAM   LD57595      6.854   38.1    377.6    16.52    5.79
SO SRCPARAM   LD67595      6.854   38.1    377.6    16.52    5.79
SO SRCPARAM   LD77595      6.854   38.1    377.6    16.52    5.79
SO SRCPARAM   LD87595      6.854   38.1    377.6    16.52    5.79

SO SRCPARAM   LD17559      4.397   38.1    377.6    16.79    5.79
SO SRCPARAM   LD27559      4.397   38.1    377.6    16.79    5.79
SO SRCPARAM   LD37559      4.397   38.1    377.6    16.79    5.79
SO SRCPARAM   LD47559      4.397   38.1    377.6    16.79    5.79
SO SRCPARAM   LD57559      6.905   38.1    377.6    16.37    5.79
SO SRCPARAM   LD67559      6.905   38.1    377.6    16.37    5.79
SO SRCPARAM   LD77559      6.905   38.1    377.6    16.37    5.79
SO SRCPARAM   LD87559      6.905   38.1    377.6    16.37    5.79

SO SRCPARAM   LD17532      4.561   38.1    377.6    17.28    5.79
SO SRCPARAM   LD27532      4.561   38.1    377.6    17.28    5.79
SO SRCPARAM   LD37532      4.561   38.1    377.6    17.28    5.79
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SO SRCPARAM   LD47532      4.561   38.1      377.6     17.28     5.79
SO SRCPARAM   LD57532      7.320   38.1      377.6     17.37     5.79
SO SRCPARAM   LD67532      7.320   38.1      377.6     17.37     5.79
SO SRCPARAM   LD77532      7.320   38.1      377.6     17.37     5.79
SO SRCPARAM   LD87532      7.320   38.1      377.6     17.37     5.79

SO SRCPARAM   LD15095     3.427    38.1      377.6     13.26     5.79
SO SRCPARAM   LD25095     3.427    38.1      377.6     13.26     5.79
SO SRCPARAM   LD35095     3.427    38.1      377.6     13.26     5.79
SO SRCPARAM   LD45095     3.427    38.1      377.6     13.26     5.79
SO SRCPARAM   LD55095     8.694    38.1      377.6     13.66     5.79
SO SRCPARAM   LD65095     8.694    38.1      377.6     13.66     5.79
SO SRCPARAM   LD75095     8.694    38.1      377.6     13.66     5.79
SO SRCPARAM   LD85095     8.694    38.1      377.6     13.66     5.79

SO SRCPARAM   LD15059     3.654    38.1      377.6     13.90     5.79
SO SRCPARAM   LD25059     3.654    38.1      377.6     13.90     5.79
SO SRCPARAM   LD35059     3.654    38.1      377.6     13.90     5.79
SO SRCPARAM   LD45059     3.654    38.1      377.6     13.90     5.79
SO SRCPARAM   LD55059     8.933     38.1      377.6     13.90     5.79
SO SRCPARAM   LD65059     8.933     38.1      377.6     13.90     5.79
SO SRCPARAM   LD75059     8.933     38.1      377.6     13.90     5.79
SO SRCPARAM   LD85059     8.933     38.1      377.6     13.90     5.79

SO SRCPARAM   LD15032     3.767    38.1      377.6     14.20     5.79
SO SRCPARAM   LD25032     3.767    38.1      377.6     14.20     5.79
SO SRCPARAM   LD35032     3.767    38.1      377.6     14.20     5.79
SO SRCPARAM   LD45032     3.767    38.1      377.6     14.20     5.79
SO SRCPARAM   LD55032     9.273    38.1      377.6     14.36     5.79
SO SRCPARAM   LD65032     9.273    38.1      377.6     14.36     5.79
SO SRCPARAM   LD75032     9.273    38.1      377.6     14.36     5.79
SO SRCPARAM   LD85032     9.273    38.1      377.6     14.36     5.79

**SO SRCPARAM   UNIT3      571.775    92.05     408.15    29.90     2.896
**SO SRCPARAM   UNIT4          0.0   121.92     408.15    19.2      5.85
**SO SRCPARAM   UNIT5          0.0   121.92     408.15    19.2      5.85


SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    49.28    40.23    40.23    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT BASE132-BASE195    49.28    49.28    40.23    40.23    26.21    26.21
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    96.39   128.84    12.19    15.61
SO BUILDWID BASE132-BASE195    18.55    93.10   132.86   122.72    24.05    23.65
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID BASE132-BASE195    96.39    93.10    84.53    82.17    24.05    23.65

SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    49.28    40.23    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT LD15032-LD17595    49.28    49.28    40.23    40.23    26.21    26.21
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    96.39   128.84    12.19    15.61
SO BUILDWID LD15032-LD17595    18.55    93.10   132.86   122.72    24.05    23.65
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    96.39    96.76    31.09    96.76
SO BUILDWID LD15032-LD17595    96.39    93.10    84.53    82.17    24.05    23.65

SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    49.28    49.28    40.23    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT BASE232-BASE295    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    86.98    93.10   121.95    15.61    12.19    15.61
SO BUILDWID BASE232-BASE295    96.39   138.96   132.86    23.71    24.05    23.65
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID BASE232-BASE295    96.39    84.32    84.53    23.71    24.05    23.65

SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    49.28    49.28    40.23    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    49.28    40.23    40.23    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    49.28    49.28    49.28    49.28    40.23    49.28
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SO BUILDHGT LD25032-LD27595	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDWID LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD25032-LD27595	86.98	93.10	121.95	15.61	12.19	15.61
SO BUILDWID LD25032-LD27595	96.39	138.96	132.86	23.71	24.05	23.65
SO BUILDWID LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD25032-LD27595	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID LD25032-LD27595	96.39	84.32	84.53	23.71	24.05	23.65
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE332-BASE395	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE332-BASE395	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT BASE332-BASE395	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE332-BASE395	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID BASE332-BASE395	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE332-BASE395	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID BASE332-BASE395	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD35032-LD37595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD35032-LD37595	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD35032-LD37595	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID LD35032-LD37595	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD35032-LD37595	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID LD35032-LD37595	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT BASE432-BASE495	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE432-BASE495	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID BASE432-BASE495	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT LD45032-LD47595	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID LD45032-LD47595	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE532-BASE595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID BASE532-BASE595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDWID BASE532-BASE595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDHGT LD55032-LD57595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID LD55032-LD57595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD55032-LD57595	23.65	93.10	86.98	78.21	67.07	53.89

SO BUILDWID LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD55032-LD57595	23.65	93.10	86.98	78.21	67.07	53.89

SO BUILDHGT BASE632-BASE695	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDWID BASE632-BASE695	60.77	49.59	15.61	18.55	20.92	22.66
SO BUILDWID BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE632-BASE695	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDWID BASE632-BASE695	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE632-BASE695	23.65	24.05	86.98	78.21	67.07	53.89

SO BUILDHGT LD65032-LD67595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDWID LD65032-LD67595	60.77	49.59	15.61	18.55	20.92	22.66
SO BUILDWID LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD65032-LD67595	23.65	24.05	86.98	78.21	67.07	53.89
SO BUILDWID LD65032-LD67595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD65032-LD67595	23.65	24.05	86.98	78.21	67.07	53.89

SO BUILDHGT BASE732-BASE795	40.23	40.23	40.23	40.23	40.23	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	40.23	40.23	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDWID BASE732-BASE795	60.77	49.59	46.27	41.54	44.43	22.66
SO BUILDWID BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDWID BASE732-BASE795	15.61	12.19	15.61	53.89	44.43	22.66
SO BUILDWID BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	91.69

SO BUILDHGT LD75032-LD77595	40.23	40.23	40.23	40.23	40.23	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	40.23	40.23	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDWID LD75032-LD77595	60.77	49.59	46.27	41.54	44.43	22.66
SO BUILDWID LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	91.69
SO BUILDWID LD75032-LD77595	15.61	12.19	15.61	53.89	44.43	22.66
SO BUILDWID LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	91.69

SO BUILDHGT BASE832-BASE895	26.21	26.21	40.23	49.28	49.28	49.28
SO BUILDHGT BASE832-BASE895	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	49.28	49.28	49.28
SO BUILDHGT BASE832-BASE895	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE832-BASE895	15.61	12.19	46.27	53.89	67.07	78.22
SO BUILDWID BASE832-BASE895	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE832-BASE895	15.61	12.19	15.61	53.89	67.07	78.22
SO BUILDWID BASE832-BASE895	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55

SO BUILDHGT LD85032-LD87595	26.21	26.21	40.23	49.28	49.28	49.28
SO BUILDHGT LD85032-LD87595	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	49.28	49.28	49.28
SO BUILDHGT LD85032-LD87595	49.28	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD85032-LD87595	15.61	12.19	46.27	53.89	67.07	78.22
SO BUILDWID LD85032-LD87595	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD85032-LD87595	15.61	12.19	15.61	53.89	67.07	78.22
SO BUILDWID LD85032-LD87595	86.98	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55

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**SO BUILDHGT UNIT3        40.23    40.23    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT3        40.23    40.23    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT3        60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3        86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3        96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT3        60.77    49.59    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT3        86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT3        96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT4         0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4        49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT4         0.00     0.00     0.00     0.00    49.28    49.28
**SO BUILDHGT UNIT4        49.28    49.28    49.28    49.28    40.23    49.28
**SO BUILDHGT UNIT4        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDWID UNIT4         0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4        86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4        96.39    93.10    86.98    78.21    67.07    53.89
**SO BUILDWID UNIT4         0.00     0.00     0.00     0.00    67.07    78.22
**SO BUILDWID UNIT4        86.98    93.10    96.39    96.76    68.73    96.76
**SO BUILDWID UNIT4        96.39    93.10    86.98    78.21    67.07    53.89

**SO BUILDHGT UNIT5         0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5        49.28    49.28    49.28    49.28    49.28    26.21
**SO BUILDHGT UNIT5         0.00     0.00    40.23    49.28    49.28    49.28
**SO BUILDHGT UNIT5        49.28    49.28    49.28    49.28    49.28    49.28
**SO BUILDHGT UNIT5        49.28    49.28    49.28    49.28    49.28     0.00
**SO BUILDWID UNIT5         0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5        86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5        96.39    93.10    86.98    78.21    67.07    18.55
**SO BUILDWID UNIT5         0.00     0.00    46.27    53.89    67.07    78.22
**SO BUILDWID UNIT5        86.98    93.10    96.39    96.76    31.09    96.76
**SO BUILDWID UNIT5        96.39    93.10    86.98    78.21    67.07     0.00

SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG    0.0   0.0
RE GRIDPOLR POL DIST    500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST    10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR    36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195       202.        10
RE DISCPOLR BASE195       300.        10
RE DISCPOLR BASE195       400.        10
RE DISCPOLR BASE195       211.        20
RE DISCPOLR BASE195       300.        20
RE DISCPOLR BASE195       400.        20
RE DISCPOLR BASE195       229.        30
RE DISCPOLR BASE195       300.        30
RE DISCPOLR BASE195       400.        30
RE DISCPOLR BASE195       257.        40
RE DISCPOLR BASE195       300.        40
RE DISCPOLR BASE195       400.        40
RE DISCPOLR BASE195       305.        50
RE DISCPOLR BASE195       400.        50
RE DISCPOLR BASE195       296.        60
RE DISCPOLR BASE195       300.        60
RE DISCPOLR BASE195       400.        60
RE DISCPOLR BASE195       274.        70
RE DISCPOLR BASE195       300.        70
RE DISCPOLR BASE195       400.        70
RE DISCPOLR BASE195       262.        80
RE DISCPOLR BASE195       300.        80
RE DISCPOLR BASE195       400.        80
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RE DISCPOLR BASE195       259.        90
RE DISCPOLR BASE195       300.        90
RE DISCPOLR BASE195       400.        90
RE DISCPOLR BASE195       264.       100
RE DISCPOLR BASE195       300.       100
RE DISCPOLR BASE195       400.       100
RE DISCPOLR BASE195       275.       110
RE DISCPOLR BASE195       300.       110
RE DISCPOLR BASE195       400.       110
RE DISCPOLR BASE195       292.       120
RE DISCPOLR BASE195       300.       120
RE DISCPOLR BASE195       400.       120
RE DISCPOLR BASE195       317.       130
RE DISCPOLR BASE195       400.       130
RE DISCPOLR BASE195       351.       140
RE DISCPOLR BASE195       400.       140
RE DISCPOLR BASE195       404.       150
RE DISCPOLR BASE195       494.       160
RE DISCPOLR BASE195       515.       170
RE DISCPOLR BASE195       474.       180
RE DISCPOLR BASE195       451.       190
RE DISCPOLR BASE195       354.       190
RE DISCPOLR BASE195       289.       190
RE DISCPOLR BASE195       284.       200
RE DISCPOLR BASE195       300.       200
RE DISCPOLR BASE195       400.       200
RE DISCPOLR BASE195       289.       210
RE DISCPOLR BASE195       300.       210
RE DISCPOLR BASE195       400.       210
RE DISCPOLR BASE195       303.       220
RE DISCPOLR BASE195       400.       220
RE DISCPOLR BASE195       296.       230
RE DISCPOLR BASE195       300.       230
RE DISCPOLR BASE195       400.       230
RE DISCPOLR BASE195       230.       240
RE DISCPOLR BASE195       300.       240
RE DISCPOLR BASE195       400.       240
RE DISCPOLR BASE195       274.       250
RE DISCPOLR BASE195       300.       250
RE DISCPOLR BASE195       400.       250
RE DISCPOLR BASE195       352.       260
RE DISCPOLR BASE195       400.       260
RE DISCPOLR BASE195       389.       270
RE DISCPOLR BASE195       400.       270
RE DISCPOLR BASE195       394.       280
RE DISCPOLR BASE195       400.       280
RE DISCPOLR BASE195       412.       290
RE DISCPOLR BASE195       410.       300
RE DISCPOLR BASE195       316.       310
RE DISCPOLR BASE195       400.       310
RE DISCPOLR BASE195       264.       320
RE DISCPOLR BASE195       300.       320
RE DISCPOLR BASE195       400.       320
RE DISCPOLR BASE195       233.       330
RE DISCPOLR BASE195       300.       330
RE DISCPOLR BASE195       400.       330
RE DISCPOLR BASE195       214.       340
RE DISCPOLR BASE195       300.       340
RE DISCPOLR BASE195       400.       340
RE DISCPOLR BASE195       203.       350
RE DISCPOLR BASE195       300.       350
RE DISCPOLR BASE195       400.       350
RE DISCPOLR BASE195       200.       360
RE DISCPOLR BASE195       200.       360
RE DISCPOLR BASE195       300.       360
RE DISCPOLR BASE195       400.       360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                          UNFORM
ME ANEMHGHT    10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
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SUMMARY OF PM_{10} IMPACTS PREDICTED FOR THE PROPOSED COOLING TOWER

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :COOL.087
ISCST3 OUTPUT FILE NUMBER 2 :COOL.088
ISCST3 OUTPUT FILE NUMBER 3 :COOL.089
ISCST3 OUTPUT FILE NUMBER 4 :COOL.090
ISCST3 OUTPUT FILE NUMBER 5 :COOL.091
First title for last output file is: 1987 FPL SANFORD COOLING TOWER, PM10 4/22/99
Second title for last output file is: TOWER SEPARATED FROM REST OF PLANT

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	0.076	240.	1100.	87123124
	1988	0.076	240.	1100.	88123124
	1989	0.080	360.	1100.	89123124
	1990	0.093	240.	1100.	90123124
	1991	0.089	360.	1100.	91123124
HIGH 24-Hour					
	1987	1.282	270.	567.	87053124
	1988	1.631	40.	334.	88060924
	1989	1.273	360.	400.	89061324
	1990	1.594	240.	1100.	90091224
	1991	2.125	10.	279.	91032924

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

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CO STARTING
CO TITLEONE 1987 FPL SANFORD COOLING TOWER, PM10                    4/22/99
CO TITLETWO TOWER SEPARATED FROM REST OF PLANT
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24
CO POLLUTID PM
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**         SRCID SRCTYP        XS             YS            ZS
** MODELING ORIGIN IS MIDDLE OF COOLING TOWER DECK
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
SO LOCATION  ORIGIN   POINT   0.00       0.00    0.00
SO SRCPARAM  ORIGIN    0.0    10.0       500.0     30.00    10.00
** Source Location Cards:
**         SRCID SRCTYP      XS         YS        ZS
**   UTM                    (m)        (m)       (m)
SO LOCATION  COOL1   POINT  11.43     19.80      0
SO LOCATION  COOL2   POINT   3.81      6.60      0
SO LOCATION  COOL3   POINT  -3.81     -6.60      0
SO LOCATION  COOL4   POINT -11.43    -19.80      0
** Source Parameter Cards:
** POINT:   SRCID        QS     HS       TS        VS       DS
**                     (g/s)   (m)      (K)      (m/s)     (m)
** PM10 emissions are 1/2 of total PM drift rate of 11.34 lb/hr all cells
**  or 5.67 lb/hr total for 4 cells
SO SRCPARAM   COOL1    0.179   13.72    305.4     8.13     9.75
SO SRCPARAM   COOL2    0.179   13.72    305.4     8.13     9.75
SO SRCPARAM   COOL3    0.179   13.72    305.4     8.13     9.75
SO SRCPARAM   COOL4    0.179   13.72    305.4     8.13     9.75

SO BUILDHGT cool1       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool1       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool1       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool1       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool1       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool1       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool1      49.49   40.60   30.48   40.60   49.49   56.88
SO BUILDWID cool1      62.53   66.29   68.03   67.71   65.33   60.96
SO BUILDWID cool1      65.33   67.71   68.03   66.29   62.53   56.88
SO BUILDWID cool1      49.49   40.60   30.48   40.60   49.49   56.88
SO BUILDWID cool1      62.53   66.29   68.03   67.71   65.33   60.96
SO BUILDWID cool1      65.33   67.71   68.03   66.29   62.53   56.88


SO BUILDHGT cool2       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool2       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool2       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool2       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool2       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool2       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool2      49.49   40.60   30.48   40.60   49.49   56.88
SO BUILDWID cool2      62.53   66.29   68.03   67.71   65.33   60.96
SO BUILDWID cool2      65.33   67.71   68.03   66.29   62.53   56.88
SO BUILDWID cool2      49.49   40.60   30.48   40.60   49.49   56.88
SO BUILDWID cool2      62.53   66.29   68.03   67.71   65.33   60.96
SO BUILDWID cool2      65.33   67.71   68.03   66.29   62.53   56.88


SO BUILDHGT cool3       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool3       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool3       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool3       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool3       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool3       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDWID cool3      49.49   40.60   30.48   40.60   49.49   56.88
SO BUILDWID cool3      62.53   66.29   68.03   67.71   65.33   60.96
SO BUILDWID cool3      65.33   67.71   68.03   66.29   62.53   56.88
SO BUILDWID cool3      49.49   40.60   30.48   40.60   49.49   56.88
SO BUILDWID cool3      62.53   66.29   68.03   67.71   65.33   60.96
SO BUILDWID cool3      65.33   67.71   68.03   66.29   62.53   56.88


SO BUILDHGT cool4       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool4       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool4       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool4       9.45    9.45    9.45    9.45    9.45    9.45
SO BUILDHGT cool4       9.45    9.45    9.45    9.45    9.45    9.45
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SO BUILDHGT cool4         9.45     9.45     9.45     9.45     9.45     9.45
SO BUILDWID cool4        49.49    40.60    30.48    40.60    49.49    56.88
SO BUILDWID cool4        62.53    66.29    68.03    67.71    65.33    60.96
SO BUILDWID cool4        65.33    67.71    68.03    66.29    62.53    56.88
SO BUILDWID cool4        49.49    40.60    30.48    40.60    49.49    56.88
SO BUILDWID cool4        62.53    66.29    68.03    67.71    65.33    60.96
SO BUILDWID cool4        65.33    67.71    68.03    66.29    62.53    56.88

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

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   1100 1500 2000 2500
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR ORIGIN      279.         10
RE DISCPOLR ORIGIN      300.         10
RE DISCPOLR ORIGIN      400.         10
RE DISCPOLR ORIGIN      292.         20
RE DISCPOLR ORIGIN      300.         20
RE DISCPOLR ORIGIN      400.         20
RE DISCPOLR ORIGIN      317.         30
RE DISCPOLR ORIGIN      400.         30
RE DISCPOLR ORIGIN      334.         40
RE DISCPOLR ORIGIN      400.         40
RE DISCPOLR ORIGIN      281.         50
RE DISCPOLR ORIGIN      300.         50
RE DISCPOLR ORIGIN      400.         50
RE DISCPOLR ORIGIN      248.         60
RE DISCPOLR ORIGIN      300.         60
RE DISCPOLR ORIGIN      400.         60
RE DISCPOLR ORIGIN      229.         70
RE DISCPOLR ORIGIN      300.         70
RE DISCPOLR ORIGIN      400.         70
RE DISCPOLR ORIGIN      218.         80
RE DISCPOLR ORIGIN      300.         80
RE DISCPOLR ORIGIN      400.         80
RE DISCPOLR ORIGIN      215.         90
RE DISCPOLR ORIGIN      300.         90
RE DISCPOLR ORIGIN      400.         90
RE DISCPOLR ORIGIN      218.        100
RE DISCPOLR ORIGIN      300.        100
RE DISCPOLR ORIGIN      400.        100
RE DISCPOLR ORIGIN      229.        110
RE DISCPOLR ORIGIN      300.        110
RE DISCPOLR ORIGIN      400.        110
RE DISCPOLR ORIGIN      248.        120
RE DISCPOLR ORIGIN      300.        120
RE DISCPOLR ORIGIN      400.        120
RE DISCPOLR ORIGIN      281.        130
RE DISCPOLR ORIGIN      300.        130
RE DISCPOLR ORIGIN      400.        130
RE DISCPOLR ORIGIN      244.        140
RE DISCPOLR ORIGIN      300.        140
RE DISCPOLR ORIGIN      400.        140
RE DISCPOLR ORIGIN      215.        150
RE DISCPOLR ORIGIN      300.        150
RE DISCPOLR ORIGIN      400.        150
RE DISCPOLR ORIGIN      199.        160
RE DISCPOLR ORIGIN      200.        160
RE DISCPOLR ORIGIN      300.        160
RE DISCPOLR ORIGIN      400.        160
RE DISCPOLR ORIGIN      189.        170
RE DISCPOLR ORIGIN      200.        170
RE DISCPOLR ORIGIN      300.        170
RE DISCPOLR ORIGIN      400.        170
RE DISCPOLR ORIGIN      187.        180
RE DISCPOLR ORIGIN      200.        180
RE DISCPOLR ORIGIN      300.        180
RE DISCPOLR ORIGIN      400.        180
RE DISCPOLR ORIGIN      189.        190
RE DISCPOLR ORIGIN      200.        190
RE DISCPOLR ORIGIN      300.        190
RE DISCPOLR ORIGIN      400.        190
RE DISCPOLR ORIGIN      199.        200
RE DISCPOLR ORIGIN      200.        200
RE DISCPOLR ORIGIN      300.        200
RE DISCPOLR ORIGIN      400.        200
RE DISCPOLR ORIGIN      215.        210
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RE DISCPOLR ORIGIN       300.         210
RE DISCPOLR ORIGIN       400.         210
RE DISCPOLR ORIGIN       244.         220
RE DISCPOLR ORIGIN       300.         220
RE DISCPOLR ORIGIN       400.         220
RE DISCPOLR ORIGIN       290.         230
RE DISCPOLR ORIGIN       300.         230
RE DISCPOLR ORIGIN       400.         230
RE DISCPOLR ORIGIN       373.         240
RE DISCPOLR ORIGIN       400.         240
RE DISCPOLR ORIGIN       545.         250
RE DISCPOLR ORIGIN       576.         260
RE DISCPOLR ORIGIN       567.         270
RE DISCPOLR ORIGIN       576.         280
RE DISCPOLR ORIGIN       603.         290
RE DISCPOLR ORIGIN       549.         300
RE DISCPOLR ORIGIN       427.         310
RE DISCPOLR ORIGIN       358.         320
RE DISCPOLR ORIGIN       400.         320
RE DISCPOLR ORIGIN       317.         330
RE DISCPOLR ORIGIN       400.         330
RE DISCPOLR ORIGIN       292.         340
RE DISCPOLR ORIGIN       300.         340
RE DISCPOLR ORIGIN       400.         340
RE DISCPOLR ORIGIN       279.         350
RE DISCPOLR ORIGIN       300.         350
RE DISCPOLR ORIGIN       400.         350
RE DISCPOLR ORIGIN       274.         360
RE DISCPOLR ORIGIN       300.         360
RE DISCPOLR ORIGIN       400.         360
RE FINISHED

ME STARTING
ME INPUTFIL S:\MET\ORLPRL87.BIN                      UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED


OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
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GENERIC MODELED IMPACTS FOR PROPOSED COMBUSTION TURBINES FIRING NATURAL GAS DURING FUTURE OPERATIONS

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :GENwo.087
ISCST3 OUTPUT FILE NUMBER 2 :GENwo.088
ISCST3 OUTPUT FILE NUMBER 3 :GENwo.089
ISCST3 OUTPUT FILE NUMBER 4 :GENwo.090
ISCST3 OUTPUT FILE NUMBER 5 :GENwo.091
First title for last output file is: 1987 FPL SANFORD REPOWER GAS-GAS (FUTURE)4/18/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, Unit 3 not operating

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	0.071	240.	5000.	87123124
	1988	0.071	240.	4000.	88123124
	1989	0.068	360.	3000.	89123124
	1990	0.083	240.	4000.	90123124
	1991	0.076	360.	3000.	91123124
HIGH 24-Hour					
	1987	1.844	240.	300.	87030624
	1988	2.347	70.	400.	88041224
	1989	1.473	100.	300.	89022324
	1990	1.585	240.	230.	90030824
	1991	2.291	90.	400.	91021524
HSH 24-Hour					
	1987	1.612	240.	300.	87032324
	1988	1.343	90.	400.	88040724
	1989	0.809	90.	400.	89120924
	1990	1.164	330.	233.	90101124
	1991	1.222	340.	214.	91011924
HIGH 8-Hour					
	1987	4.557	240.	300.	87030616
	1988	4.572	60.	400.	88041216
	1989	3.247	360.	200.	89033016
	1990	3.557	330.	233.	90031616
	1991	5.496	80.	400.	91021516
HSH 8-Hour					
	1987	3.610	240.	300.	87032316
	1988	2.800	70.	400.	88041224
	1989	2.018	100.	300.	89012308
	1990	2.551	240.	230.	90110216
	1991	3.297	340.	214.	91011916
HIGH 3-Hour					
	1987	6.909	240.	300.	87030615
	1988	9.038	30.	229.	88022015
	1989	5.846	340.	214.	89050112
	1990	7.206	340.	214.	90031712
	1991	8.682	90.	400.	91021518
HSH 3-Hour					
	1987	4.750	240.	300.	87030612
	1988	7.303	70.	400.	88041215
	1989	3.842	10.	202.	89033015
	1990	4.852	320.	264.	90031512
	1991	6.334	80.	400.	91021512
HIGH 1-Hour					
	1987	14.249	240.	300.	87030612
	1988	14.880	30.	229.	88022013
	1989	10.049	230.	900.	89081211
	1990	16.029	340.	214.	90031711
	1991	17.111	340.	214.	91051617
HSH 1-Hour					
	1987	10.131	320.	264.	87032412
	1988	12.094	30.	229.	88022014
	1989	8.465	340.	214.	89060813
	1990	10.268	320.	264.	90031511
	1991	17.072	340.	214.	91011913
SOURCE GROUP ID: BASE59					
Annual					
	1987	0.067	240.	5000.	87123124
	1988	0.066	240.	5000.	88123124
	1989	0.064	360.	4000.	89123124
	1990	0.077	240.	4000.	90123124
	1991	0.070	360.	3000.	91123124
HIGH 24-Hour					
	1987	1.525	240.	300.	87030624
	1988	2.125	70.	400.	88041224
	1989	1.404	100.	300.	89022324
	1990	1.084	340.	214.	90031724
	1991	2.096	90.	400.	91021524

HSH 24-Hour					
	1987	1.270	240.	300.	87032324
	1988	1.208	90.	400.	88040724
	1989	0.695	70.	400.	89051024
	1990	0.802	240.	230.	90030724
	1991	1.045	80.	300.	91030424
HIGH 8-Hour					
	1987	3.754	240.	300.	87030616
	1988	4.040	60.	400.	88041216
	1989	2.766	360.	200.	89033016
	1990	2.800	330.	233.	90031616
	1991	5.035	80.	400.	91021516
HSH 8-Hour					
	1987	3.185	240.	300.	87032316
	1988	2.544	70.	400.	88041224
	1989	1.656	100.	300.	89012308
	1990	1.847	120.	2500.	90073016
	1991	3.030	90.	400.	91021524
HIGH 3-Hour					
	1987	5.384	240.	300.	87030615
	1988	7.932	30.	229.	88022015
	1989	4.511	340.	214.	89050112
	1990	6.510	340.	214.	90031712
	1991	7.973	90.	400.	91021518
HSH 3-Hour					
	1987	4.256	240.	300.	87030612
	1988	6.633	70.	400.	88041215
	1989	3.572	70.	400.	89040718
	1990	3.879	240.	230.	90053118
	1991	5.733	80.	400.	91021512
HIGH 1-Hour					
	1987	12.768	240.	300.	87030612
	1988	13.143	30.	229.	88022013
	1989	9.976	230.	900.	89081211
	1990	14.669	340.	214.	90031711
	1991	16.429	340.	214.	91051617
HSH 1-Hour					
	1987	7.679	240.	300.	87030615
	1988	10.602	70.	400.	88041214
	1989	6.975	350.	203.	89072017
	1990	7.762	320.	264.	90031511
	1991	15.463	340.	214.	91011913
SOURCE GROUP ID:	BASE32				
Annual					
	1987	0.063	240.	5000.	87123124
	1988	0.063	240.	5000.	88123124
	1989	0.061	360.	4000.	89123124
	1990	0.073	240.	4000.	90123124
	1991	0.067	360.	4000.	91123124
HIGH 24-Hour					
	1987	1.400	70.	400.	87030924
	1988	1.964	70.	400.	88041224
	1989	1.341	100.	300.	89022324
	1990	0.977	80.	300.	90111024
	1991	1.864	90.	400.	91021524
HSH 24-Hour					
	1987	1.182	240.	300.	87032324
	1988	1.162	90.	400.	88040724
	1989	0.665	70.	400.	89051024
	1990	0.708	80.	300.	90102524
	1991	0.999	80.	300.	91030424
HIGH 8-Hour					
	1987	3.299	240.	300.	87030616
	1988	3.670	60.	400.	88041216
	1989	2.659	360.	200.	89033016
	1990	2.513	350.	203.	90031716
	1991	4.655	80.	400.	91021516
HSH 8-Hour					
	1987	2.949	240.	300.	87032316
	1988	2.375	70.	400.	88041224
	1989	1.576	100.	300.	89012308
	1990	1.798	120.	2500.	90073016
	1991	2.588	340.	214.	91011916
HIGH 3-Hour					
	1987	4.534	240.	300.	87030615
	1988	7.317	30.	229.	88022015
	1989	3.926	70.	400.	89051015
	1990	6.110	340.	214.	90031712
	1991	7.307	90.	400.	91021518
HSH 3-Hour					
	1987	3.961	240.	300.	87030612
	1988	6.104	70.	400.	88041215

	1989	3.430	70.	400.	89040718
	1990	3.708	240.	230.	90053118
	1991	5.339	340.	214.	91051618
HIGH 1-Hour					
	1987	11.883	240.	300.	87030612
	1988	12.168	30.	229.	88022013
	1989	9.937	230.	900.	89081211
	1990	13.853	340.	214.	90031711
	1991	16.016	340.	214.	91051617
HSH 1-Hour					
	1987	6.856	10.	202.	87040317
	1988	9.750	70.	400.	88041214
	1989	6.730	350.	203.	89072017
	1990	6.396	10.	202.	90031714
	1991	14.537	340.	214.	91011913
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.104	240.	230.	87123124
	1988	0.088	240.	4000.	88123124
	1989	0.085	360.	3000.	89123124
	1990	0.141	240.	230.	90123124
	1991	0.103	240.	230.	91123124
HIGH 24-Hour					
	1987	2.916	240.	300.	87030624
	1988	3.361	70.	300.	88041224
	1989	2.085	100.	300.	89022324
	1990	3.050	240.	230.	90030824
	1991	3.242	80.	300.	91021524
HSH 24-Hour					
	1987	2.315	240.	300.	87032324
	1988	1.978	90.	400.	88040724
	1989	1.279	90.	400.	89022324
	1990	1.923	330.	233.	90101124
	1991	1.693	80.	300.	91030424
HIGH 8-Hour					
	1987	6.520	240.	300.	87030616
	1988	6.789	60.	400.	88041216
	1989	4.995	340.	214.	89050116
	1990	6.947	240.	230.	90030816
	1991	7.590	80.	400.	91021516
HSH 8-Hour					
	1987	5.088	240.	300.	87032316
	1988	3.801	70.	400.	88041224
	1989	2.587	70.	400.	89040724
	1990	4.008	240.	230.	90110216
	1991	4.568	340.	214.	91011916
HIGH 3-Hour					
	1987	10.744	240.	300.	87030615
	1988	12.500	30.	229.	88022015
	1989	9.270	340.	214.	89050112
	1990	9.047	340.	214.	90031712
	1991	12.151	90.	400.	91021518
HSH 3-Hour					
	1987	7.105	240.	300.	87030709
	1988	10.656	70.	300.	88041215
	1989	5.206	70.	400.	89040718
	1990	7.686	320.	264.	90031512
	1991	9.314	80.	400.	91021512
HIGH 1-Hour					
	1987	18.424	320.	264.	87031811
	1988	19.527	30.	229.	88022013
	1989	14.134	340.	214.	89050112
	1990	19.211	340.	214.	90031711
	1991	20.525	340.	214.	91011913
HSH 1-Hour					
	1987	16.435	320.	264.	87032412
	1988	16.373	30.	229.	88022014
	1989	13.660	340.	214.	89050110
	1990	16.526	320.	264.	90031511
	1991	19.235	340.	214.	91030307
SOURCE GROUP ID:	LD7559				
Annual					
	1987	0.087	240.	4000.	87123124
	1988	0.084	240.	4000.	88123124
	1989	0.082	360.	3000.	89123124
	1990	0.114	240.	230.	90123124
	1991	0.092	360.	3000.	91123124
HIGH 24-Hour					
	1987	2.752	90.	300.	87033124
	1988	3.245	70.	300.	88041224
	1989	2.093	100.	300.	89022324
	1990	2.526	240.	230.	90030824

	1991	3.221	80.	300.	91021524
HSH 24-Hour					
	1987	2.127	240.	300.	87032324
	1988	1.957	90.	400.	88040724
	1989	1.298	90.	400.	89022324
	1990	1.870	330.	233.	90101124
	1991	1.655	80.	300.	91030424
HIGH 8-Hour					
	1987	5.882	240.	300.	87030616
	1988	6.503	60.	400.	88041216
	1989	4.245	340.	214.	89050116
	1990	5.694	240.	230.	90030816
	1991	7.532	80.	400.	91021516
HSH 8-Hour					
	1987	4.631	240.	300.	87032316
	1988	3.716	70.	400.	88041224
	1989	2.540	100.	300.	89012308
	1990	3.666	240.	230.	90110216
	1991	4.550	90.	400.	91021516
HIGH 3-Hour					
	1987	9.469	240.	300.	87030615
	1988	11.475	30.	229.	88022015
	1989	8.129	340.	214.	89050112
	1990	8.403	340.	214.	90031712
	1991	12.258	90.	400.	91021518
HSH 3-Hour					
	1987	6.156	240.	300.	87030709
	1988	10.380	70.	300.	88041215
	1989	5.064	70.	400.	89040718
	1990	6.749	320.	264.	90031512
	1991	9.232	80.	400.	91021512
HIGH 1-Hour					
	1987	16.544	320.	264.	87031811
	1988	19.263	80.	300.	88061014
	1989	12.534	340.	214.	89050112
	1990	18.171	340.	214.	90031711
	1991	19.446	340.	214.	91011913
HSH 1-Hour					
	1987	14.357	320.	264.	87032412
	1988	15.584	70.	400.	88041214
	1989	11.849	340.	214.	89050110
	1990	14.473	320.	264.	90031511
	1991	18.238	340.	214.	91030307
SOURCE GROUP ID:	LD7532				
Annual					
	1987	0.082	240.	4000.	87123124
	1988	0.080	240.	4000.	88123124
	1989	0.078	360.	3000.	89123124
	1990	0.099	240.	230.	90123124
	1991	0.088	360.	3000.	91123124
HIGH 24-Hour					
	1987	2.477	240.	300.	87030624
	1988	2.969	70.	300.	88041224
	1989	1.903	100.	300.	89022324
	1990	2.257	240.	230.	90030824
	1991	2.943	80.	300.	91021524
HSH 24-Hour					
	1987	1.976	240.	300.	87032324
	1988	1.786	90.	400.	88040724
	1989	1.160	90.	400.	89022324
	1990	1.647	330.	233.	90101124
	1991	1.488	80.	300.	91030424
HIGH 8-Hour					
	1987	5.584	240.	300.	87030616
	1988	5.888	60.	400.	88041216
	1989	3.918	340.	214.	89050116
	1990	5.146	240.	230.	90030816
	1991	6.962	80.	400.	91021516
HSH 8-Hour					
	1987	4.349	240.	300.	87032316
	1988	3.466	70.	400.	88041224
	1989	2.389	100.	300.	89012308
	1990	3.356	240.	230.	90110216
	1991	4.209	90.	400.	91021524
HIGH 3-Hour					
	1987	8.884	240.	300.	87030615
	1988	10.931	30.	229.	88022015
	1989	7.604	340.	214.	89050112
	1990	8.119	340.	214.	90031712
	1991	11.252	90.	400.	91021518
HSH 3-Hour					
	1987	5.703	240.	300.	87030709

	1988	9.494	70.	300.	88041215
	1989	4.572	70.	400.	89040718
	1990	6.314	320.	264.	90031512
	1991	8.392	80.	400.	91021512
HIGH 1-Hour					
	1987	15.959	240.	300.	87030612
	1988	17.737	80.	300.	88061014
	1989	11.790	340.	214.	89050112
	1990	17.688	340.	214.	90031711
	1991	18.929	340.	214.	91011913
HSH 1-Hour					
	1987	13.391	320.	264.	87032412
	1988	14.555	70.	400.	88041214
	1989	11.019	340.	214.	89050110
	1990	13.515	320.	264.	90031511
	1991	17.929	340.	214.	91051617
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.200	240.	230.	87123124
	1988	0.156	240.	230.	88123124
	1989	0.112	360.	200.	89123124
	1990	0.254	240.	230.	90123124
	1991	0.195	240.	230.	91123124
HIGH 24-Hour					
	1987	4.261	90.	300.	87033124
	1988	4.513	70.	300.	88041224
	1989	3.168	340.	214.	89050124
	1990	4.871	240.	230.	90030824
	1991	4.217	80.	300.	91021524
HSH 24-Hour					
	1987	3.282	240.	300.	87032324
	1988	2.822	90.	400.	88040724
	1989	1.864	90.	400.	89022324
	1990	2.921	330.	233.	90101124
	1991	2.634	340.	214.	91030324
HIGH 8-Hour					
	1987	8.237	90.	300.	87033116
	1988	9.039	60.	400.	88041216
	1989	7.222	340.	214.	89050116
	1990	10.741	240.	230.	90030816
	1991	9.715	80.	400.	91021516
HSH 8-Hour					
	1987	7.124	240.	300.	87032316
	1988	5.381	240.	300.	88070616
	1989	3.590	90.	400.	89022316
	1990	5.688	240.	230.	90100916
	1991	6.720	340.	214.	91030308
HIGH 3-Hour					
	1987	13.918	240.	300.	87030615
	1988	15.792	30.	229.	88022015
	1989	12.376	340.	214.	89050112
	1990	11.160	240.	230.	90030812
	1991	15.628	80.	262.	91021518
HSH 3-Hour					
	1987	10.018	240.	300.	87030709
	1988	14.284	70.	300.	88041215
	1989	7.530	70.	400.	89051015
	1990	10.308	320.	264.	90052618
	1991	12.786	340.	214.	91021912
HIGH 1-Hour					
	1987	22.902	320.	264.	87031811
	1988	24.094	80.	300.	88061014
	1989	18.732	340.	214.	89050110
	1990	23.445	320.	264.	90052617
	1991	25.526	90.	300.	91021514
HSH 1-Hour					
	1987	21.588	320.	264.	87032412
	1988	20.674	30.	229.	88022014
	1989	18.208	340.	214.	89060813
	1990	21.576	320.	264.	90031511
	1991	21.807	80.	400.	91021515
SOURCE GROUP ID:	LD5059				
Annual					
	1987	0.172	240.	230.	87123124
	1988	0.130	240.	230.	88123124
	1989	0.100	360.	2500.	89123124
	1990	0.222	240.	230.	90123124
	1991	0.169	240.	230.	91123124
HIGH 24-Hour					
	1987	4.078	90.	300.	87033124
	1988	4.323	70.	300.	88041224
	1989	2.980	100.	300.	89022324

	1990	4.439	240.	230.	90030824
	1991	4.094	80.	300.	91021524
HSH 24-Hour					
	1987	3.018	240.	300.	87032324
	1988	2.711	90.	400.	88040724
	1989	1.784	90.	400.	89022324
	1990	2.764	330.	233.	90101124
	1991	2.473	340.	214.	91030324
HIGH 8-Hour					
	1987	7.912	90.	300.	87033116
	1988	8.636	60.	400.	88041216
	1989	6.597	340.	214.	89050116
	1990	9.699	240.	230.	90030816
	1991	9.441	80.	400.	91021516
HSH 8-Hour					
	1987	6.563	240.	300.	87032316
	1988	4.881	240.	300.	88020716
	1989	3.411	90.	400.	89022316
	1990	5.182	240.	230.	90110216
	1991	6.102	340.	214.	91021916
HIGH 3-Hour					
	1987	13.103	240.	300.	87030615
	1988	14.934	30.	229.	88022015
	1989	11.542	340.	214.	89050112
	1990	10.297	240.	230.	90030812
	1991	15.249	90.	400.	91021518
HSH 3-Hour					
	1987	9.250	240.	300.	87030709
	1988	13.731	70.	300.	88041215
	1989	7.165	100.	300.	89022321
	1990	9.724	320.	264.	90052618
	1991	11.739	340.	214.	91021912
HIGH 1-Hour					
	1987	21.777	320.	264.	87031811
	1988	23.619	80.	300.	88061014
	1989	17.722	90.	300.	89040715
	1990	22.326	320.	264.	90052617
	1991	24.873	90.	300.	91021514
HSH 1-Hour					
	1987	20.273	320.	264.	87032412
	1988	19.657	70.	400.	88041214
	1989	17.158	340.	214.	89050112
	1990	20.291	320.	264.	90031511
	1991	21.462	80.	400.	91021515
SOURCE GROUP ID:	LD5032				
Annual					
	1987	0.157	240.	230.	87123124
	1988	0.119	240.	230.	88123124
	1989	0.097	360.	2500.	89123124
	1990	0.205	240.	230.	90123124
	1991	0.156	240.	230.	91123124
HIGH 24-Hour					
	1987	3.783	90.	300.	87033124
	1988	4.137	70.	300.	88041224
	1989	2.788	100.	300.	89022324
	1990	4.206	240.	230.	90030824
	1991	3.930	80.	300.	91021524
HSH 24-Hour					
	1987	2.874	240.	300.	87032324
	1988	2.562	90.	400.	88040724
	1989	1.683	90.	400.	89022324
	1990	2.635	330.	233.	90101124
	1991	2.398	340.	214.	91030324
HIGH 8-Hour					
	1987	7.327	90.	300.	87033116
	1988	8.273	60.	400.	88041216
	1989	6.316	340.	214.	89050116
	1990	9.217	240.	230.	90030816
	1991	9.089	80.	400.	91021516
HSH 8-Hour					
	1987	6.265	240.	300.	87032316
	1988	4.551	240.	300.	88020716
	1989	3.222	90.	400.	89022316
	1990	4.925	240.	230.	90110216
	1991	5.767	340.	214.	91021916
HIGH 3-Hour					
	1987	12.721	240.	300.	87030615
	1988	14.501	30.	229.	88022015
	1989	11.158	340.	214.	89050112
	1990	10.025	340.	214.	90031712
	1991	14.652	90.	400.	91021518
HSH 3-Hour					

	1987	8.867	240.	300.	87030709
	1988	13.142	70.	300.	88041215
	1989	6.759	70.	400.	89051015
	1990	9.211	320.	264.	90031512
	1991	11.211	80.	400.	91021515
HIGH 1-Hour					
	1987	21.244	320.	264.	87031811
	1988	22.742	80.	300.	88061014
	1989	16.721	340.	214.	89050110
	1990	21.794	320.	264.	90052617
	1991	23.668	90.	300.	91021514
HSH 1-Hour					
	1987	19.653	320.	264.	87032412
	1988	18.991	70.	400.	88041214
	1989	16.670	340.	214.	89050112
	1990	19.686	320.	264.	90031511
	1991	20.863	80.	400.	91021515

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

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CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWER GAS-GAS  (FUTURE)4/18/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, Unit 3 not operating
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 8 3 1
CO POLLUTID  OTHER
CO DCAYCOEF  .000000
CO RUNORNOT  RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS             YS             ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00     0.00
** GENERIC ANALYSIS - gas on unit 5a,b,c,d,  gas on unit 4a,b,c,d
**
**  HRSG STACK LETTER CODE
** -----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP        XS          YS        ZS
**   UTM                        (m)         (m)       (m)
SO LOCATION  BASE195  POINT     0.00        0.00     0.0
SO LOCATION  BASE295  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE395  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE495  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE595  POINT    89.60       75.08     0.0
SO LOCATION  BASE695  POINT   128.27       61.00     0.0
SO LOCATION  BASE795  POINT   166.65       47.03     0.0
SO LOCATION  BASE895  POINT   205.32       32.96     0.0

SO LOCATION  BASE159  POINT     0.00        0.00     0.0
SO LOCATION  BASE259  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE359  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE459  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE559  POINT    89.60       75.08     0.0
SO LOCATION  BASE659  POINT   128.27       61.00     0.0
SO LOCATION  BASE759  POINT   166.65       47.03     0.0
SO LOCATION  BASE859  POINT   205.32       32.96     0.0

SO LOCATION  BASE132  POINT     0.00        0.00     0.0
SO LOCATION  BASE232  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE332  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE432  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE532  POINT    89.60       75.08     0.0
SO LOCATION  BASE632  POINT   128.27       61.00     0.0
SO LOCATION  BASE732  POINT   166.65       47.03     0.0
SO LOCATION  BASE832  POINT   205.32       32.96     0.0

SO LOCATION  LD17595  POINT     0.00        0.00     0.0
SO LOCATION  LD27595  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37595  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47595  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57595  POINT    89.60       75.08     0.0
SO LOCATION  LD67595  POINT   128.27       61.00     0.0
SO LOCATION  LD77595  POINT   166.65       47.03     0.0
SO LOCATION  LD87595  POINT   205.32       32.96     0.0

SO LOCATION  LD17559  POINT     0.00        0.00     0.0
SO LOCATION  LD27559  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37559  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47559  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57559  POINT    89.60       75.08     0.0
SO LOCATION  LD67559  POINT   128.27       61.00     0.0
SO LOCATION  LD77559  POINT   166.65       47.03     0.0
SO LOCATION  LD87559  POINT   205.32       32.96     0.0

SO LOCATION  LD17532  POINT     0.00        0.00     0.0
SO LOCATION  LD27532  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37532  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47532  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57532  POINT    89.60       75.08     0.0
SO LOCATION  LD67532  POINT   128.27       61.00     0.0
SO LOCATION  LD77532  POINT   166.65       47.03     0.0
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SO LOCATION  LD87532  POINT    205.32      32.96    0.0

SO LOCATION  LD15095  POINT      0.00       0.00    0.0
SO LOCATION  LD25095  POINT    -14.07     -38.67    0.0
SO LOCATION  LD35095  POINT    -28.04     -77.05    0.0
SO LOCATION  LD45095  POINT    -42.12    -115.71    0.0
SO LOCATION  LD55095  POINT     89.60      75.08    0.0
SO LOCATION  LD65095  POINT    128.27      61.00    0.0
SO LOCATION  LD75095  POINT    166.65      47.03    0.0
SO LOCATION  LD85095  POINT    205.32      32.96    0.0

SO LOCATION  LD15059  POINT      0.00       0.00    0.0
SO LOCATION  LD25059  POINT    -14.07     -38.67    0.0
SO LOCATION  LD35059  POINT    -28.04     -77.05    0.0
SO LOCATION  LD45059  POINT    -42.12    -115.71    0.0
SO LOCATION  LD55059  POINT     89.60      75.08    0.0
SO LOCATION  LD65059  POINT    128.27      61.00    0.0
SO LOCATION  LD75059  POINT    166.65      47.03    0.0
SO LOCATION  LD85059  POINT    205.32      32.96    0.0

SO LOCATION  LD15032  POINT      0.00       0.00    0.0
SO LOCATION  LD25032  POINT    -14.07     -38.67    0.0
SO LOCATION  LD35032  POINT    -28.04     -77.05    0.0
SO LOCATION  LD45032  POINT    -42.12    -115.71    0.0
SO LOCATION  LD55032  POINT     89.60      75.08    0.0
SO LOCATION  LD65032  POINT    128.27      61.00    0.0
SO LOCATION  LD75032  POINT    166.65      47.03    0.0
SO LOCATION  LD85032  POINT    205.32      32.96    0.0

**SO LOCATION  UNIT3     POINT    95.58      -125.94    0.0

** Source Parameter Cards:
** POINT:    SRCID              QS       HS        TS         VS         DS
**                             (g/s)    (m)       (K)       (m/s)       (m)
SO SRCPARAM    BASE195    1.25     38.1      377.6      19.02      5.79
SO SRCPARAM    BASE295    1.25     38.1      377.6      19.02      5.79
SO SRCPARAM    BASE395    1.25     38.1      377.6      19.02      5.79
SO SRCPARAM    BASE495    1.25     38.1      377.6      19.02      5.79
SO SRCPARAM    BASE595    1.25     38.1      377.6      20.39      5.79
SO SRCPARAM    BASE695    1.25     38.1      377.6      20.39      5.79
SO SRCPARAM    BASE795    1.25     38.1      377.6      20.39      5.79
SO SRCPARAM    BASE895    1.25     38.1      377.6      20.39      5.79

SO SRCPARAM    BASE159    1.25     38.1      377.6      20.51      5.79
SO SRCPARAM    BASE259    1.25     38.1      377.6      20.51      5.79
SO SRCPARAM    BASE359    1.25     38.1      377.6      20.51      5.79
SO SRCPARAM    BASE459    1.25     38.1      377.6      20.51      5.79
SO SRCPARAM    BASE559    1.25     38.1      377.6      21.34      5.79
SO SRCPARAM    BASE659    1.25     38.1      377.6      21.34      5.79
SO SRCPARAM    BASE759    1.25     38.1      377.6      21.34      5.79
SO SRCPARAM    BASE859    1.25     38.1      377.6      21.34      5.79

SO SRCPARAM    BASE132    1.25     38.1      377.6      21.43      5.79
SO SRCPARAM    BASE232    1.25     38.1      377.6      21.43      5.79
SO SRCPARAM    BASE332    1.25     38.1      377.6      21.43      5.79
SO SRCPARAM    BASE432    1.25     38.1      377.6      21.43      5.79
SO SRCPARAM    BASE532    1.25     38.1      377.6      22.34      5.79
SO SRCPARAM    BASE632    1.25     38.1      377.6      22.34      5.79
SO SRCPARAM    BASE732    1.25     38.1      377.6      22.34      5.79
SO SRCPARAM    BASE832    1.25     38.1      377.6      22.34      5.79

SO SRCPARAM    LD17595    1.25     38.1      377.6      15.76      5.79
SO SRCPARAM    LD27595    1.25     38.1      377.6      15.76      5.79
SO SRCPARAM    LD37595    1.25     38.1      377.6      15.76      5.79
SO SRCPARAM    LD47595    1.25     38.1      377.6      15.76      5.79
SO SRCPARAM    LD57595    1.25     38.1      377.6      16.52      5.79
SO SRCPARAM    LD67595    1.25     38.1      377.6      16.52      5.79
SO SRCPARAM    LD77595    1.25     38.1      377.6      16.52      5.79
SO SRCPARAM    LD87595    1.25     38.1      377.6      16.52      5.79

SO SRCPARAM    LD17559    1.25     38.1      377.6      16.79      5.79
SO SRCPARAM    LD27559    1.25     38.1      377.6      16.79      5.79
SO SRCPARAM    LD37559    1.25     38.1      377.6      16.79      5.79
SO SRCPARAM    LD47559    1.25     38.1      377.6      16.79      5.79
SO SRCPARAM    LD57559    1.25     38.1      377.6      16.37      5.79
SO SRCPARAM    LD67559    1.25     38.1      377.6      16.37      5.79
SO SRCPARAM    LD77559    1.25     38.1      377.6      16.37      5.79
SO SRCPARAM    LD87559    1.25     38.1      377.6      16.37      5.79

SO SRCPARAM    LD17532    1.25     38.1      377.6      17.28      5.79
SO SRCPARAM    LD27532    1.25     38.1      377.6      17.28      5.79
SO SRCPARAM    LD37532    1.25     38.1      377.6      17.28      5.79
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SO SRCPARAM   LD47532   1.25    38.1      377.6     17.28     5.79
SO SRCPARAM   LD57532   1.25    38.1      377.6     17.37     5.79
SO SRCPARAM   LD67532   1.25    38.1      377.6     17.37     5.79
SO SRCPARAM   LD77532   1.25    38.1      377.6     17.37     5.79
SO SRCPARAM   LD87532   1.25    38.1      377.6     17.37     5.79

SO SRCPARAM   LD15095   1.25    38.1      377.6     13.26     5.79
SO SRCPARAM   LD25095   1.25    38.1      377.6     13.26     5.79
SO SRCPARAM   LD35095   1.25    38.1      377.6     13.26     5.79
SO SRCPARAM   LD45095   1.25    38.1      377.6     13.26     5.79
SO SRCPARAM   LD55095   1.25    38.1      377.6     13.66     5.79
SO SRCPARAM   LD65095   1.25    38.1      377.6     13.66     5.79
SO SRCPARAM   LD75095   1.25    38.1      377.6     13.66     5.79
SO SRCPARAM   LD85095   1.25    38.1      377.6     13.66     5.79

SO SRCPARAM   LD15059   1.25    38.1      377.6     13.90     5.79
SO SRCPARAM   LD25059   1.25    38.1      377.6     13.90     5.79
SO SRCPARAM   LD35059   1.25    38.1      377.6     13.90     5.79
SO SRCPARAM   LD45059   1.25    38.1      377.6     13.90     5.79
SO SRCPARAM   LD55059   1.25    38.1      377.6     13.90     5.79
SO SRCPARAM   LD65059   1.25    38.1      377.6     13.90     5.79
SO SRCPARAM   LD75059   1.25    38.1      377.6     13.90     5.79
SO SRCPARAM   LD85059   1.25    38.1      377.6     13.90     5.79

SO SRCPARAM   LD15032   1.25    38.1      377.6     14.20     5.79
SO SRCPARAM   LD25032   1.25    38.1      377.6     14.20     5.79
SO SRCPARAM   LD35032   1.25    38.1      377.6     14.20     5.79
SO SRCPARAM   LD45032   1.25    38.1      377.6     14.20     5.79
SO SRCPARAM   LD55032   1.25    38.1      377.6     14.36     5.79
SO SRCPARAM   LD65032   1.25    38.1      377.6     14.36     5.79
SO SRCPARAM   LD75032   1.25    38.1      377.6     14.36     5.79
SO SRCPARAM   LD85032   1.25    38.1      377.6     14.36     5.79

**SO SRCPARAM   UNIT3      571.775    92.05      408.15     29.90     2.896


SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    40.23    40.23    40.23    26.21    26.21
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE132-BASE195    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE132-BASE195    18.55    30.24    30.93    30.69    24.05    23.65

SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    40.23    40.23    40.23    26.21    26.21
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD15032-LD17595    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD15032-LD17595    18.55    30.24    30.93    30.69    24.05    23.65

SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDHGT BASE232-BASE295    40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE232-BASE295    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    22.66    20.92    18.55    15.61    12.19    26.14
SO BUILDWID BASE232-BASE295    28.62    30.24    22.66    23.71    24.05    23.65

SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDHGT LD25032-LD27595    40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID LD25032-LD27595    22.53    20.73    22.53    23.65    24.05    23.71
```

SO BUILDWID	LD25032-LD27595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD25032-LD27595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD25032-LD27595	22.66	20.92	18.55	15.61	12.19	26.14
SO BUILDWID	LD25032-LD27595	28.62	30.24	22.66	23.71	24.05	23.65
SO BUILDHGT	BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE332-BASE395	26.21	26.21	26.21	40.23	40.23	40.23
SO BUILDHGT	BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	BASE332-BASE395	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	BASE332-BASE395	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	BASE332-BASE395	22.66	20.92	18.55	25.77	22.86	25.77
SO BUILDWID	BASE332-BASE395	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	40.23	40.23	40.23
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD35032-LD37595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD35032-LD37595	22.66	20.92	18.55	25.77	22.86	25.77
SO BUILDWID	LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE432-BASE495	26.21	40.23	40.23	40.23	26.21	26.21
SO BUILDHGT	BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	BASE432-BASE495	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	BASE432-BASE495	22.66	29.85	28.62	26.14	12.19	15.61
SO BUILDWID	BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	40.23	40.23	40.23	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD45032-LD47595	22.66	29.85	28.62	26.14	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	BASE532-BASE595	15.61	12.19	15.61	18.55	24.05	23.71
SO BUILDWID	BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE532-BASE595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID	BASE532-BASE595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	BASE532-BASE595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	24.05	23.71
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53

SO BUILDWID LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE632-BASE695	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE632-BASE695	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE632-BASE695	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE632-BASE695	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD65032-LD67595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD65032-LD67595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD65032-LD67595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD65032-LD67595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE732-BASE795	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE732-BASE795	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD75032-LD77595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD75032-LD77595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE832-BASE895	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE832-BASE895	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE832-BASE895	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE832-BASE895	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD85032-LD87595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD85032-LD87595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD85032-LD87595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD85032-LD87595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55
**SO BUILDHGT UNIT3	0.00	0.00	0.00	40.23	40.23	40.23
**SO BUILDHGT UNIT3	40.23	40.23	40.23	40.23	40.23	40.23

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**SO BUILDHGT UNIT3           40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDHGT UNIT3            0.00    0.00    0.00   40.23   40.23   40.23
**SO BUILDHGT UNIT3           40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDHGT UNIT3           40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDWID UNIT3            0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3           30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3           28.62   30.24   30.67   30.67   29.51   27.44
**SO BUILDWID UNIT3            0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3           30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3           28.62   30.24   30.67   30.67   29.51   27.44

SO EMISUNIT    .100000E+07 (GRAMS/SEC)         (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.        10
RE DISCPOLR BASE195      300.        10
RE DISCPOLR BASE195      400.        10
RE DISCPOLR BASE195      211.        20
RE DISCPOLR BASE195      300.        20
RE DISCPOLR BASE195      400.        20
RE DISCPOLR BASE195      229.        30
RE DISCPOLR BASE195      300.        30
RE DISCPOLR BASE195      400.        30
RE DISCPOLR BASE195      257.        40
RE DISCPOLR BASE195      300.        40
RE DISCPOLR BASE195      400.        40
RE DISCPOLR BASE195      305.        50
RE DISCPOLR BASE195      400.        50
RE DISCPOLR BASE195      296.        60
RE DISCPOLR BASE195      300.        60
RE DISCPOLR BASE195      400.        60
RE DISCPOLR BASE195      274.        70
RE DISCPOLR BASE195      300.        70
RE DISCPOLR BASE195      400.        70
RE DISCPOLR BASE195      262.        80
RE DISCPOLR BASE195      300.        80
RE DISCPOLR BASE195      400.        80
RE DISCPOLR BASE195      259.        90
RE DISCPOLR BASE195      300.        90
RE DISCPOLR BASE195      400.        90
RE DISCPOLR BASE195      264.       100
RE DISCPOLR BASE195      300.       100
RE DISCPOLR BASE195      400.       100
RE DISCPOLR BASE195      275.       110
RE DISCPOLR BASE195      300.       110
RE DISCPOLR BASE195      400.       110
RE DISCPOLR BASE195      292.       120
RE DISCPOLR BASE195      300.       120
RE DISCPOLR BASE195      400.       120
RE DISCPOLR BASE195      317.       130
RE DISCPOLR BASE195      400.       130
RE DISCPOLR BASE195      351.       140
RE DISCPOLR BASE195      400.       140
RE DISCPOLR BASE195      404.       150
RE DISCPOLR BASE195      494.       160
RE DISCPOLR BASE195      515.       170
RE DISCPOLR BASE195      474.       180
RE DISCPOLR BASE195      451.       190
RE DISCPOLR BASE195      354.       190
RE DISCPOLR BASE195      289.       190
RE DISCPOLR BASE195      284.       200
RE DISCPOLR BASE195      300.       200
RE DISCPOLR BASE195      400.       200
RE DISCPOLR BASE195      289.       210
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RE DISCPOLR BASE195        300.        210
RE DISCPOLR BASE195        400.        210
RE DISCPOLR BASE195        303.        220
RE DISCPOLR BASE195        400.        220
RE DISCPOLR BASE195        296.        230
RE DISCPOLR BASE195        300.        230
RE DISCPOLR BASE195        400.        230
RE DISCPOLR BASE195        230.        240
RE DISCPOLR BASE195        300.        240
RE DISCPOLR BASE195        400.        240
RE DISCPOLR BASE195        274.        250
RE DISCPOLR BASE195        300.        250
RE DISCPOLR BASE195        400.        250
RE DISCPOLR BASE195        352.        260
RE DISCPOLR BASE195        400.        260
RE DISCPOLR BASE195        389.        270
RE DISCPOLR BASE195        400.        270
RE DISCPOLR BASE195        394.        280
RE DISCPOLR BASE195        400.        280
RE DISCPOLR BASE195        412.        290
RE DISCPOLR BASE195        410.        300
RE DISCPOLR BASE195        316.        310
RE DISCPOLR BASE195        400.        310
RE DISCPOLR BASE195        264.        320
RE DISCPOLR BASE195        300.        320
RE DISCPOLR BASE195        400.        320
RE DISCPOLR BASE195        233.        330
RE DISCPOLR BASE195        300.        330
RE DISCPOLR BASE195        400.        330
RE DISCPOLR BASE195        214.        340
RE DISCPOLR BASE195        300.        340
RE DISCPOLR BASE195        400.        340
RE DISCPOLR BASE195        203.        350
RE DISCPOLR BASE195        300.        350
RE DISCPOLR BASE195        400.        350
RE DISCPOLR BASE195        200.        360
RE DISCPOLR BASE195        200.        360
RE DISCPOLR BASE195        300.        360
RE DISCPOLR BASE195        400.        360
RE FINISHED
ME STARTING

ME INPUTFIL H:\MET\ORLPRL87.BIN                         UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987           ORLANDO
ME UAIRDATA  12842  1987           RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

POLLUTANT-SPECIFIC IMPACTS FOR PROPOSED COMBUSTION TURBINES FIRING NATURAL GAS (REPOWERED UNIT NO. 4) AND DISTILLATE FUEL OIL (REPOWEREED UNIT NO. 5) IN COMBINED-CYCLE MODE DURING FUTURE OPERATIONS

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :SOXOILWO.087
ISCST3 OUTPUT FILE NUMBER 2 :SOXOILWO.088
ISCST3 OUTPUT FILE NUMBER 3 :SOXOILWO.089
ISCST3 OUTPUT FILE NUMBER 4 :SOXOILWO.090
ISCST3 OUTPUT FILE NUMBER 5 :SOXOILWO.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)4/18/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, Unit 3 not operating

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	0.338	240.	5000.	87123124
	1988	0.336	240.	4000.	88123124
	1989	0.312	360.	4000.	89123124
	1990	0.393	240.	4000.	90123124
	1991	0.355	360.	4000.	91123124
HIGH 24-Hour					
	1987	14.162	90.	400.	87033124
	1988	14.359	80.	300.	88031024
	1989	12.712	100.	300.	89022324
	1990	9.557	340.	214.	90101124
	1991	16.148	80.	300.	91021524
HSH 24-Hour					
	1987	7.156	90.	400.	87012224
	1988	10.884	80.	300.	88031424
	1989	6.857	90.	400.	89120924
	1990	6.292	80.	300.	90052924
	1991	8.819	80.	300.	91030424
HIGH 3-Hour					
	1987	39.104	330.	233.	87030715
	1988	52.171	90.	400.	88012518
	1989	34.966	100.	300.	89022321
	1990	38.125	330.	233.	90110912
	1991	78.933	90.	400.	91021518
HSH 3-Hour					
	1987	28.602	90.	400.	87033115
	1988	46.550	70.	400.	88041215
	1989	34.585	100.	300.	89022324
	1990	26.547	340.	214.	90120215
	1991	51.452	80.	400.	91011218
SOURCE GROUP ID:	BASE59				
Annual					
	1987	0.344	240.	5000.	87123124
	1988	0.343	240.	5000.	88123124
	1989	0.319	360.	4000.	89123124
	1990	0.396	240.	4000.	90123124
	1991	0.360	360.	4000.	91123124
HIGH 24-Hour					
	1987	14.441	90.	400.	87033124
	1988	14.219	80.	300.	88031024
	1989	12.944	100.	300.	89022324
	1990	6.565	350.	203.	90101124
	1991	15.725	80.	300.	91021524
HSH 24-Hour					
	1987	7.276	90.	400.	87012224
	1988	11.086	80.	300.	88031424
	1989	6.311	100.	300.	89122424
	1990	6.038	80.	300.	90111024
	1991	8.302	80.	300.	91030424
HIGH 3-Hour					
	1987	33.627	90.	300.	87033115
	1988	52.295	90.	400.	88012518
	1989	35.583	100.	300.	89022321
	1990	38.688	330.	233.	90110912
	1991	77.425	90.	400.	91021518
HSH 3-Hour					
	1987	28.051	90.	400.	87012215
	1988	45.706	70.	400.	88041215
	1989	35.335	100.	300.	89022324
	1990	26.927	340.	214.	90120215
	1991	51.080	80.	400.	91021515
SOURCE GROUP ID:	BASE32				
Annual					
	1987	0.334	240.	5000.	87123124
	1988	0.331	240.	5000.	88123124
	1989	0.312	360.	4000.	89123124
	1990	0.385	240.	4000.	90123124

	1991	0.352	360.	4000.	91123124
HIGH 24-Hour					
	1987	13.337	90.	400.	87033124
	1988	13.460	80.	300.	88031024
	1989	12.612	100.	300.	89022324
	1990	6.413	350.	203.	90101124
	1991	14.499	80.	300.	91021524
HSH 24-Hour					
	1987	7.078	90.	400.	87012224
	1988	10.794	80.	300.	88031424
	1989	5.576	100.	400.	89050724
	1990	5.892	80.	300.	90111024
	1991	8.103	80.	300.	91030424
HIGH 3-Hour					
	1987	32.926	90.	300.	87033115
	1988	50.844	90.	400.	88012518
	1989	34.647	100.	300.	89022321
	1990	37.562	330.	233.	90110912
	1991	72.402	90.	400.	91021518
HSH 3-Hour					
	1987	27.345	90.	300.	87033112
	1988	42.811	70.	400.	88041215
	1989	34.543	100.	300.	89022324
	1990	26.132	340.	214.	90120215
	1991	48.326	80.	400.	91021515
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.403	80.	300.	87123124
	1988	0.396	80.	300.	88123124
	1989	0.312	10.	3000.	89123124
	1990	0.402	240.	3000.	90123124
	1991	0.360	360.	3000.	91123124
HIGH 24-Hour					
	1987	19.907	90.	300.	87033124
	1988	16.453	80.	300.	88031024
	1989	14.341	100.	300.	89022324
	1990	10.285	340.	214.	90101124
	1991	19.407	80.	300.	91021524
HSH 24-Hour					
	1987	9.778	90.	300.	87012224
	1988	11.943	90.	400.	88040724
	1989	8.542	100.	300.	89022424
	1990	9.287	340.	214.	90101024
	1991	9.987	80.	300.	91030424
HIGH 3-Hour					
	1987	42.204	330.	233.	87030715
	1988	59.543	80.	300.	88031015
	1989	38.287	100.	300.	89022324
	1990	37.982	330.	233.	90110912
	1991	88.445	90.	400.	91021518
HSH 3-Hour					
	1987	30.645	100.	400.	87040324
	1988	51.890	70.	400.	88041215
	1989	35.517	100.	300.	89022321
	1990	26.496	340.	214.	90120215
	1991	55.433	80.	400.	91011218
SOURCE GROUP ID:	LD7559				
Annual					
	1987	0.443	80.	300.	87123124
	1988	0.435	80.	300.	88123124
	1989	0.339	10.	3000.	89123124
	1990	0.437	240.	3000.	90123124
	1991	0.391	360.	3000.	91123124
HIGH 24-Hour					
	1987	21.969	90.	300.	87033124
	1988	18.040	80.	300.	88031024
	1989	15.773	100.	300.	89022324
	1990	11.731	340.	214.	90101124
	1991	21.272	80.	300.	91021524
HSH 24-Hour					
	1987	10.712	90.	300.	87012224
	1988	13.107	90.	400.	88040724
	1989	9.402	90.	400.	89022324
	1990	10.129	340.	214.	90101024
	1991	10.956	80.	300.	91030424
HIGH 3-Hour					
	1987	46.394	90.	300.	87033115
	1988	65.416	80.	300.	88031015
	1989	42.386	100.	300.	89022324
	1990	41.457	330.	233.	90110912
	1991	96.889	90.	400.	91021518
HSH 3-Hour					

	1987	33.796	90.	300.	87033112
	1988	56.749	70.	400.	88041215
	1989	39.189	100.	300.	89022321
	1990	28.922	340.	214.	90120215
	1991	60.869	80.	400.	91011218
SOURCE GROUP ID:	LD7532				
Annual					
	1987	0.392	90.	400.	87123124
	1988	0.369	80.	300.	88123124
	1989	0.327	10.	3000.	89123124
	1990	0.419	240.	4000.	90123124
	1991	0.377	360.	3000.	91123124
HIGH 24-Hour					
	1987	19.790	90.	300.	87033124
	1988	16.767	80.	300.	88031024
	1989	14.610	100.	300.	89022324
	1990	10.740	340.	214.	90101124
	1991	19.744	80.	300.	91021524
HSH 24-Hour					
	1987	10.014	90.	300.	87012224
	1988	12.067	90.	400.	88040724
	1989	8.933	100.	300.	89022424
	1990	9.641	340.	214.	90101024
	1991	10.108	80.	300.	91030424
HIGH 3-Hour					
	1987	42.953	330.	233.	87030715
	1988	59.686	80.	300.	88031015
	1989	37.899	100.	300.	89022324
	1990	39.853	330.	233.	90110912
	1991	90.707	90.	400.	91021518
HSH 3-Hour					
	1987	30.973	90.	400.	87031918
	1988	53.248	70.	400.	88041215
	1989	36.183	100.	300.	89022321
	1990	27.789	340.	214.	90120215
	1991	56.728	80.	400.	91011218
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.504	90.	400.	87123124
	1988	0.467	80.	300.	88123124
	1989	0.391	100.	300.	89123124
	1990	0.516	340.	214.	90123124
	1991	0.379	340.	214.	91123124
HIGH 24-Hour					
	1987	24.617	90.	300.	87033124
	1988	18.188	80.	300.	88031024
	1989	16.679	100.	300.	89022324
	1990	12.291	340.	214.	90101124
	1991	20.136	80.	300.	91021524
HSH 24-Hour					
	1987	11.542	90.	300.	87012224
	1988	13.933	80.	262.	88012524
	1989	9.562	90.	400.	89022324
	1990	9.425	340.	214.	90101024
	1991	12.073	80.	300.	91030424
HIGH 3-Hour					
	1987	52.311	90.	300.	87033115
	1988	71.191	90.	300.	88021215
	1989	47.163	100.	300.	89022324
	1990	43.126	90.	259.	90102515
	1991	92.760	80.	262.	91021518
HSH 3-Hour					
	1987	39.889	90.	300.	87033112
	1988	59.098	90.	300.	88031018
	1989	44.276	100.	300.	89022321
	1990	27.845	340.	214.	90120215
	1991	59.336	80.	400.	91011218
SOURCE GROUP ID:	LD5059				
Annual					
	1987	0.520	90.	400.	87123124
	1988	0.482	80.	300.	88123124
	1989	0.404	100.	300.	89123124
	1990	0.530	340.	214.	90123124
	1991	0.378	340.	214.	91123124
HIGH 24-Hour					
	1987	25.441	90.	300.	87033124
	1988	18.927	80.	300.	88031024
	1989	17.299	100.	300.	89022324
	1990	12.881	340.	214.	90101124
	1991	21.196	80.	300.	91021524
HSH 24-Hour					
	1987	11.958	90.	300.	87012224

	1988	14.509	80.	262.	88012524
	1989	9.978	90.	400.	89022324
	1990	9.874	340.	214.	90101024
	1991	12.530	80.	300.	91030424
HIGH 3-Hour					
	1987	54.241	90.	300.	87033115
	1988	73.951	90.	300.	88021215
	1989	48.961	100.	300.	89022324
	1990	44.945	90.	259.	90102515
	1991	97.306	80.	262.	91021518
HSH 3-Hour					
	1987	41.192	90.	300.	87033112
	1988	61.661	90.	300.	88031018
	1989	45.855	100.	300.	89022321
	1990	29.061	90.	300.	90102515
	1991	62.081	80.	400.	91011218
SOURCE GROUP ID:	LD5032				
Annual					
	1987	0.499	90.	400.	87123124
	1988	0.467	80.	300.	88123124
	1989	0.388	100.	300.	89123124
	1990	0.510	340.	214.	90123124
	1991	0.369	340.	214.	91123124
HIGH 24-Hour					
	1987	24.369	90.	300.	87033124
	1988	18.341	80.	300.	88031024
	1989	16.682	100.	300.	89022324
	1990	12.617	340.	214.	90101124
	1991	20.946	80.	300.	91021524
HSH 24-Hour					
	1987	11.210	90.	300.	87012224
	1988	14.063	80.	262.	88012524
	1989	9.703	90.	400.	89022324
	1990	9.674	340.	214.	90101024
	1991	12.084	80.	300.	91030424
HIGH 3-Hour					
	1987	52.017	90.	300.	87033115
	1988	71.162	90.	300.	88021215
	1989	47.060	100.	300.	89022324
	1990	43.609	90.	259.	90102515
	1991	95.406	80.	262.	91021518
HSH 3-Hour					
	1987	39.198	90.	300.	87033112
	1988	59.911	90.	300.	88031018
	1989	43.875	100.	300.	89022321
	1990	28.411	90.	300.	90102515
	1991	60.845	80.	400.	91011218

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)4/18/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, Unit 3 not operating
CO MODELOPT  DFAULT CONC    RURAL NOCMPL
CO AVERTIME  PERIOD 24 3
CO POLLUTID  SO2
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS              ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00     0.00
**  HRSG STACK LETTER CODE
** ------------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP          XS           YS        ZS
**   UTM                          (m)          (m)       (m)
SO LOCATION  BASE195  POINT     0.00         0.00      0.0
SO LOCATION  BASE295  POINT   -14.07       -38.67      0.0
SO LOCATION  BASE395  POINT   -28.04       -77.05      0.0
SO LOCATION  BASE495  POINT   -42.12      -115.71      0.0
SO LOCATION  BASE595  POINT    89.60        75.08      0.0
SO LOCATION  BASE695  POINT   128.27        61.00      0.0
SO LOCATION  BASE795  POINT   166.65        47.03      0.0
SO LOCATION  BASE895  POINT   205.32        32.96      0.0

SO LOCATION  BASE159  POINT     0.00         0.00      0.0
SO LOCATION  BASE259  POINT   -14.07       -38.67      0.0
SO LOCATION  BASE359  POINT   -28.04       -77.05      0.0
SO LOCATION  BASE459  POINT   -42.12      -115.71      0.0
SO LOCATION  BASE559  POINT    89.60        75.08      0.0
SO LOCATION  BASE659  POINT   128.27        61.00      0.0
SO LOCATION  BASE759  POINT   166.65        47.03      0.0
SO LOCATION  BASE859  POINT   205.32        32.96      0.0

SO LOCATION  BASE132  POINT     0.00         0.00      0.0
SO LOCATION  BASE232  POINT   -14.07       -38.67      0.0
SO LOCATION  BASE332  POINT   -28.04       -77.05      0.0
SO LOCATION  BASE432  POINT   -42.12      -115.71      0.0
SO LOCATION  BASE532  POINT    89.60        75.08      0.0
SO LOCATION  BASE632  POINT   128.27        61.00      0.0
SO LOCATION  BASE732  POINT   166.65        47.03      0.0
SO LOCATION  BASE832  POINT   205.32        32.96      0.0

SO LOCATION  LD17595  POINT     0.00         0.00      0.0
SO LOCATION  LD27595  POINT   -14.07       -38.67      0.0
SO LOCATION  LD37595  POINT   -28.04       -77.05      0.0
SO LOCATION  LD47595  POINT   -42.12      -115.71      0.0
SO LOCATION  LD57595  POINT    89.60        75.08      0.0
SO LOCATION  LD67595  POINT   128.27        61.00      0.0
SO LOCATION  LD77595  POINT   166.65        47.03      0.0
SO LOCATION  LD87595  POINT   205.32        32.96      0.0

SO LOCATION  LD17559  POINT     0.00         0.00      0.0
SO LOCATION  LD27559  POINT   -14.07       -38.67      0.0
SO LOCATION  LD37559  POINT   -28.04       -77.05      0.0
SO LOCATION  LD47559  POINT   -42.12      -115.71      0.0
SO LOCATION  LD57559  POINT    89.60        75.08      0.0
SO LOCATION  LD67559  POINT   128.27        61.00      0.0
SO LOCATION  LD77559  POINT   166.65        47.03      0.0
SO LOCATION  LD87559  POINT   205.32        32.96      0.0

SO LOCATION  LD17532  POINT     0.00         0.00      0.0
SO LOCATION  LD27532  POINT   -14.07       -38.67      0.0
SO LOCATION  LD37532  POINT   -28.04       -77.05      0.0
SO LOCATION  LD47532  POINT   -42.12      -115.71      0.0
SO LOCATION  LD57532  POINT    89.60        75.08      0.0
SO LOCATION  LD67532  POINT   128.27        61.00      0.0
SO LOCATION  LD77532  POINT   166.65        47.03      0.0
SO LOCATION  LD87532  POINT   205.32        32.96      0.0
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SO LOCATION  LD15095  POINT      0.00       0.00    0.0
SO LOCATION  LD25095  POINT    -14.07     -38.67    0.0
SO LOCATION  LD35095  POINT    -28.04     -77.05    0.0
SO LOCATION  LD45095  POINT    -42.12    -115.71    0.0
SO LOCATION  LD55095  POINT     89.60      75.08    0.0
SO LOCATION  LD65095  POINT    128.27      61.00    0.0
SO LOCATION  LD75095  POINT    166.65      47.03    0.0
SO LOCATION  LD85095  POINT    205.32      32.96    0.0

SO LOCATION  LD15059  POINT      0.00       0.00    0.0
SO LOCATION  LD25059  POINT    -14.07     -38.67    0.0
SO LOCATION  LD35059  POINT    -28.04     -77.05    0.0
SO LOCATION  LD45059  POINT    -42.12    -115.71    0.0
SO LOCATION  LD55059  POINT     89.60      75.08    0.0
SO LOCATION  LD65059  POINT    128.27      61.00    0.0
SO LOCATION  LD75059  POINT    166.65      47.03    0.0
SO LOCATION  LD85059  POINT    205.32      32.96    0.0

SO LOCATION  LD15032  POINT      0.00       0.00    0.0
SO LOCATION  LD25032  POINT    -14.07     -38.67    0.0
SO LOCATION  LD35032  POINT    -28.04     -77.05    0.0
SO LOCATION  LD45032  POINT    -42.12    -115.71    0.0
SO LOCATION  LD55032  POINT     89.60      75.08    0.0
SO LOCATION  LD65032  POINT    128.27      61.00    0.0
SO LOCATION  LD75032  POINT    166.65      47.03    0.0
SO LOCATION  LD85032  POINT    205.32      32.96    0.0

**SO LOCATION  UNIT3     POINT     95.58      -125.94    0.0

** Source Parameter Cards:
** POINT:    SRCID          QS      HS        TS         VS        DS
**                         (g/s)    (m)       (K)       (m/s)      (m)
SO SRCPARAM    BASE195     0.554    38.1      377.6      19.02      5.79
SO SRCPARAM    BASE295     0.554    38.1      377.6      19.02      5.79
SO SRCPARAM    BASE395     0.554    38.1      377.6      19.02      5.79
SO SRCPARAM    BASE495     0.554    38.1      377.6      19.02      5.79
SO SRCPARAM    BASE595    11.768    38.1      377.6      20.39      5.79
SO SRCPARAM    BASE695    11.768    38.1      377.6      20.39      5.79
SO SRCPARAM    BASE795    11.768    38.1      377.6      20.39      5.79
SO SRCPARAM    BASE895    11.768    38.1      377.6      20.39      5.79

SO SRCPARAM    BASE159     0.617    38.1      377.6      20.51      5.79
SO SRCPARAM    BASE259     0.617    38.1      377.6      20.51      5.79
SO SRCPARAM    BASE359     0.617    38.1      377.6      20.51      5.79
SO SRCPARAM    BASE459     0.617    38.1      377.6      20.51      5.79
SO SRCPARAM    BASE559    12.537    38.1      377.6      21.34      5.79
SO SRCPARAM    BASE659    12.537    38.1      377.6      21.34      5.79
SO SRCPARAM    BASE759    12.537    38.1      377.6      21.34      5.79
SO SRCPARAM    BASE859    12.537    38.1      377.6      21.34      5.79

SO SRCPARAM    BASE132     0.643    38.1      377.6      21.43      5.79
SO SRCPARAM    BASE232     0.643    38.1      377.6      21.43      5.79
SO SRCPARAM    BASE332     0.643    38.1      377.6      21.43      5.79
SO SRCPARAM    BASE432     0.643    38.1      377.6      21.43      5.79
SO SRCPARAM    BASE532    12.789    38.1      377.6      22.34      5.79
SO SRCPARAM    BASE632    12.789    38.1      377.6      22.34      5.79
SO SRCPARAM    BASE732    12.789    38.1      377.6      22.34      5.79
SO SRCPARAM    BASE832    12.789    38.1      377.6      22.34      5.79

SO SRCPARAM    LD17595     0.454    38.1      377.6      15.76      5.79
SO SRCPARAM    LD27595     0.454    38.1      377.6      15.76      5.79
SO SRCPARAM    LD37595     0.454    38.1      377.6      15.76      5.79
SO SRCPARAM    LD47595     0.454    38.1      377.6      15.76      5.79
SO SRCPARAM    LD57595     9.425    38.1      377.6      16.52      5.79
SO SRCPARAM    LD67595     9.425    38.1      377.6      16.52      5.79
SO SRCPARAM    LD77595     9.425    38.1      377.6      16.52      5.79
SO SRCPARAM    LD87595     9.425    38.1      377.6      16.52      5.79

SO SRCPARAM    LD17559     0.504    38.1      377.6      16.79      5.79
SO SRCPARAM    LD27559     0.504    38.1      377.6      16.79      5.79
SO SRCPARAM    LD37559     0.504    38.1      377.6      16.79      5.79
SO SRCPARAM    LD47559     0.504    38.1      377.6      16.79      5.79
SO SRCPARAM    LD57559    10.193    38.1      377.6      16.37      5.79
SO SRCPARAM    LD67559    10.193    38.1      377.6      16.37      5.79
SO SRCPARAM    LD77559    10.193    38.1      377.6      16.37      5.79
SO SRCPARAM    LD87559    10.193    38.1      377.6      16.37      5.79

SO SRCPARAM    LD17532     0.517    38.1      377.6      17.28      5.79
SO SRCPARAM    LD27532     0.517    38.1      377.6      17.28      5.79
SO SRCPARAM    LD37532     0.517    38.1      377.6      17.28      5.79
SO SRCPARAM    LD47532     0.517    38.1      377.6      17.28      5.79
SO SRCPARAM    LD57532    10.407    38.1      377.6      17.37      5.79
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SO SRCPARAM    LD67532      10.407    38.1       377.6      17.37      5.79
SO SRCPARAM    LD77532      10.407    38.1       377.6      17.37      5.79
SO SRCPARAM    LD87532      10.407    38.1       377.6      17.37      5.79

SO SRCPARAM    LD15095      0.365     38.1       377.6      13.26      5.79
SO SRCPARAM    LD25095      0.365     38.1       377.6      13.26      5.79
SO SRCPARAM    LD35095      0.365     38.1       377.6      13.26      5.79
SO SRCPARAM    LD45095      0.365     38.1       377.6      13.26      5.79
SO SRCPARAM    LD55095      7.421     38.1       377.6      13.66      5.79
SO SRCPARAM    LD65095      7.421     38.1       377.6      13.66      5.79
SO SRCPARAM    LD75095      7.421     38.1       377.6      13.66      5.79
SO SRCPARAM    LD85095      7.421     38.1       377.6      13.66      5.79

SO SRCPARAM    LD15059      0.391     38.1       377.6      13.90      5.79
SO SRCPARAM    LD25059      0.391     38.1       377.6      13.90      5.79
SO SRCPARAM    LD35059      0.391     38.1       377.6      13.90      5.79
SO SRCPARAM    LD45059      0.391     38.1       377.6      13.90      5.79
SO SRCPARAM    LD55059      8.00      38.1       377.6      13.90      5.79
SO SRCPARAM    LD65059      8.00      38.1       377.6      13.90      5.79
SO SRCPARAM    LD75059      8.00      38.1       377.6      13.90      5.79
SO SRCPARAM    LD85059      8.00      38.1       377.6      13.90      5.79

SO SRCPARAM    LD15032      0.403     38.1       377.6      14.20      5.79
SO SRCPARAM    LD25032      0.403     38.1       377.6      14.20      5.79
SO SRCPARAM    LD35032      0.403     38.1       377.6      14.20      5.79
SO SRCPARAM    LD45032      0.403     38.1       377.6      14.20      5.79
SO SRCPARAM    LD55032      8.265     38.1       377.6      14.36      5.79
SO SRCPARAM    LD65032      8.265     38.1       377.6      14.36      5.79
SO SRCPARAM    LD75032      8.265     38.1       377.6      14.36      5.79
SO SRCPARAM    LD85032      8.265     38.1       377.6      14.36      5.79

**SO SRCPARAM   UNIT3      571.775     92.05      408.15     29.90     2.896


SO BUILDHGT BASE132-BASE195     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195     26.21    40.23    40.23    40.23    26.21    26.21
SO BUILDWID BASE132-BASE195     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195     22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE132-BASE195     18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE132-BASE195     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195     22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE132-BASE195     18.55    30.24    30.93    30.69    24.05    23.65

SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    40.23    40.23    40.23    26.21    26.21
SO BUILDWID LD15032-LD17595     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595     22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD15032-LD17595     18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID LD15032-LD17595     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595     22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD15032-LD17595     18.55    30.24    30.93    30.69    24.05    23.65

SO BUILDHGT BASE232-BASE295     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295     26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDHGT BASE232-BASE295     40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID BASE232-BASE295     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295     22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE232-BASE295     18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE232-BASE295     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295     22.66    20.92    18.55    15.61    12.19    26.14
SO BUILDWID BASE232-BASE295     28.62    30.24    22.66    23.71    24.05    23.65

SO BUILDHGT LD25032-LD27595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595     26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDHGT LD25032-LD27595     40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID LD25032-LD27595     22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD25032-LD27595     22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD25032-LD27595     18.55    20.92    22.66    23.71    24.05    23.65
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SO BUILDWID LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD25032-LD27595	22.66	20.92	18.55	15.61	12.19	26.14
SO BUILDWID LD25032-LD27595	28.62	30.24	22.66	23.71	24.05	23.65
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	40.23	40.23	40.23
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE332-BASE395	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID BASE332-BASE395	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE332-BASE395	22.66	20.92	18.55	25.77	22.86	25.77
SO BUILDWID BASE332-BASE395	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	40.23	40.23	40.23
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD35032-LD37595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD35032-LD37595	22.66	20.92	18.55	25.77	22.86	25.77
SO BUILDWID LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	40.23	40.23	40.23	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE432-BASE495	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE432-BASE495	22.66	29.85	28.62	26.14	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	40.23	40.23	40.23	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD45032-LD47595	22.66	29.85	28.62	26.14	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE532-BASE595	15.61	12.19	15.61	18.55	24.05	23.71
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE532-BASE595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD55032-LD57595	15.61	12.19	15.61	18.55	24.05	23.71
SO BUILDWID LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55

SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE632-BASE695	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE632-BASE695	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE632-BASE695	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE632-BASE695	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD65032-LD67595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD65032-LD67595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD65032-LD67595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD65032-LD67595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE732-BASE795	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE732-BASE795	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD75032-LD77595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD75032-LD77595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE832-BASE895	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE832-BASE895	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE832-BASE895	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE832-BASE895	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD85032-LD87595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD85032-LD87595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD85032-LD87595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD85032-LD87595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55
**SO BUILDHGT UNIT3	0.00	0.00	0.00	40.23	40.23	40.23
**SO BUILDHGT UNIT3	40.23	40.23	40.23	40.23	40.23	40.23
**SO BUILDHGT UNIT3	40.23	40.23	40.23	40.23	40.23	40.23
**SO BUILDHGT UNIT3	0.00	0.00	0.00	40.23	40.23	40.23

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**SO BUILDHGT UNIT3          40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDHGT UNIT3          40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDWID UNIT3           0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3          30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3          28.62   30.24   30.67   30.67   29.51   27.44
**SO BUILDWID UNIT3           0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3          30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3          28.62   30.24   30.67   30.67   29.51   27.44

SO EMISUNIT    .100000E+07 (GRAMS/SEC)         (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.        10
RE DISCPOLR BASE195      300.        10
RE DISCPOLR BASE195      400.        10
RE DISCPOLR BASE195      211.        20
RE DISCPOLR BASE195      300.        20
RE DISCPOLR BASE195      400.        20
RE DISCPOLR BASE195      229.        30
RE DISCPOLR BASE195      300.        30
RE DISCPOLR BASE195      400.        30
RE DISCPOLR BASE195      257.        40
RE DISCPOLR BASE195      300.        40
RE DISCPOLR BASE195      400.        40
RE DISCPOLR BASE195      305.        50
RE DISCPOLR BASE195      400.        50
RE DISCPOLR BASE195      296.        60
RE DISCPOLR BASE195      300.        60
RE DISCPOLR BASE195      400.        60
RE DISCPOLR BASE195      274.        70
RE DISCPOLR BASE195      300.        70
RE DISCPOLR BASE195      400.        70
RE DISCPOLR BASE195      262.        80
RE DISCPOLR BASE195      300.        80
RE DISCPOLR BASE195      400.        80
RE DISCPOLR BASE195      259.        90
RE DISCPOLR BASE195      300.        90
RE DISCPOLR BASE195      400.        90
RE DISCPOLR BASE195      264.       100
RE DISCPOLR BASE195      300.       100
RE DISCPOLR BASE195      400.       100
RE DISCPOLR BASE195      275.       110
RE DISCPOLR BASE195      300.       110
RE DISCPOLR BASE195      400.       110
RE DISCPOLR BASE195      292.       120
RE DISCPOLR BASE195      300.       120
RE DISCPOLR BASE195      400.       120
RE DISCPOLR BASE195      317.       130
RE DISCPOLR BASE195      400.       130
RE DISCPOLR BASE195      351.       140
RE DISCPOLR BASE195      400.       140
RE DISCPOLR BASE195      404.       150
RE DISCPOLR BASE195      494.       160
RE DISCPOLR BASE195      515.       170
RE DISCPOLR BASE195      474.       180
RE DISCPOLR BASE195      451.       190
RE DISCPOLR BASE195      354.       190
RE DISCPOLR BASE195      289.       190
RE DISCPOLR BASE195      284.       200
RE DISCPOLR BASE195      300.       200
RE DISCPOLR BASE195      400.       200
RE DISCPOLR BASE195      289.       210
RE DISCPOLR BASE195      300.       210
RE DISCPOLR BASE195      400.       210
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RE DISCPOLR BASE195      303.      220
RE DISCPOLR BASE195      400.      220
RE DISCPOLR BASE195      296.      230
RE DISCPOLR BASE195      300.      230
RE DISCPOLR BASE195      400.      230
RE DISCPOLR BASE195      230.      240
RE DISCPOLR BASE195      300.      240
RE DISCPOLR BASE195      400.      240
RE DISCPOLR BASE195      274.      250
RE DISCPOLR BASE195      300.      250
RE DISCPOLR BASE195      400.      250
RE DISCPOLR BASE195      352.      260
RE DISCPOLR BASE195      400.      260
RE DISCPOLR BASE195      389.      270
RE DISCPOLR BASE195      400.      270
RE DISCPOLR BASE195      394.      280
RE DISCPOLR BASE195      400.      280
RE DISCPOLR BASE195      412.      290
RE DISCPOLR BASE195      410.      300
RE DISCPOLR BASE195      316.      310
RE DISCPOLR BASE195      400.      310
RE DISCPOLR BASE195      264.      320
RE DISCPOLR BASE195      300.      320
RE DISCPOLR BASE195      400.      320
RE DISCPOLR BASE195      233.      330
RE DISCPOLR BASE195      300.      330
RE DISCPOLR BASE195      400.      330
RE DISCPOLR BASE195      214.      340
RE DISCPOLR BASE195      300.      340
RE DISCPOLR BASE195      400.      340
RE DISCPOLR BASE195      203.      350
RE DISCPOLR BASE195      300.      350
RE DISCPOLR BASE195      400.      350
RE DISCPOLR BASE195      200.      360
RE DISCPOLR BASE195      200.      360
RE DISCPOLR BASE195      300.      360
RE DISCPOLR BASE195      400.      360
RE FINISHED
ME STARTING

ME INPUTFIL D:\MET\ORLPRL87.BIN                     UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987          ORLANDO
ME UAIRDATA  12842  1987          RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :NOXOILWO.087
ISCST3 OUTPUT FILE NUMBER 2 :NOXOILWO.088
ISCST3 OUTPUT FILE NUMBER 3 :NOXOILWO.089
ISCST3 OUTPUT FILE NUMBER 4 :NOXOILWO.090
ISCST3 OUTPUT FILE NUMBER 5 :NOXOILWO.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)4/18/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, Unit 3 not operating

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	1.371	240.	5000.	87123124
	1988	1.361	240.	4000.	88123124
	1989	1.273	360.	4000.	89123124
	1990	1.594	240.	4000.	90123124
	1991	1.440	360.	4000.	91123124
SOURCE GROUP ID:	BASE59				
Annual					
	1987	1.388	240.	5000.	87123124
	1988	1.384	240.	5000.	88123124
	1989	1.297	360.	4000.	89123124
	1990	1.602	240.	4000.	90123124
	1991	1.455	360.	4000.	91123124
SOURCE GROUP ID:	BASE32				
Annual					
	1987	1.363	240.	5000.	87123124
	1988	1.352	240.	5000.	88123124
	1989	1.285	360.	4000.	89123124
	1990	1.573	240.	4000.	90123124
	1991	1.436	360.	4000.	91123124
SOURCE GROUP ID:	LD7595				
Annual					
	1987	1.559	80.	300.	87123124
	1988	1.519	80.	300.	88123124
	1989	1.269	360.	3000.	89123124
	1990	1.647	240.	3000.	90123124
	1991	1.482	360.	3000.	91123124
SOURCE GROUP ID:	LD7559				
Annual					
	1987	1.656	80.	300.	87123124
	1988	1.613	80.	300.	88123124
	1989	1.342	10.	3000.	89123124
	1990	1.735	240.	3000.	90123124
	1991	1.561	360.	3000.	91123124
SOURCE GROUP ID:	LD7532				
Annual					
	1987	1.477	80.	300.	87123124
	1988	1.425	240.	4000.	88123124
	1989	1.331	10.	3000.	89123124
	1990	1.711	240.	4000.	90123124
	1991	1.547	360.	3000.	91123124
SOURCE GROUP ID:	LD5095				
Annual					
	1987	1.869	80.	300.	87123124
	1988	1.762	80.	300.	88123124
	1989	1.418	100.	300.	89123124
	1990	2.107	240.	230.	90123124
	1991	1.618	340.	214.	91123124
SOURCE GROUP ID:	LD5059				
Annual					
	1987	1.888	80.	300.	87123124
	1988	1.790	80.	300.	88123124
	1989	1.438	100.	300.	89123124
	1990	2.057	240.	230.	90123124
	1991	1.583	340.	214.	91123124
SOURCE GROUP ID:	LD5032				
Annual					
	1987	1.835	80.	300.	87123124
	1988	1.748	80.	300.	88123124
	1989	1.396	100.	300.	89123124
	1990	1.973	340.	214.	90123124
	1991	1.555	340.	214.	91123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)4/18/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, Unit 3 not operating
CO MODELOPT  DFAULT CONC    RURAL NOCMPL
CO AVERTIME  PERIOD
CO POLLUTID  NOX
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP          XS            YS             ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00     0.00
**  HRSG STACK LETTER CODE
** -----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP           XS           YS        ZS
**   UTM                          (m)          (m)       (m)
SO LOCATION  BASE195  POINT     0.00         0.00     0.0
SO LOCATION  BASE295  POINT   -14.07       -38.67     0.0
SO LOCATION  BASE395  POINT   -28.04       -77.05     0.0
SO LOCATION  BASE495  POINT   -42.12      -115.71     0.0
SO LOCATION  BASE595  POINT    89.60        75.08     0.0
SO LOCATION  BASE695  POINT   128.27        61.00     0.0
SO LOCATION  BASE795  POINT   166.65        47.03     0.0
SO LOCATION  BASE895  POINT   205.32        32.96     0.0

SO LOCATION  BASE159  POINT     0.00         0.00     0.0
SO LOCATION  BASE259  POINT   -14.07       -38.67     0.0
SO LOCATION  BASE359  POINT   -28.04       -77.05     0.0
SO LOCATION  BASE459  POINT   -42.12      -115.71     0.0
SO LOCATION  BASE559  POINT    89.60        75.08     0.0
SO LOCATION  BASE659  POINT   128.27        61.00     0.0
SO LOCATION  BASE759  POINT   166.65        47.03     0.0
SO LOCATION  BASE859  POINT   205.32        32.96     0.0

SO LOCATION  BASE132  POINT     0.00         0.00     0.0
SO LOCATION  BASE232  POINT   -14.07       -38.67     0.0
SO LOCATION  BASE332  POINT   -28.04       -77.05     0.0
SO LOCATION  BASE432  POINT   -42.12      -115.71     0.0
SO LOCATION  BASE532  POINT    89.60        75.08     0.0
SO LOCATION  BASE632  POINT   128.27        61.00     0.0
SO LOCATION  BASE732  POINT   166.65        47.03     0.0
SO LOCATION  BASE832  POINT   205.32        32.96     0.0

SO LOCATION  LD17595  POINT     0.00         0.00     0.0
SO LOCATION  LD27595  POINT   -14.07       -38.67     0.0
SO LOCATION  LD37595  POINT   -28.04       -77.05     0.0
SO LOCATION  LD47595  POINT   -42.12      -115.71     0.0
SO LOCATION  LD57595  POINT    89.60        75.08     0.0
SO LOCATION  LD67595  POINT   128.27        61.00     0.0
SO LOCATION  LD77595  POINT   166.65        47.03     0.0
SO LOCATION  LD87595  POINT   205.32        32.96     0.0

SO LOCATION  LD17559  POINT     0.00         0.00     0.0
SO LOCATION  LD27559  POINT   -14.07       -38.67     0.0
SO LOCATION  LD37559  POINT   -28.04       -77.05     0.0
SO LOCATION  LD47559  POINT   -42.12      -115.71     0.0
SO LOCATION  LD57559  POINT    89.60        75.08     0.0
SO LOCATION  LD67559  POINT   128.27        61.00     0.0
SO LOCATION  LD77559  POINT   166.65        47.03     0.0
SO LOCATION  LD87559  POINT   205.32        32.96     0.0

SO LOCATION  LD17532  POINT     0.00         0.00     0.0
SO LOCATION  LD27532  POINT   -14.07       -38.67     0.0
SO LOCATION  LD37532  POINT   -28.04       -77.05     0.0
SO LOCATION  LD47532  POINT   -42.12      -115.71     0.0
SO LOCATION  LD57532  POINT    89.60        75.08     0.0
SO LOCATION  LD67532  POINT   128.27        61.00     0.0
SO LOCATION  LD77532  POINT   166.65        47.03     0.0
SO LOCATION  LD87532  POINT   205.32        32.96     0.0
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SO LOCATION  LD15095  POINT     0.00      0.00    0.0
SO LOCATION  LD25095  POINT   -14.07    -38.67    0.0
SO LOCATION  LD35095  POINT   -28.04    -77.05    0.0
SO LOCATION  LD45095  POINT   -42.12   -115.71    0.0
SO LOCATION  LD55095  POINT    89.60     75.08    0.0
SO LOCATION  LD65095  POINT   128.27     61.00    0.0
SO LOCATION  LD75095  POINT   166.65     47.03    0.0
SO LOCATION  LD85095  POINT   205.32     32.96    0.0

SO LOCATION  LD15059  POINT     0.00      0.00    0.0
SO LOCATION  LD25059  POINT   -14.07    -38.67    0.0
SO LOCATION  LD35059  POINT   -28.04    -77.05    0.0
SO LOCATION  LD45059  POINT   -42.12   -115.71    0.0
SO LOCATION  LD55059  POINT    89.60     75.08    0.0
SO LOCATION  LD65059  POINT   128.27     61.00    0.0
SO LOCATION  LD75059  POINT   166.65     47.03    0.0
SO LOCATION  LD85059  POINT   205.32     32.96    0.0

SO LOCATION  LD15032  POINT     0.00      0.00    0.0
SO LOCATION  LD25032  POINT   -14.07    -38.67    0.0
SO LOCATION  LD35032  POINT   -28.04    -77.05    0.0
SO LOCATION  LD45032  POINT   -42.12   -115.71    0.0
SO LOCATION  LD55032  POINT    89.60     75.08    0.0
SO LOCATION  LD65032  POINT   128.27     61.00    0.0
SO LOCATION  LD75032  POINT   166.65     47.03    0.0
SO LOCATION  LD85032  POINT   205.32     32.96    0.0

**SO LOCATION  UNIT3     POINT    95.58     -125.94    0.0

** Source Parameter Cards:
** POINT:    SRCID            QS      HS        TS        VS        DS
**                          (g/s)    (m)       (K)      (m/s)      (m)
SO SRCPARAM    BASE195     7.421    38.1     377.6     19.02      5.79
SO SRCPARAM    BASE295     7.421    38.1     377.6     19.02      5.79
SO SRCPARAM    BASE395     7.421    38.1     377.6     19.02      5.79
SO SRCPARAM    BASE495     7.421    38.1     377.6     19.02      5.79
SO SRCPARAM    BASE595    42.096    38.1     377.6     20.39      5.79
SO SRCPARAM    BASE695    42.096    38.1     377.6     20.39      5.79
SO SRCPARAM    BASE795    42.096    38.1     377.6     20.39      5.79
SO SRCPARAM    BASE895    42.096    38.1     377.6     20.39      5.79

SO SRCPARAM    BASE159     8.190    38.1     377.6     20.51      5.79
SO SRCPARAM    BASE259     8.190    38.1     377.6     20.51      5.79
SO SRCPARAM    BASE359     8.190    38.1     377.6     20.51      5.79
SO SRCPARAM    BASE459     8.190    38.1     377.6     20.51      5.79
SO SRCPARAM    BASE559    44.679    38.1     377.6     21.34      5.79
SO SRCPARAM    BASE659    44.679    38.1     377.6     21.34      5.79
SO SRCPARAM    BASE759    44.679    38.1     377.6     21.34      5.79
SO SRCPARAM    BASE859    44.679    38.1     377.6     21.34      5.79

SO SRCPARAM    BASE132     8.568    38.1     377.6     21.43      5.79
SO SRCPARAM    BASE232     8.568    38.1     377.6     21.43      5.79
SO SRCPARAM    BASE332     8.568    38.1     377.6     21.43      5.79
SO SRCPARAM    BASE432     8.568    38.1     377.6     21.43      5.79
SO SRCPARAM    BASE532    46.014    38.1     377.6     22.34      5.79
SO SRCPARAM    BASE632    46.014    38.1     377.6     22.34      5.79
SO SRCPARAM    BASE732    46.014    38.1     377.6     22.34      5.79
SO SRCPARAM    BASE832    46.014    38.1     377.6     22.34      5.79

SO SRCPARAM    LD17595     6.035    38.1     377.6     15.76      5.79
SO SRCPARAM    LD27595     6.035    38.1     377.6     15.76      5.79
SO SRCPARAM    LD37595     6.035    38.1     377.6     15.76      5.79
SO SRCPARAM    LD47595     6.035    38.1     377.6     15.76      5.79
SO SRCPARAM    LD57595    34.057    38.1     377.6     16.52      5.79
SO SRCPARAM    LD67595    34.057    38.1     377.6     16.52      5.79
SO SRCPARAM    LD77595    34.057    38.1     377.6     16.52      5.79
SO SRCPARAM    LD87595    34.057    38.1     377.6     16.52      5.79

SO SRCPARAM    LD17559     6.602    38.1     377.6     16.79      5.79
SO SRCPARAM    LD27559     6.602    38.1     377.6     16.79      5.79
SO SRCPARAM    LD37559     6.602    38.1     377.6     16.79      5.79
SO SRCPARAM    LD47559     6.602    38.1     377.6     16.79      5.79
SO SRCPARAM    LD57559    35.934    38.1     377.6     16.37      5.79
SO SRCPARAM    LD67559    35.934    38.1     377.6     16.37      5.79
SO SRCPARAM    LD77559    35.934    38.1     377.6     16.37      5.79
SO SRCPARAM    LD87559    35.934    38.1     377.6     16.37      5.79

SO SRCPARAM    LD17532     6.842    38.1     377.6     17.28      5.79
SO SRCPARAM    LD27532     6.842    38.1     377.6     17.28      5.79
SO SRCPARAM    LD37532     6.842    38.1     377.6     17.28      5.79
SO SRCPARAM    LD47532     6.842    38.1     377.6     17.28      5.79
SO SRCPARAM    LD57532    37.724    38.1     377.6     17.37      5.79
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SO SRCPARAM   LD67532     37.724    38.1       377.6      17.37      5.79
SO SRCPARAM   LD77532     37.724    38.1       377.6      17.37      5.79
SO SRCPARAM   LD87532     37.724    38.1       377.6      17.37      5.79

SO SRCPARAM   LD15095      4.826    38.1       377.6      13.26      5.79
SO SRCPARAM   LD25095      4.826    38.1       377.6      13.26      5.79
SO SRCPARAM   LD35095      4.826    38.1       377.6      13.26      5.79
SO SRCPARAM   LD45095      4.826    38.1       377.6      13.26      5.79
SO SRCPARAM   LD55095     26.308    38.1       377.6      13.66      5.79
SO SRCPARAM   LD65095     26.308    38.1       377.6      13.66      5.79
SO SRCPARAM   LD75095     26.308    38.1       377.6      13.66      5.79
SO SRCPARAM   LD85095     26.308    38.1       377.6      13.66      5.79

SO SRCPARAM   LD15059      5.241    38.1       377.6      13.90      5.79
SO SRCPARAM   LD25059      5.241    38.1       377.6      13.90      5.79
SO SRCPARAM   LD35059      5.241    38.1       377.6      13.90      5.79
SO SRCPARAM   LD45059      5.241    38.1       377.6      13.90      5.79
SO SRCPARAM   LD55059     27.959    38.1       377.6      13.90      5.79
SO SRCPARAM   LD65059     27.959    38.1       377.6      13.90      5.79
SO SRCPARAM   LD75059     27.959    38.1       377.6      13.90      5.79
SO SRCPARAM   LD85059     27.959    38.1       377.6      13.90      5.79

SO SRCPARAM   LD15032      5.418    38.1       377.6      14.20      5.79
SO SRCPARAM   LD25032      5.418    38.1       377.6      14.20      5.79
SO SRCPARAM   LD35032      5.418    38.1       377.6      14.20      5.79
SO SRCPARAM   LD45032      5.418    38.1       377.6      14.20      5.79
SO SRCPARAM   LD55032     29.156    38.1       377.6      14.36      5.79
SO SRCPARAM   LD65032     29.156    38.1       377.6      14.36      5.79
SO SRCPARAM   LD75032     29.156    38.1       377.6      14.36      5.79
SO SRCPARAM   LD85032     29.156    38.1       377.6      14.36      5.79

**SO SRCPARAM   UNIT3       571.775     92.05      408.15     29.90     2.896


SO BUILDHGT BASE132-BASE195      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195      26.21    40.23    40.23    40.23    26.21    26.21
SO BUILDWID BASE132-BASE195      22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195      22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE132-BASE195      18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE132-BASE195      22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195      22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE132-BASE195      18.55    30.24    30.93    30.69    24.05    23.65

SO BUILDHGT LD15032-LD17595      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595      26.21    40.23    40.23    40.23    26.21    26.21
SO BUILDWID LD15032-LD17595      22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595      22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD15032-LD17595      18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID LD15032-LD17595      22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595      22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD15032-LD17595      18.55    30.24    30.93    30.69    24.05    23.65

SO BUILDHGT BASE232-BASE295      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295      26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDHGT BASE232-BASE295      40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID BASE232-BASE295      22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295      22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE232-BASE295      18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE232-BASE295      22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295      22.66    20.92    18.55    15.61    12.19    26.14
SO BUILDWID BASE232-BASE295      28.62    30.24    22.66    23.71    24.05    23.65

SO BUILDHGT LD25032-LD27595      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595      26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595      26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDHGT LD25032-LD27595      40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID LD25032-LD27595      22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD25032-LD27595      22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD25032-LD27595      18.55    20.92    22.66    23.71    24.05    23.65
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SO BUILDWID LD25032-LD27595     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD25032-LD27595     22.66   20.92   18.55   15.61   12.19   26.14
SO BUILDWID LD25032-LD27595     28.62   30.24   22.66   23.71   24.05   23.65

SO BUILDHGT BASE332-BASE395     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395     26.21   26.21   26.21   40.23   40.23   40.23
SO BUILDHGT BASE332-BASE395     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE332-BASE395     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE332-BASE395     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE332-BASE395     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE332-BASE395     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE332-BASE395     22.66   20.92   18.55   25.77   22.86   25.77
SO BUILDWID BASE332-BASE395     18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD35032-LD37595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595     26.21   26.21   26.21   40.23   40.23   40.23
SO BUILDHGT LD35032-LD37595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD35032-LD37595     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD35032-LD37595     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD35032-LD37595     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD35032-LD37595     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD35032-LD37595     22.66   20.92   18.55   25.77   22.86   25.77
SO BUILDWID LD35032-LD37595     18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BASE432-BASE495     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495     26.21   40.23   40.23   40.23   26.21   26.21
SO BUILDHGT BASE432-BASE495     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE432-BASE495     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE432-BASE495     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE432-BASE495     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE432-BASE495     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE432-BASE495     22.66   29.85   28.62   26.14   12.19   15.61
SO BUILDWID BASE432-BASE495     18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD45032-LD47595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595     26.21   40.23   40.23   40.23   26.21   26.21
SO BUILDHGT LD45032-LD47595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD45032-LD47595     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD45032-LD47595     22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD45032-LD47595     18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD45032-LD47595     22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD45032-LD47595     22.66   29.85   28.62   26.14   12.19   15.61
SO BUILDWID LD45032-LD47595     18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BASE532-BASE595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE532-BASE595     15.61   12.19   15.61   18.55   24.05   23.71
SO BUILDWID BASE532-BASE595     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE532-BASE595     23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE532-BASE595     15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE532-BASE595     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE532-BASE595     23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD55032-LD57595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595     26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD55032-LD57595     15.61   12.19   15.61   18.55   24.05   23.71
SO BUILDWID LD55032-LD57595     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595     23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD55032-LD57595     15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD55032-LD57595     23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595     23.65   24.05   23.71   22.66   20.92   18.55
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SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE632-BASE695    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE632-BASE695    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD65032-LD67595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD65032-LD67595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE732-BASE795    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE732-BASE795    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE732-BASE795    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE732-BASE795    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD75032-LD77595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD75032-LD77595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD75032-LD77595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD75032-LD77595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE832-BASE895    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE832-BASE895    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE832-BASE895    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE832-BASE895    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD85032-LD87595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD85032-LD87595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD85032-LD87595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD85032-LD87595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595    23.65   24.05   23.71   22.66   20.92   18.55

**SO BUILDHGT UNIT3             0.00    0.00    0.00   40.23   40.23   40.23
**SO BUILDHGT UNIT3            40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDHGT UNIT3            40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDHGT UNIT3             0.00    0.00    0.00   40.23   40.23   40.23
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**SO BUILDHGT UNIT3              40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDHGT UNIT3              40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDWID UNIT3               0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3              30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3              28.62   30.24   30.67   30.67   29.51   27.44
**SO BUILDWID UNIT3               0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3              30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3              28.62   30.24   30.67   30.67   29.51   27.44


SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.        10
RE DISCPOLR BASE195      300.        10
RE DISCPOLR BASE195      400.        10
RE DISCPOLR BASE195      211.        20
RE DISCPOLR BASE195      300.        20
RE DISCPOLR BASE195      400.        20
RE DISCPOLR BASE195      229.        30
RE DISCPOLR BASE195      300.        30
RE DISCPOLR BASE195      400.        30
RE DISCPOLR BASE195      257.        40
RE DISCPOLR BASE195      300.        40
RE DISCPOLR BASE195      400.        40
RE DISCPOLR BASE195      305.        50
RE DISCPOLR BASE195      400.        50
RE DISCPOLR BASE195      296.        60
RE DISCPOLR BASE195      300.        60
RE DISCPOLR BASE195      400.        60
RE DISCPOLR BASE195      274.        70
RE DISCPOLR BASE195      300.        70
RE DISCPOLR BASE195      400.        70
RE DISCPOLR BASE195      262.        80
RE DISCPOLR BASE195      300.        80
RE DISCPOLR BASE195      400.        80
RE DISCPOLR BASE195      259.        90
RE DISCPOLR BASE195      300.        90
RE DISCPOLR BASE195      400.        90
RE DISCPOLR BASE195      264.       100
RE DISCPOLR BASE195      300.       100
RE DISCPOLR BASE195      400.       100
RE DISCPOLR BASE195      275.       110
RE DISCPOLR BASE195      300.       110
RE DISCPOLR BASE195      400.       110
RE DISCPOLR BASE195      292.       120
RE DISCPOLR BASE195      300.       120
RE DISCPOLR BASE195      400.       120
RE DISCPOLR BASE195      317.       130
RE DISCPOLR BASE195      400.       130
RE DISCPOLR BASE195      351.       140
RE DISCPOLR BASE195      400.       140
RE DISCPOLR BASE195      404.       150
RE DISCPOLR BASE195      494.       160
RE DISCPOLR BASE195      515.       170
RE DISCPOLR BASE195      474.       180
RE DISCPOLR BASE195      451.       190
RE DISCPOLR BASE195      354.       190
RE DISCPOLR BASE195      289.       190
RE DISCPOLR BASE195      284.       200
RE DISCPOLR BASE195      300.       200
RE DISCPOLR BASE195      400.       200
RE DISCPOLR BASE195      289.       210
RE DISCPOLR BASE195      300.       210
RE DISCPOLR BASE195      400.       210
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RE DISCPOLR BASE195       303.        220
RE DISCPOLR BASE195       400.        220
RE DISCPOLR BASE195       296.        230
RE DISCPOLR BASE195       300.        230
RE DISCPOLR BASE195       400.        230
RE DISCPOLR BASE195       230.        240
RE DISCPOLR BASE195       300.        240
RE DISCPOLR BASE195       400.        240
RE DISCPOLR BASE195       274.        250
RE DISCPOLR BASE195       300.        250
RE DISCPOLR BASE195       400.        250
RE DISCPOLR BASE195       352.        260
RE DISCPOLR BASE195       400.        260
RE DISCPOLR BASE195       389.        270
RE DISCPOLR BASE195       400.        270
RE DISCPOLR BASE195       394.        280
RE DISCPOLR BASE195       400.        280
RE DISCPOLR BASE195       412.        290
RE DISCPOLR BASE195       410.        300
RE DISCPOLR BASE195       316.        310
RE DISCPOLR BASE195       400.        310
RE DISCPOLR BASE195       264.        320
RE DISCPOLR BASE195       300.        320
RE DISCPOLR BASE195       400.        320
RE DISCPOLR BASE195       233.        330
RE DISCPOLR BASE195       300.        330
RE DISCPOLR BASE195       400.        330
RE DISCPOLR BASE195       214.        340
RE DISCPOLR BASE195       300.        340
RE DISCPOLR BASE195       400.        340
RE DISCPOLR BASE195       203.        350
RE DISCPOLR BASE195       300.        350
RE DISCPOLR BASE195       400.        350
RE DISCPOLR BASE195       200.        360
RE DISCPOLR BASE195       200.        360
RE DISCPOLR BASE195       300.        360
RE DISCPOLR BASE195       400.        360
RE FINISHED
ME STARTING

ME INPUTFIL D:\MET\ORLPRL87.BIN                      UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :PM_OILWO.087
ISCST3 OUTPUT FILE NUMBER 2 :PM_OILWO.088
ISCST3 OUTPUT FILE NUMBER 3 :PM_OILWO.089
ISCST3 OUTPUT FILE NUMBER 4 :PM_OILWO.090
ISCST3 OUTPUT FILE NUMBER 5 :PM_OILWO.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)4/18/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 removed, Unit 3 not operating

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	0.096	240.	5000.	87123124
	1988	0.095	240.	4000.	88123124
	1989	0.091	360.	4000.	89123124
	1990	0.112	240.	4000.	90123124
	1991	0.102	360.	3000.	91123124
HIGH 24-Hour					
	1987	2.614	90.	400.	87033124
	1988	3.380	70.	400.	88041224
	1989	2.433	100.	300.	89022324
	1990	1.757	340.	214.	90101124
	1991	3.423	80.	300.	91021524
HSH 24-Hour					
	1987	1.917	240.	300.	87032324
	1988	2.107	90.	400.	88040724
	1989	1.326	90.	400.	89120924
	1990	1.499	80.	300.	90052924
	1991	1.842	80.	300.	91030424
SOURCE GROUP ID:	BASE59				
Annual					
	1987	0.090	240.	5000.	87123124
	1988	0.090	240.	5000.	88123124
	1989	0.086	360.	4000.	89123124
	1990	0.104	240.	4000.	90123124
	1991	0.095	360.	4000.	91123124
HIGH 24-Hour					
	1987	2.486	90.	400.	87033124
	1988	3.075	70.	400.	88041224
	1989	2.322	100.	300.	89022324
	1990	1.438	80.	300.	90111024
	1991	3.118	80.	300.	91021524
HSH 24-Hour					
	1987	1.523	240.	300.	87032324
	1988	1.939	90.	400.	88040724
	1989	1.078	100.	300.	89122424
	1990	1.201	80.	300.	90102524
	1991	1.630	80.	300.	91030424
SOURCE GROUP ID:	BASE32				
Annual					
	1987	0.086	240.	5000.	87123124
	1988	0.085	240.	5000.	88123124
	1989	0.082	360.	4000.	89123124
	1990	0.099	240.	4000.	90123124
	1991	0.090	360.	4000.	91123124
HIGH 24-Hour					
	1987	2.252	90.	400.	87033124
	1988	2.841	70.	400.	88041224
	1989	2.218	100.	300.	89022324
	1990	1.377	80.	300.	90111024
	1991	2.833	80.	300.	91021524
HSH 24-Hour					
	1987	1.340	240.	300.	87030624
	1988	1.865	90.	400.	88040724
	1989	0.963	70.	400.	89051024
	1990	1.153	80.	300.	90102524
	1991	1.558	80.	300.	91030424
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.124	240.	230.	87123124
	1988	0.118	240.	4000.	88123124
	1989	0.113	360.	3000.	89123124
	1990	0.168	240.	230.	90123124
	1991	0.129	360.	3000.	91123124
HIGH 24-Hour					
	1987	4.591	90.	300.	87033124
	1988	4.692	70.	400.	88041224
	1989	3.437	100.	300.	89022324

	1990	3.264	240.	230.	90030824
	1991	5.060	80.	300.	91021524
HSH 24-Hour					
	1987	2.709	240.	300.	87032324
	1988	3.098	90.	400.	88040724
	1989	2.068	90.	400.	89022324
	1990	2.688	330.	233.	90031624
	1991	2.628	80.	300.	91030424
SOURCE GROUP ID:	LD7559				
Annual					
	1987	0.119	240.	4000.	87123124
	1988	0.115	240.	4000.	88123124
	1989	0.110	360.	3000.	89123124
	1990	0.142	240.	230.	90123124
	1991	0.125	360.	3000.	91123124
HIGH 24-Hour					
	1987	4.673	90.	300.	87033124
	1988	4.637	70.	400.	88041224
	1989	3.469	100.	300.	89022324
	1990	2.737	240.	230.	90030824
	1991	5.065	80.	300.	91021524
HSH 24-Hour					
	1987	2.524	240.	300.	87032324
	1988	3.094	90.	400.	88040724
	1989	2.117	90.	400.	89022324
	1990	2.430	330.	233.	90031624
	1991	2.605	80.	300.	91030424
SOURCE GROUP ID:	LD7532				
Annual					
	1987	0.112	240.	4000.	87123124
	1988	0.109	240.	4000.	88123124
	1989	0.104	360.	3000.	89123124
	1990	0.131	240.	4000.	90123124
	1991	0.119	360.	3000.	91123124
HIGH 24-Hour					
	1987	4.126	90.	300.	87033124
	1988	4.287	70.	400.	88041224
	1989	3.151	100.	300.	89022324
	1990	2.438	240.	230.	90030824
	1991	4.619	80.	300.	91021524
HSH 24-Hour					
	1987	2.344	240.	300.	87032324
	1988	2.810	90.	400.	88040724
	1989	1.887	90.	400.	89022324
	1990	2.127	330.	233.	90031624
	1991	2.347	80.	300.	91030424
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.237	240.	230.	87123124
	1988	0.184	240.	230.	88123124
	1989	0.139	360.	2500.	89123124
	1990	0.302	240.	230.	90123124
	1991	0.231	240.	230.	91123124
HIGH 24-Hour					
	1987	7.217	90.	300.	87033124
	1988	6.282	70.	300.	88041224
	1989	5.137	100.	300.	89022324
	1990	5.242	240.	230.	90030824
	1991	6.614	80.	300.	91021524
HSH 24-Hour					
	1987	3.833	240.	300.	87032324
	1988	4.687	90.	300.	88021224
	1989	3.006	90.	400.	89022324
	1990	3.926	330.	233.	90031624
	1991	4.022	80.	300.	91030424
SOURCE GROUP ID:	LD5059				
Annual					
	1987	0.207	240.	230.	87123124
	1988	0.160	80.	300.	88123124
	1989	0.133	360.	2500.	89123124
	1990	0.268	240.	230.	90123124
	1991	0.202	240.	230.	91123124
HIGH 24-Hour					
	1987	6.912	90.	300.	87033124
	1988	6.038	70.	300.	88041224
	1989	4.901	100.	300.	89022324
	1990	4.800	240.	230.	90030824
	1991	6.435	80.	300.	91021524
HSH 24-Hour					
	1987	3.551	240.	300.	87032324
	1988	4.511	90.	300.	88021224
	1989	2.890	90.	400.	89022324

	1990	3.684	330.	233.	90031624
	1991	3.844	80.	300.	91030424
SOURCE GROUP ID:	LD5032				
Annual					
	1987	0.189	240.	230.	87123124
	1988	0.150	80.	300.	88123124
	1989	0.129	360.	3000.	89123124
	1990	0.246	240.	230.	90123124
	1991	0.187	240.	230.	91123124
HIGH 24-Hour					
	1987	6.411	90.	300.	87033124
	1988	5.758	70.	300.	88041224
	1989	4.581	100.	300.	89022324
	1990	4.533	240.	230.	90030824
	1991	6.169	80.	300.	91021524
HSH 24-Hour					
	1987	3.378	240.	300.	87032324
	1988	4.216	90.	300.	88021224
	1989	2.724	90.	400.	89022324
	1990	3.541	330.	233.	90031624
	1991	3.601	80.	300.	91030424

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)4/18/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 removed, Unit 3 not operating
CO MODELOPT  DFAULT CONC    RURAL NOCMPL
CO AVERTIME  PERIOD  24
CO POLLUTID  PM
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP       XS          YS              ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN    POINT  0.00      0.00    0.00
**  HRSG STACK LETTER CODE
** -----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP          XS          YS       ZS
**   UTM                          (m)         (m)      (m)
SO LOCATION  BASE195  POINT     0.00        0.00     0.0
SO LOCATION  BASE295  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE395  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE495  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE595  POINT    89.60       75.08     0.0
SO LOCATION  BASE695  POINT   128.27       61.00     0.0
SO LOCATION  BASE795  POINT   166.65       47.03     0.0
SO LOCATION  BASE895  POINT   205.32       32.96     0.0

SO LOCATION  BASE159  POINT     0.00        0.00     0.0
SO LOCATION  BASE259  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE359  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE459  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE559  POINT    89.60       75.08     0.0
SO LOCATION  BASE659  POINT   128.27       61.00     0.0
SO LOCATION  BASE759  POINT   166.65       47.03     0.0
SO LOCATION  BASE859  POINT   205.32       32.96     0.0

SO LOCATION  BASE132  POINT     0.00        0.00     0.0
SO LOCATION  BASE232  POINT   -14.07      -38.67     0.0
SO LOCATION  BASE332  POINT   -28.04      -77.05     0.0
SO LOCATION  BASE432  POINT   -42.12     -115.71     0.0
SO LOCATION  BASE532  POINT    89.60       75.08     0.0
SO LOCATION  BASE632  POINT   128.27       61.00     0.0
SO LOCATION  BASE732  POINT   166.65       47.03     0.0
SO LOCATION  BASE832  POINT   205.32       32.96     0.0

SO LOCATION  LD17595  POINT     0.00        0.00     0.0
SO LOCATION  LD27595  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37595  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47595  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57595  POINT    89.60       75.08     0.0
SO LOCATION  LD67595  POINT   128.27       61.00     0.0
SO LOCATION  LD77595  POINT   166.65       47.03     0.0
SO LOCATION  LD87595  POINT   205.32       32.96     0.0

SO LOCATION  LD17559  POINT     0.00        0.00     0.0
SO LOCATION  LD27559  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37559  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47559  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57559  POINT    89.60       75.08     0.0
SO LOCATION  LD67559  POINT   128.27       61.00     0.0
SO LOCATION  LD77559  POINT   166.65       47.03     0.0
SO LOCATION  LD87559  POINT   205.32       32.96     0.0

SO LOCATION  LD17532  POINT     0.00        0.00     0.0
SO LOCATION  LD27532  POINT   -14.07      -38.67     0.0
SO LOCATION  LD37532  POINT   -28.04      -77.05     0.0
SO LOCATION  LD47532  POINT   -42.12     -115.71     0.0
SO LOCATION  LD57532  POINT    89.60       75.08     0.0
SO LOCATION  LD67532  POINT   128.27       61.00     0.0
SO LOCATION  LD77532  POINT   166.65       47.03     0.0
SO LOCATION  LD87532  POINT   205.32       32.96     0.0
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SO LOCATION  LD15095  POINT     0.00      0.00   0.0
SO LOCATION  LD25095  POINT   -14.07    -38.67   0.0
SO LOCATION  LD35095  POINT   -28.04    -77.05   0.0
SO LOCATION  LD45095  POINT   -42.12   -115.71   0.0
SO LOCATION  LD55095  POINT    89.60     75.08   0.0
SO LOCATION  LD65095  POINT   128.27     61.00   0.0
SO LOCATION  LD75095  POINT   166.65     47.03   0.0
SO LOCATION  LD85095  POINT   205.32     32.96   0.0

SO LOCATION  LD15059  POINT     0.00      0.00   0.0
SO LOCATION  LD25059  POINT   -14.07    -38.67   0.0
SO LOCATION  LD35059  POINT   -28.04    -77.05   0.0
SO LOCATION  LD45059  POINT   -42.12   -115.71   0.0
SO LOCATION  LD55059  POINT    89.60     75.08   0.0
SO LOCATION  LD65059  POINT   128.27     61.00   0.0
SO LOCATION  LD75059  POINT   166.65     47.03   0.0
SO LOCATION  LD85059  POINT   205.32     32.96   0.0

SO LOCATION  LD15032  POINT     0.00      0.00   0.0
SO LOCATION  LD25032  POINT   -14.07    -38.67   0.0
SO LOCATION  LD35032  POINT   -28.04    -77.05   0.0
SO LOCATION  LD45032  POINT   -42.12   -115.71   0.0
SO LOCATION  LD55032  POINT    89.60     75.08   0.0
SO LOCATION  LD65032  POINT   128.27     61.00   0.0
SO LOCATION  LD75032  POINT   166.65     47.03   0.0
SO LOCATION  LD85032  POINT   205.32     32.96   0.0

**SO LOCATION  UNIT3     POINT    95.58      -125.94    0.0

** Source Parameter Cards:
** POINT:   SRCID            QS      HS        TS        VS        DS
**                         (g/s)    (m)       (K)      (m/s)      (m)
SO SRCPARAM   BASE195      1.260    38.1      377.6     19.02      5.79
SO SRCPARAM   BASE295      1.260    38.1      377.6     19.02      5.79
SO SRCPARAM   BASE395      1.260    38.1      377.6     19.02      5.79
SO SRCPARAM   BASE495      1.260    38.1      377.6     19.02      5.79
SO SRCPARAM   BASE595      2.142    38.1      377.6     20.39      5.79
SO SRCPARAM   BASE695      2.142    38.1      377.6     20.39      5.79
SO SRCPARAM   BASE795      2.142    38.1      377.6     20.39      5.79
SO SRCPARAM   BASE895      2.142    38.1      377.6     20.39      5.79

SO SRCPARAM   BASE159      1.260    38.1      377.6     20.51      5.79
SO SRCPARAM   BASE259      1.260    38.1      377.6     20.51      5.79
SO SRCPARAM   BASE359      1.260    38.1      377.6     20.51      5.79
SO SRCPARAM   BASE459      1.260    38.1      377.6     20.51      5.79
SO SRCPARAM   BASE559      2.142    38.1      377.6     21.34      5.79
SO SRCPARAM   BASE659      2.142    38.1      377.6     21.34      5.79
SO SRCPARAM   BASE759      2.142    38.1      377.6     21.34      5.79
SO SRCPARAM   BASE859      2.142    38.1      377.6     21.34      5.79

SO SRCPARAM   BASE132      1.260    38.1      377.6     21.43      5.79
SO SRCPARAM   BASE232      1.260    38.1      377.6     21.43      5.79
SO SRCPARAM   BASE332      1.260    38.1      377.6     21.43      5.79
SO SRCPARAM   BASE432      1.260    38.1      377.6     21.43      5.79
SO SRCPARAM   BASE532      2.142    38.1      377.6     22.34      5.79
SO SRCPARAM   BASE632      2.142    38.1      377.6     22.34      5.79
SO SRCPARAM   BASE732      2.142    38.1      377.6     22.34      5.79
SO SRCPARAM   BASE832      2.142    38.1      377.6     22.34      5.79

SO SRCPARAM   LD17595      1.260    38.1      377.6     15.76      5.79
SO SRCPARAM   LD27595      1.260    38.1      377.6     15.76      5.79
SO SRCPARAM   LD37595      1.260    38.1      377.6     15.76      5.79
SO SRCPARAM   LD47595      1.260    38.1      377.6     15.76      5.79
SO SRCPARAM   LD57595      2.142    38.1      377.6     16.52      5.79
SO SRCPARAM   LD67595      2.142    38.1      377.6     16.52      5.79
SO SRCPARAM   LD77595      2.142    38.1      377.6     16.52      5.79
SO SRCPARAM   LD87595      2.142    38.1      377.6     16.52      5.79

SO SRCPARAM   LD17559      1.260    38.1      377.6     16.79      5.79
SO SRCPARAM   LD27559      1.260    38.1      377.6     16.79      5.79
SO SRCPARAM   LD37559      1.260    38.1      377.6     16.79      5.79
SO SRCPARAM   LD47559      1.260    38.1      377.6     16.79      5.79
SO SRCPARAM   LD57559      2.142    38.1      377.6     16.37      5.79
SO SRCPARAM   LD67559      2.142    38.1      377.6     16.37      5.79
SO SRCPARAM   LD77559      2.142    38.1      377.6     16.37      5.79
SO SRCPARAM   LD87559      2.142    38.1      377.6     16.37      5.79

SO SRCPARAM   LD17532      1.260    38.1      377.6     17.28      5.79
SO SRCPARAM   LD27532      1.260    38.1      377.6     17.28      5.79
SO SRCPARAM   LD37532      1.260    38.1      377.6     17.28      5.79
SO SRCPARAM   LD47532      1.260    38.1      377.6     17.28      5.79
SO SRCPARAM   LD57532      2.142    38.1      377.6     17.37      5.79
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SO SRCPARAM   LD67532     2.142   38.1     377.6    17.37    5.79
SO SRCPARAM   LD77532     2.142   38.1     377.6    17.37    5.79
SO SRCPARAM   LD87532     2.142   38.1     377.6    17.37    5.79

SO SRCPARAM   LD15095     1.260   38.1     377.6    13.26    5.79
SO SRCPARAM   LD25095     1.260   38.1     377.6    13.26    5.79
SO SRCPARAM   LD35095     1.260   38.1     377.6    13.26    5.79
SO SRCPARAM   LD45095     1.260   38.1     377.6    13.26    5.79
SO SRCPARAM   LD55095     2.142   38.1     377.6    13.66    5.79
SO SRCPARAM   LD65095     2.142   38.1     377.6    13.66    5.79
SO SRCPARAM   LD75095     2.142   38.1     377.6    13.66    5.79
SO SRCPARAM   LD85095     2.142   38.1     377.6    13.66    5.79

SO SRCPARAM   LD15059     1.260   38.1     377.6    13.90    5.79
SO SRCPARAM   LD25059     1.260   38.1     377.6    13.90    5.79
SO SRCPARAM   LD35059     1.260   38.1     377.6    13.90    5.79
SO SRCPARAM   LD45059     1.260   38.1     377.6    13.90    5.79
SO SRCPARAM   LD55059     2.142   38.1     377.6    13.90    5.79
SO SRCPARAM   LD65059     2.142   38.1     377.6    13.90    5.79
SO SRCPARAM   LD75059     2.142   38.1     377.6    13.90    5.79
SO SRCPARAM   LD85059     2.142   38.1     377.6    13.90    5.79

SO SRCPARAM   LD15032     1.260   38.1     377.6    14.20    5.79
SO SRCPARAM   LD25032     1.260   38.1     377.6    14.20    5.79
SO SRCPARAM   LD35032     1.260   38.1     377.6    14.20    5.79
SO SRCPARAM   LD45032     1.260   38.1     377.6    14.20    5.79
SO SRCPARAM   LD55032     2.142   38.1     377.6    14.36    5.79
SO SRCPARAM   LD65032     2.142   38.1     377.6    14.36    5.79
SO SRCPARAM   LD75032     2.142   38.1     377.6    14.36    5.79
SO SRCPARAM   LD85032     2.142   38.1     377.6    14.36    5.79

**SO SRCPARAM   UNIT3     571.775    92.05     408.15    29.90    2.896

SO BUILDHGT BASE132-BASE195    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE132-BASE195    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE132-BASE195    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE132-BASE195    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE132-BASE195    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE132-BASE195    26.21   40.23   40.23   40.23   26.21   26.21
SO BUILDWID BASE132-BASE195    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE132-BASE195    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE132-BASE195    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE132-BASE195    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE132-BASE195    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE132-BASE195    18.55   30.24   30.93   30.69   24.05   23.65

SO BUILDHGT LD15032-LD17595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD15032-LD17595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD15032-LD17595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD15032-LD17595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD15032-LD17595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD15032-LD17595    26.21   40.23   40.23   40.23   26.21   26.21
SO BUILDWID LD15032-LD17595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD15032-LD17595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD15032-LD17595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD15032-LD17595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD15032-LD17595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD15032-LD17595    18.55   30.24   30.93   30.69   24.05   23.65

SO BUILDHGT BASE232-BASE295    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE232-BASE295    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE232-BASE295    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE232-BASE295    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE232-BASE295    26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT BASE232-BASE295    40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDWID BASE232-BASE295    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE232-BASE295    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE232-BASE295    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE232-BASE295    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE232-BASE295    22.66   20.92   18.55   15.61   12.19   26.14
SO BUILDWID BASE232-BASE295    28.62   30.24   22.66   23.71   24.05   23.65

SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT LD25032-LD27595    40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDWID LD25032-LD27595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD25032-LD27595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD25032-LD27595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD25032-LD27595    22.53   20.73   22.53   23.65   24.05   23.71
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SO BUILDWID LD25032-LD27595    22.66   20.92   18.55   15.61   12.19   26.14
SO BUILDWID LD25032-LD27595    28.62   30.24   22.66   23.71   24.05   23.65

SO BUILDHGT BASE332-BASE395    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE332-BASE395    26.21   26.21   26.21   40.23   40.23   40.23
SO BUILDHGT BASE332-BASE395    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE332-BASE395    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE332-BASE395    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE332-BASE395    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE332-BASE395    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE332-BASE395    22.66   20.92   18.55   25.77   22.86   25.77
SO BUILDWID BASE332-BASE395    18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   40.23   40.23   40.23
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD35032-LD37595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD35032-LD37595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD35032-LD37595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD35032-LD37595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD35032-LD37595    22.66   20.92   18.55   25.77   22.86   25.77
SO BUILDWID LD35032-LD37595    18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE432-BASE495    26.21   40.23   40.23   40.23   26.21   26.21
SO BUILDHGT BASE432-BASE495    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE432-BASE495    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE432-BASE495    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID BASE432-BASE495    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID BASE432-BASE495    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID BASE432-BASE495    22.66   29.85   28.62   26.14   12.19   15.61
SO BUILDWID BASE432-BASE495    18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   40.23   40.23   40.23   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD45032-LD47595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD45032-LD47595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD45032-LD47595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD45032-LD47595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD45032-LD47595    22.66   29.85   28.62   26.14   12.19   15.61
SO BUILDWID LD45032-LD47595    18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT BASE532-BASE595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE532-BASE595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE532-BASE595    15.61   12.19   15.61   18.55   24.05   23.71
SO BUILDWID BASE532-BASE595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE532-BASE595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE532-BASE595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE532-BASE595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE532-BASE595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD55032-LD57595    15.61   12.19   15.61   18.55   24.05   23.71
SO BUILDWID LD55032-LD57595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD55032-LD57595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD55032-LD57595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
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SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE632-BASE695	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE632-BASE695	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE632-BASE695	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE632-BASE695	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE632-BASE695	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD65032-LD67595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD65032-LD67595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD65032-LD67595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD65032-LD67595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD65032-LD67595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE732-BASE795	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE732-BASE795	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE732-BASE795	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE732-BASE795	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE732-BASE795	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD75032-LD77595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD75032-LD77595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD75032-LD77595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD75032-LD77595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD75032-LD77595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE832-BASE895	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE832-BASE895	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE832-BASE895	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE832-BASE895	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE832-BASE895	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE832-BASE895	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD85032-LD87595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD85032-LD87595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD85032-LD87595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD85032-LD87595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD85032-LD87595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD85032-LD87595	23.65	24.05	23.71	22.66	20.92	18.55
**SO BUILDHGT UNIT3	0.00	0.00	0.00	40.23	40.23	40.23
**SO BUILDHGT UNIT3	40.23	40.23	40.23	40.23	40.23	40.23
**SO BUILDHGT UNIT3	40.23	40.23	40.23	40.23	40.23	40.23
**SO BUILDHGT UNIT3	0.00	0.00	0.00	40.23	40.23	40.23
**SO BUILDHGT UNIT3	40.23	40.23	40.23	40.23	40.23	40.23

```
**SO BUILDHGT UNIT3            40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDWID UNIT3             0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3            30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3            28.62   30.24   30.67   30.67   29.51   27.44
**SO BUILDWID UNIT3             0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3            30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3            28.62   30.24   30.67   30.67   29.51   27.44

SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195     202.        10
RE DISCPOLR BASE195     300.        10
RE DISCPOLR BASE195     400.        10
RE DISCPOLR BASE195     211.        20
RE DISCPOLR BASE195     300.        20
RE DISCPOLR BASE195     400.        20
RE DISCPOLR BASE195     229.        30
RE DISCPOLR BASE195     300.        30
RE DISCPOLR BASE195     400.        30
RE DISCPOLR BASE195     257.        40
RE DISCPOLR BASE195     300.        40
RE DISCPOLR BASE195     400.        40
RE DISCPOLR BASE195     305.        50
RE DISCPOLR BASE195     400.        50
RE DISCPOLR BASE195     296.        60
RE DISCPOLR BASE195     300.        60
RE DISCPOLR BASE195     400.        60
RE DISCPOLR BASE195     274.        70
RE DISCPOLR BASE195     300.        70
RE DISCPOLR BASE195     400.        70
RE DISCPOLR BASE195     262.        80
RE DISCPOLR BASE195     300.        80
RE DISCPOLR BASE195     400.        80
RE DISCPOLR BASE195     259.        90
RE DISCPOLR BASE195     300.        90
RE DISCPOLR BASE195     400.        90
RE DISCPOLR BASE195     264.       100
RE DISCPOLR BASE195     300.       100
RE DISCPOLR BASE195     400.       100
RE DISCPOLR BASE195     275.       110
RE DISCPOLR BASE195     300.       110
RE DISCPOLR BASE195     400.       110
RE DISCPOLR BASE195     292.       120
RE DISCPOLR BASE195     300.       120
RE DISCPOLR BASE195     400.       120
RE DISCPOLR BASE195     317.       130
RE DISCPOLR BASE195     400.       130
RE DISCPOLR BASE195     351.       140
RE DISCPOLR BASE195     400.       140
RE DISCPOLR BASE195     404.       150
RE DISCPOLR BASE195     494.       160
RE DISCPOLR BASE195     515.       170
RE DISCPOLR BASE195     474.       180
RE DISCPOLR BASE195     451.       190
RE DISCPOLR BASE195     354.       190
RE DISCPOLR BASE195     289.       190
RE DISCPOLR BASE195     284.       200
RE DISCPOLR BASE195     300.       200
RE DISCPOLR BASE195     400.       200
RE DISCPOLR BASE195     289.       210
RE DISCPOLR BASE195     300.       210
RE DISCPOLR BASE195     400.       210
RE DISCPOLR BASE195     303.       220
RE DISCPOLR BASE195     400.       220
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RE DISCPOLR BASE195       296.        230
RE DISCPOLR BASE195       300.        230
RE DISCPOLR BASE195       400.        230
RE DISCPOLR BASE195       230.        240
RE DISCPOLR BASE195       300.        240
RE DISCPOLR BASE195       400.        240
RE DISCPOLR BASE195       274.        250
RE DISCPOLR BASE195       300.        250
RE DISCPOLR BASE195       400.        250
RE DISCPOLR BASE195       352.        260
RE DISCPOLR BASE195       400.        260
RE DISCPOLR BASE195       389.        270
RE DISCPOLR BASE195       400.        270
RE DISCPOLR BASE195       394.        280
RE DISCPOLR BASE195       400.        280
RE DISCPOLR BASE195       412.        290
RE DISCPOLR BASE195       410.        300
RE DISCPOLR BASE195       316.        310
RE DISCPOLR BASE195       400.        310
RE DISCPOLR BASE195       264.        320
RE DISCPOLR BASE195       300.        320
RE DISCPOLR BASE195       400.        320
RE DISCPOLR BASE195       233.        330
RE DISCPOLR BASE195       300.        330
RE DISCPOLR BASE195       400.        330
RE DISCPOLR BASE195       214.        340
RE DISCPOLR BASE195       300.        340
RE DISCPOLR BASE195       400.        340
RE DISCPOLR BASE195       203.        350
RE DISCPOLR BASE195       300.        350
RE DISCPOLR BASE195       400.        350
RE DISCPOLR BASE195       200.        360
RE DISCPOLR BASE195       200.        360
RE DISCPOLR BASE195       300.        360
RE DISCPOLR BASE195       400.        360
RE FINISHED
ME STARTING

ME INPUTFIL D:\MET\ORLPRL87.BIN                     UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987           ORLANDO
ME UAIRDATA  12842  1987           RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :CO_OILWO.087
ISCST3 OUTPUT FILE NUMBER 2 :CO_OILWO.088
ISCST3 OUTPUT FILE NUMBER 3 :CO_OILWO.089
ISCST3 OUTPUT FILE NUMBER 4 :CO_OILWO.090
ISCST3 OUTPUT FILE NUMBER 5 :CO_OILWO.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (future)4/18/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 removed, Unit 3 not operating

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	BASE95				
HIGH 8-Hour					
	1987	22.517	90.	300.	87033116
	1988	25.565	60.	400.	88041216
	1989	18.677	100.	300.	89022324
	1990	14.607	320.	300.	90101116
	1991	33.256	80.	400.	91021516
HSH 8-Hour					
	1987	16.519	240.	300.	87032316
	1988	15.741	90.	400.	88021216
	1989	13.587	100.	300.	89012308
	1990	12.257	240.	230.	90110216
	1991	17.094	90.	400.	91021516
HIGH 1-Hour					
	1987	55.740	240.	300.	87030612
	1988	92.689	80.	300.	88061014
	1989	54.212	230.	900.	89081211
	1990	62.694	340.	214.	90031711
	1991	95.594	80.	400.	91021515
HSH 1-Hour					
	1987	41.066	80.	400.	87020817
	1988	63.737	70.	400.	88031013
	1989	39.281	70.	400.	89051015
	1990	42.718	350.	203.	90101109
	1991	89.856	80.	400.	91021511
SOURCE GROUP ID:	BASE59				
HIGH 8-Hour					
	1987	23.050	90.	300.	87033116
	1988	24.702	60.	400.	88041216
	1989	19.159	100.	300.	89022324
	1990	13.107	10.	300.	90031716
	1991	32.843	80.	400.	91021516
HSH 8-Hour					
	1987	16.047	240.	300.	87032316
	1988	16.026	90.	400.	88021216
	1989	11.950	100.	300.	89012308
	1990	11.004	350.	203.	90101116
	1991	16.807	90.	400.	91021516
HIGH 1-Hour					
	1987	54.826	240.	300.	87030612
	1988	91.722	80.	300.	88061014
	1989	58.222	230.	900.	89081211
	1990	62.982	340.	214.	90031711
	1991	96.573	80.	400.	91021515
HSH 1-Hour					
	1987	42.350	80.	400.	87020817
	1988	63.735	80.	400.	88061014
	1989	40.496	70.	400.	89051015
	1990	42.784	350.	203.	90031712
	1991	89.849	80.	400.	91021511
SOURCE GROUP ID:	BASE32				
HIGH 8-Hour					
	1987	23.184	90.	300.	87033116
	1988	23.662	60.	400.	88041216
	1989	19.221	100.	300.	89022324
	1990	12.931	10.	300.	90031716
	1991	31.805	80.	400.	91021516
HSH 8-Hour					
	1987	15.755	60.	400.	87030916
	1988	16.154	90.	400.	88021216
	1989	11.933	100.	300.	89012308
	1990	11.064	350.	203.	90101116
	1991	16.412	90.	400.	91021516
HIGH 1-Hour					
	1987	56.629	70.	1100.	87090514
	1988	88.433	80.	300.	88061014
	1989	60.947	230.	900.	89081211
	1990	62.692	340.	214.	90031711

	1991	95.220	80.	400.	91021515
HSH 1-Hour					
	1987	42.716	80.	400.	87020817
	1988	62.672	80.	400.	88061014
	1989	40.897	70.	400.	89051015
	1990	41.515	350.	203.	90031712
	1991	87.702	80.	400.	91021511
SOURCE GROUP ID:	LD7595				
HIGH 8-Hour					
	1987	28.025	90.	300.	87033116
	1988	30.944	60.	400.	88041216
	1989	20.148	100.	300.	89022324
	1990	22.893	240.	230.	90030816
	1991	37.761	80.	400.	91021516
HSH 8-Hour					
	1987	18.933	240.	300.	87032316
	1988	18.103	90.	400.	88021216
	1989	13.797	100.	300.	89012308
	1990	15.784	240.	230.	90110216
	1991	18.847	90.	400.	91021516
HIGH 1-Hour					
	1987	62.318	80.	400.	87040318
	1988	104.132	80.	300.	88061014
	1989	66.168	90.	300.	89040715
	1990	79.423	90.	259.	90102515
	1991	102.820	90.	300.	91021514
HSH 1-Hour					
	1987	53.341	320.	264.	87032412
	1988	72.129	70.	400.	88031013
	1989	50.027	90.	300.	89010317
	1990	53.636	320.	264.	90031511
	1991	96.581	80.	400.	91021511
SOURCE GROUP ID:	LD7559				
HIGH 8-Hour					
	1987	28.932	90.	300.	87033116
	1988	30.974	60.	400.	88041216
	1989	20.744	100.	300.	89022324
	1990	20.343	240.	230.	90030816
	1991	38.425	80.	400.	91021516
HSH 8-Hour					
	1987	18.490	240.	300.	87032316
	1988	18.421	90.	400.	88040716
	1989	14.030	100.	300.	89012308
	1990	15.408	240.	230.	90110216
	1991	18.968	90.	400.	91021516
HIGH 1-Hour					
	1987	63.646	80.	400.	87040318
	1988	106.211	80.	300.	88061014
	1989	68.142	90.	300.	89040715
	1990	81.681	90.	259.	90102515
	1991	105.272	90.	300.	91021514
HSH 1-Hour					
	1987	50.503	320.	264.	87032412
	1988	72.995	70.	400.	88031013
	1989	51.672	90.	300.	89010317
	1990	53.172	90.	300.	90102515
	1991	98.260	80.	400.	91021511
SOURCE GROUP ID:	LD7532				
HIGH 8-Hour					
	1987	26.251	90.	300.	87033116
	1988	29.369	60.	400.	88041216
	1989	19.562	100.	300.	89022324
	1990	19.102	240.	230.	90030816
	1991	37.400	80.	400.	91021516
HSH 8-Hour					
	1987	18.101	240.	300.	87032316
	1988	17.421	90.	400.	88021216
	1989	13.992	100.	300.	89012308
	1990	14.650	240.	230.	90110216
	1991	18.716	90.	400.	91021516
HIGH 1-Hour					
	1987	60.763	80.	400.	87040318
	1988	103.656	80.	300.	88061014
	1989	62.397	90.	300.	89040715
	1990	75.462	90.	259.	90102515
	1991	100.201	90.	300.	91021514
HSH 1-Hour					
	1987	48.862	320.	264.	87032412
	1988	71.357	70.	400.	88031013
	1989	46.388	90.	300.	89010317
	1990	49.313	320.	264.	90031511
	1991	97.007	80.	400.	91021511

SOURCE GROUP ID: LD5095					
HIGH 8-Hour					
	1987	57.235	90.	300.	87033116
	1988	46.811	60.	400.	88041216
	1989	40.205	100.	300.	89022324
	1990	30.321	240.	230.	90030816
	1991	58.635	80.	400.	91021516
HSH 8-Hour					
	1987	27.732	60.	300.	87030816
	1988	31.292	90.	400.	88040716
	1989	22.495	100.	300.	89012308
	1990	23.847	90.	300.	90111016
	1991	29.994	90.	300.	91021524
HIGH 1-Hour					
	1987	105.729	80.	400.	87040318
	1988	167.036	80.	300.	88061014
	1989	127.684	90.	300.	89040715
	1990	149.182	90.	259.	90102515
	1991	177.541	90.	300.	91021514
HSH 1-Hour					
	1987	89.982	100.	400.	87033115
	1988	124.719	80.	262.	88031015
	1989	102.247	90.	300.	89010317
	1990	92.847	90.	300.	90102515
	1991	148.475	80.	400.	91021511
SOURCE GROUP ID: LD5059					
HIGH 8-Hour					
	1987	56.494	90.	300.	87033116
	1988	46.808	60.	400.	88041216
	1989	39.737	100.	300.	89022324
	1990	29.197	240.	230.	90030816
	1991	58.982	80.	400.	91021516
HSH 8-Hour					
	1987	27.558	60.	400.	87030916
	1988	31.173	90.	400.	88040716
	1989	22.299	100.	400.	89022224
	1990	23.532	90.	300.	90111016
	1991	29.797	90.	300.	91021524
HIGH 1-Hour					
	1987	105.869	80.	400.	87040318
	1988	168.271	80.	300.	88061014
	1989	126.646	90.	300.	89040715
	1990	148.320	90.	259.	90102515
	1991	177.753	90.	300.	91021514
HSH 1-Hour					
	1987	89.778	100.	400.	87040323
	1988	124.240	80.	262.	88031015
	1989	100.922	90.	300.	89010317
	1990	92.677	90.	300.	90102515
	1991	149.947	80.	400.	91021511
SOURCE GROUP ID: LD5032					
HIGH 8-Hour					
	1987	54.309	90.	300.	87033116
	1988	46.381	60.	400.	88041216
	1989	38.293	100.	300.	89022324
	1990	28.599	240.	230.	90030816
	1991	58.787	80.	400.	91021516
HSH 8-Hour					
	1987	27.095	60.	400.	87030916
	1988	30.467	90.	400.	88040716
	1989	21.929	100.	400.	89022224
	1990	22.847	90.	300.	90102516
	1991	29.018	90.	300.	91021524
HIGH 1-Hour					
	1987	104.684	80.	400.	87040318
	1988	168.182	80.	300.	88061014
	1989	122.876	90.	300.	89040715
	1990	144.551	90.	259.	90102515
	1991	175.579	90.	300.	91021514
HSH 1-Hour					
	1987	87.804	100.	400.	87040323
	1988	121.532	80.	262.	88031015
	1989	97.009	90.	300.	89010317
	1990	91.011	90.	300.	90102515
	1991	150.599	80.	400.	91021511

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (future)4/18/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 removed, Unit 3 not operating
CO MODELOPT  DFAULT CONC RURAL NOCMPL
CO AVERTIME  8  1
CO POLLUTID  CO
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS             YS              ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN    POINT   0.00       0.00     0.00
**  HRSG STACK LETTER CODE
** ------------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP        XS            YS        ZS
**   UTM                        (m)           (m)       (m)
SO LOCATION  BASE195  POINT     0.00         0.00     0.0
SO LOCATION  BASE295  POINT   -14.07       -38.67     0.0
SO LOCATION  BASE395  POINT   -28.04       -77.05     0.0
SO LOCATION  BASE495  POINT   -42.12      -115.71     0.0
SO LOCATION  BASE595  POINT    89.60        75.08     0.0
SO LOCATION  BASE695  POINT   128.27        61.00     0.0
SO LOCATION  BASE795  POINT   166.65        47.03     0.0
SO LOCATION  BASE895  POINT   205.32        32.96     0.0

SO LOCATION  BASE159  POINT     0.00         0.00     0.0
SO LOCATION  BASE259  POINT   -14.07       -38.67     0.0
SO LOCATION  BASE359  POINT   -28.04       -77.05     0.0
SO LOCATION  BASE459  POINT   -42.12      -115.71     0.0
SO LOCATION  BASE559  POINT    89.60        75.08     0.0
SO LOCATION  BASE659  POINT   128.27        61.00     0.0
SO LOCATION  BASE759  POINT   166.65        47.03     0.0
SO LOCATION  BASE859  POINT   205.32        32.96     0.0

SO LOCATION  BASE132  POINT     0.00         0.00     0.0
SO LOCATION  BASE232  POINT   -14.07       -38.67     0.0
SO LOCATION  BASE332  POINT   -28.04       -77.05     0.0
SO LOCATION  BASE432  POINT   -42.12      -115.71     0.0
SO LOCATION  BASE532  POINT    89.60        75.08     0.0
SO LOCATION  BASE632  POINT   128.27        61.00     0.0
SO LOCATION  BASE732  POINT   166.65        47.03     0.0
SO LOCATION  BASE832  POINT   205.32        32.96     0.0

SO LOCATION  LD17595  POINT     0.00         0.00     0.0
SO LOCATION  LD27595  POINT   -14.07       -38.67     0.0
SO LOCATION  LD37595  POINT   -28.04       -77.05     0.0
SO LOCATION  LD47595  POINT   -42.12      -115.71     0.0
SO LOCATION  LD57595  POINT    89.60        75.08     0.0
SO LOCATION  LD67595  POINT   128.27        61.00     0.0
SO LOCATION  LD77595  POINT   166.65        47.03     0.0
SO LOCATION  LD87595  POINT   205.32        32.96     0.0

SO LOCATION  LD17559  POINT     0.00         0.00     0.0
SO LOCATION  LD27559  POINT   -14.07       -38.67     0.0
SO LOCATION  LD37559  POINT   -28.04       -77.05     0.0
SO LOCATION  LD47559  POINT   -42.12      -115.71     0.0
SO LOCATION  LD57559  POINT    89.60        75.08     0.0
SO LOCATION  LD67559  POINT   128.27        61.00     0.0
SO LOCATION  LD77559  POINT   166.65        47.03     0.0
SO LOCATION  LD87559  POINT   205.32        32.96     0.0

SO LOCATION  LD17532  POINT     0.00         0.00     0.0
SO LOCATION  LD27532  POINT   -14.07       -38.67     0.0
SO LOCATION  LD37532  POINT   -28.04       -77.05     0.0
SO LOCATION  LD47532  POINT   -42.12      -115.71     0.0
SO LOCATION  LD57532  POINT    89.60        75.08     0.0
SO LOCATION  LD67532  POINT   128.27        61.00     0.0
SO LOCATION  LD77532  POINT   166.65        47.03     0.0
SO LOCATION  LD87532  POINT   205.32        32.96     0.0
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SO LOCATION  LD15095  POINT     0.00       0.00     0.0
SO LOCATION  LD25095  POINT   -14.07     -38.67     0.0
SO LOCATION  LD35095  POINT   -28.04     -77.05     0.0
SO LOCATION  LD45095  POINT   -42.12    -115.71     0.0
SO LOCATION  LD55095  POINT    89.60      75.08     0.0
SO LOCATION  LD65095  POINT   128.27      61.00     0.0
SO LOCATION  LD75095  POINT   166.65      47.03     0.0
SO LOCATION  LD85095  POINT   205.32      32.96     0.0

SO LOCATION  LD15059  POINT     0.00       0.00     0.0
SO LOCATION  LD25059  POINT   -14.07     -38.67     0.0
SO LOCATION  LD35059  POINT   -28.04     -77.05     0.0
SO LOCATION  LD45059  POINT   -42.12    -115.71     0.0
SO LOCATION  LD55059  POINT    89.60      75.08     0.0
SO LOCATION  LD65059  POINT   128.27      61.00     0.0
SO LOCATION  LD75059  POINT   166.65      47.03     0.0
SO LOCATION  LD85059  POINT   205.32      32.96     0.0

SO LOCATION  LD15032  POINT     0.00       0.00     0.0
SO LOCATION  LD25032  POINT   -14.07     -38.67     0.0
SO LOCATION  LD35032  POINT   -28.04     -77.05     0.0
SO LOCATION  LD45032  POINT   -42.12    -115.71     0.0
SO LOCATION  LD55032  POINT    89.60      75.08     0.0
SO LOCATION  LD65032  POINT   128.27      61.00     0.0
SO LOCATION  LD75032  POINT   166.65      47.03     0.0
SO LOCATION  LD85032  POINT   205.32      32.96     0.0

**SO LOCATION  UNIT3     POINT     95.58      -125.94     0.0

** Source Parameter Cards:
** POINT:    SRCID            QS       HS       TS        VS        DS
**                           (g/s)    (m)      (K)       (m/s)     (m)
SO SRCPARAM    BASE195       4.889    38.1     377.6     19.02      5.79
SO SRCPARAM    BASE295       4.889    38.1     377.6     19.02      5.79
SO SRCPARAM    BASE395       4.889    38.1     377.6     19.02      5.79
SO SRCPARAM    BASE495       4.889    38.1     377.6     19.02      5.79
SO SRCPARAM    BASE595       8.417    38.1     377.6     20.39      5.79
SO SRCPARAM    BASE695       8.417    38.1     377.6     20.39      5.79
SO SRCPARAM    BASE795       8.417    38.1     377.6     20.39      5.79
SO SRCPARAM    BASE895       8.417    38.1     377.6     20.39      5.79

SO SRCPARAM    BASE159       5.367    38.1     377.6     20.51      5.79
SO SRCPARAM    BASE259       5.367    38.1     377.6     20.51      5.79
SO SRCPARAM    BASE359       5.367    38.1     377.6     20.51      5.79
SO SRCPARAM    BASE459       5.367    38.1     377.6     20.51      5.79
SO SRCPARAM    BASE559       9.021    38.1     377.6     21.34      5.79
SO SRCPARAM    BASE659       9.021    38.1     377.6     21.34      5.79
SO SRCPARAM    BASE759       9.021    38.1     377.6     21.34      5.79
SO SRCPARAM    BASE859       9.021    38.1     377.6     21.34      5.79

SO SRCPARAM    BASE132       5.657    38.1     377.6     21.43      5.79
SO SRCPARAM    BASE232       5.657    38.1     377.6     21.43      5.79
SO SRCPARAM    BASE332       5.657    38.1     377.6     21.43      5.79
SO SRCPARAM    BASE432       5.657    38.1     377.6     21.43      5.79
SO SRCPARAM    BASE532       9.462    38.1     377.6     22.34      5.79
SO SRCPARAM    BASE632       9.462    38.1     377.6     22.34      5.79
SO SRCPARAM    BASE732       9.462    38.1     377.6     22.34      5.79
SO SRCPARAM    BASE832       9.462    38.1     377.6     22.34      5.79

SO SRCPARAM    LD17595       4.057    38.1     377.6     15.76      5.79
SO SRCPARAM    LD27595       4.057    38.1     377.6     15.76      5.79
SO SRCPARAM    LD37595       4.057    38.1     377.6     15.76      5.79
SO SRCPARAM    LD47595       4.057    38.1     377.6     15.76      5.79
SO SRCPARAM    LD57595       6.854    38.1     377.6     16.52      5.79
SO SRCPARAM    LD67595       6.854    38.1     377.6     16.52      5.79
SO SRCPARAM    LD77595       6.854    38.1     377.6     16.52      5.79
SO SRCPARAM    LD87595       6.854    38.1     377.6     16.52      5.79

SO SRCPARAM    LD17559       4.397    38.1     377.6     16.79      5.79
SO SRCPARAM    LD27559       4.397    38.1     377.6     16.79      5.79
SO SRCPARAM    LD37559       4.397    38.1     377.6     16.79      5.79
SO SRCPARAM    LD47559       4.397    38.1     377.6     16.79      5.79
SO SRCPARAM    LD57559       6.905    38.1     377.6     16.37      5.79
SO SRCPARAM    LD67559       6.905    38.1     377.6     16.37      5.79
SO SRCPARAM    LD77559       6.905    38.1     377.6     16.37      5.79
SO SRCPARAM    LD87559       6.905    38.1     377.6     16.37      5.79

SO SRCPARAM    LD17532       4.561    38.1     377.6     17.28      5.79
SO SRCPARAM    LD27532       4.561    38.1     377.6     17.28      5.79
SO SRCPARAM    LD37532       4.561    38.1     377.6     17.28      5.79
SO SRCPARAM    LD47532       4.561    38.1     377.6     17.28      5.79
SO SRCPARAM    LD57532       7.320    38.1     377.6     17.37      5.79
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SO SRCPARAM   LD67532      7.320   38.1      377.6     17.37     5.79
SO SRCPARAM   LD77532      7.320   38.1      377.6     17.37     5.79
SO SRCPARAM   LD87532      7.320   38.1      377.6     17.37     5.79

SO SRCPARAM   LD15095     3.427    38.1      377.6     13.26     5.79
SO SRCPARAM   LD25095     3.427    38.1      377.6     13.26     5.79
SO SRCPARAM   LD35095     3.427    38.1      377.6     13.26     5.79
SO SRCPARAM   LD45095     3.427    38.1      377.6     13.26     5.79
SO SRCPARAM   LD55095     8.694    38.1      377.6     13.66     5.79
SO SRCPARAM   LD65095     8.694    38.1      377.6     13.66     5.79
SO SRCPARAM   LD75095     8.694    38.1      377.6     13.66     5.79
SO SRCPARAM   LD85095     8.694    38.1      377.6     13.66     5.79

SO SRCPARAM   LD15059     3.654    38.1      377.6     13.90     5.79
SO SRCPARAM   LD25059     3.654    38.1      377.6     13.90     5.79
SO SRCPARAM   LD35059     3.654    38.1      377.6     13.90     5.79
SO SRCPARAM   LD45059     3.654    38.1      377.6     13.90     5.79
SO SRCPARAM   LD55059     8.933    38.1      377.6     13.90     5.79
SO SRCPARAM   LD65059     8.933    38.1      377.6     13.90     5.79
SO SRCPARAM   LD75059     8.933    38.1      377.6     13.90     5.79
SO SRCPARAM   LD85059     8.933    38.1      377.6     13.90     5.79

SO SRCPARAM   LD15032     3.767    38.1      377.6     14.20     5.79
SO SRCPARAM   LD25032     3.767    38.1      377.6     14.20     5.79
SO SRCPARAM   LD35032     3.767    38.1      377.6     14.20     5.79
SO SRCPARAM   LD45032     3.767    38.1      377.6     14.20     5.79
SO SRCPARAM   LD55032     9.273    38.1      377.6     14.36     5.79
SO SRCPARAM   LD65032     9.273    38.1      377.6     14.36     5.79
SO SRCPARAM   LD75032     9.273    38.1      377.6     14.36     5.79
SO SRCPARAM   LD85032     9.273    38.1      377.6     14.36     5.79

**SO SRCPARAM   UNIT3      571.775    92.05     408.15    29.90    2.896

SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE132-BASE195    26.21    40.23    40.23    40.23    26.21    26.21
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE132-BASE195    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE132-BASE195    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE132-BASE195    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE132-BASE195    18.55    30.24    30.93    30.69    24.05    23.65

SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    40.23    40.23    40.23    26.21    26.21
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD15032-LD17595    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID LD15032-LD17595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD15032-LD17595    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD15032-LD17595    18.55    30.24    30.93    30.69    24.05    23.65

SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT BASE232-BASE295    26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDHGT BASE232-BASE295    40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID BASE232-BASE295    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID BASE232-BASE295    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID BASE232-BASE295    22.66    20.92    18.55    15.61    12.19    26.14
SO BUILDWID BASE232-BASE295    28.62    30.24    22.66    23.71    24.05    23.65

SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD25032-LD27595    26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDHGT LD25032-LD27595    40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDWID LD25032-LD27595    22.53    20.73    22.53    23.65    24.05    23.71
SO BUILDWID LD25032-LD27595    22.66    20.92    18.55    15.61    12.19    15.61
SO BUILDWID LD25032-LD27595    18.55    20.92    22.66    23.71    24.05    23.65
SO BUILDWID LD25032-LD27595    22.53    20.73    22.53    23.65    24.05    23.71
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SO BUILDWID LD25032-LD27595	22.66	20.92	18.55	15.61	12.19	26.14
SO BUILDWID LD25032-LD27595	28.62	30.24	22.66	23.71	24.05	23.65
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	40.23	40.23	40.23
SO BUILDHGT BASE332-BASE395	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE332-BASE395	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID BASE332-BASE395	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE332-BASE395	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE332-BASE395	22.66	20.92	18.55	25.77	22.86	25.77
SO BUILDWID BASE332-BASE395	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	40.23	40.23	40.23
SO BUILDHGT LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD35032-LD37595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD35032-LD37595	22.66	20.92	18.55	25.77	22.86	25.77
SO BUILDWID LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	40.23	40.23	40.23	26.21	26.21
SO BUILDHGT BASE432-BASE495	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE432-BASE495	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID BASE432-BASE495	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID BASE432-BASE495	22.66	29.85	28.62	26.14	12.19	15.61
SO BUILDWID BASE432-BASE495	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	40.23	40.23	40.23	26.21	26.21
SO BUILDHGT LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID LD45032-LD47595	22.66	29.85	28.62	26.14	12.19	15.61
SO BUILDWID LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT BASE532-BASE595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID BASE532-BASE595	15.61	12.19	15.61	18.55	24.05	23.71
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID BASE532-BASE595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID BASE532-BASE595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID BASE532-BASE595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID LD55032-LD57595	15.61	12.19	15.61	18.55	24.05	23.71
SO BUILDWID LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT BASE632-BASE695	26.21	26.21	26.21	26.21	26.21	26.21

```
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE632-BASE695    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE632-BASE695    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE632-BASE695    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE632-BASE695    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE632-BASE695    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD65032-LD67595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD65032-LD67595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE732-BASE795    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE732-BASE795    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE732-BASE795    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE732-BASE795    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE732-BASE795    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE732-BASE795    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD75032-LD77595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD75032-LD77595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD75032-LD77595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD75032-LD77595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT BASE832-BASE895    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID BASE832-BASE895    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE832-BASE895    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID BASE832-BASE895    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID BASE832-BASE895    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID BASE832-BASE895    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD85032-LD87595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD85032-LD87595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD85032-LD87595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD85032-LD87595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595    23.65   24.05   23.71   22.66   20.92   18.55

**SO BUILDHGT UNIT3             0.00    0.00    0.00   40.23   40.23   40.23
**SO BUILDHGT UNIT3            40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDHGT UNIT3            40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDHGT UNIT3             0.00    0.00    0.00   40.23   40.23   40.23
**SO BUILDHGT UNIT3            40.23   40.23   40.23   40.23   40.23   40.23
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**SO BUILDHGT UNIT3             40.23   40.23   40.23   40.23   40.23   40.23
**SO BUILDWID UNIT3              0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3             30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3             28.62   30.24   30.67   30.67   29.51   27.44
**SO BUILDWID UNIT3              0.00    0.00    0.00   27.44   29.51   30.67
**SO BUILDWID UNIT3             30.67   30.24   28.62   26.14   22.86   26.14
**SO BUILDWID UNIT3             28.62   30.24   30.67   30.67   29.51   27.44


SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE195 BASE295 BASE395 BASE495 BASE595 BASE695 BASE795 BASE895
SO SRCGROUP BASE59 BASE159 BASE259 BASE359 BASE459 BASE559 BASE659 BASE759 BASE859
SO SRCGROUP BASE32 BASE132 BASE232 BASE332 BASE432 BASE532 BASE632 BASE732 BASE832
SO SRCGROUP LD7595 LD17595 LD27595 LD37595 LD47595 LD57595 LD67595 LD77595 LD87595
SO SRCGROUP LD7559 LD17559 LD27559 LD37559 LD47559 LD57559 LD67559 LD77559 LD87559
SO SRCGROUP LD7532 LD17532 LD27532 LD37532 LD47532 LD57532 LD67532 LD77532 LD87532
SO SRCGROUP LD5095 LD15095 LD25095 LD35095 LD45095 LD55095 LD65095 LD75095 LD85095
SO SRCGROUP LD5059 LD15059 LD25059 LD35059 LD45059 LD55059 LD65059 LD75059 LD85059
SO SRCGROUP LD5032 LD15032 LD25032 LD35032 LD45032 LD55032 LD65032 LD75032 LD85032
**SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 7000
RE GRIDPOLR POL DIST   10000  15000  20000 25000 30000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.        10
RE DISCPOLR BASE195      300.        10
RE DISCPOLR BASE195      400.        10
RE DISCPOLR BASE195      211.        20
RE DISCPOLR BASE195      300.        20
RE DISCPOLR BASE195      400.        20
RE DISCPOLR BASE195      229.        30
RE DISCPOLR BASE195      300.        30
RE DISCPOLR BASE195      400.        30
RE DISCPOLR BASE195      257.        40
RE DISCPOLR BASE195      300.        40
RE DISCPOLR BASE195      400.        40
RE DISCPOLR BASE195      305.        50
RE DISCPOLR BASE195      400.        50
RE DISCPOLR BASE195      296.        60
RE DISCPOLR BASE195      300.        60
RE DISCPOLR BASE195      400.        60
RE DISCPOLR BASE195      274.        70
RE DISCPOLR BASE195      300.        70
RE DISCPOLR BASE195      400.        70
RE DISCPOLR BASE195      262.        80
RE DISCPOLR BASE195      300.        80
RE DISCPOLR BASE195      400.        80
RE DISCPOLR BASE195      259.        90
RE DISCPOLR BASE195      300.        90
RE DISCPOLR BASE195      400.        90
RE DISCPOLR BASE195      264.       100
RE DISCPOLR BASE195      300.       100
RE DISCPOLR BASE195      400.       100
RE DISCPOLR BASE195      275.       110
RE DISCPOLR BASE195      300.       110
RE DISCPOLR BASE195      400.       110
RE DISCPOLR BASE195      292.       120
RE DISCPOLR BASE195      300.       120
RE DISCPOLR BASE195      400.       120
RE DISCPOLR BASE195      317.       130
RE DISCPOLR BASE195      400.       130
RE DISCPOLR BASE195      351.       140
RE DISCPOLR BASE195      400.       140
RE DISCPOLR BASE195      404.       150
RE DISCPOLR BASE195      494.       160
RE DISCPOLR BASE195      515.       170
RE DISCPOLR BASE195      474.       180
RE DISCPOLR BASE195      451.       190
RE DISCPOLR BASE195      354.       190
RE DISCPOLR BASE195      289.       190
RE DISCPOLR BASE195      284.       200
RE DISCPOLR BASE195      300.       200
RE DISCPOLR BASE195      400.       200
RE DISCPOLR BASE195      289.       210
RE DISCPOLR BASE195      300.       210
RE DISCPOLR BASE195      400.       210
RE DISCPOLR BASE195      303.       220
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RE DISCPOLR BASE195        400.        220
RE DISCPOLR BASE195        296.        230
RE DISCPOLR BASE195        300.        230
RE DISCPOLR BASE195        400.        230
RE DISCPOLR BASE195        230.        240
RE DISCPOLR BASE195        300.        240
RE DISCPOLR BASE195        400.        240
RE DISCPOLR BASE195        274.        250
RE DISCPOLR BASE195        300.        250
RE DISCPOLR BASE195        400.        250
RE DISCPOLR BASE195        352.        260
RE DISCPOLR BASE195        400.        260
RE DISCPOLR BASE195        389.        270
RE DISCPOLR BASE195        400.        270
RE DISCPOLR BASE195        394.        280
RE DISCPOLR BASE195        400.        280
RE DISCPOLR BASE195        412.        290
RE DISCPOLR BASE195        410.        300
RE DISCPOLR BASE195        316.        310
RE DISCPOLR BASE195        400.        310
RE DISCPOLR BASE195        264.        320
RE DISCPOLR BASE195        300.        320
RE DISCPOLR BASE195        400.        320
RE DISCPOLR BASE195        233.        330
RE DISCPOLR BASE195        300.        330
RE DISCPOLR BASE195        400.        330
RE DISCPOLR BASE195        214.        340
RE DISCPOLR BASE195        300.        340
RE DISCPOLR BASE195        400.        340
RE DISCPOLR BASE195        203.        350
RE DISCPOLR BASE195        300.        350
RE DISCPOLR BASE195        400.        350
RE DISCPOLR BASE195        200.        360
RE DISCPOLR BASE195        200.        360
RE DISCPOLR BASE195        300.        360
RE DISCPOLR BASE195        400.        360
RE FINISHED
ME STARTING

ME INPUTFIL D:\MET\ORLPRL87.BIN                        UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
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SUMMARY OF BASELINE AIR QUALITY IMPACTS FOR MODELED AIR EMISSION SOURCES

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :B345SO2.087
ISCST3 OUTPUT FILE NUMBER 2 :B345SO2.088
ISCST3 OUTPUT FILE NUMBER 3 :B345SO2.089
ISCST3 OUTPUT FILE NUMBER 4 :B345SO2.090
ISCST3 OUTPUT FILE NUMBER 5 :B345SO2.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (BASELINE)5/11/99
Second title for last output file is: UNIT 3, UNIT 4, AND UNIT 5 IN OPERATION - NO HRSG'S

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	7.855	240.	4000.	87123124
	1988	8.538	240.	4000.	88123124
	1989	8.250	360.	4000.	89123124
	1990	8.981	240.	5000.	90123124
	1991	9.332	360.	4000.	91123124
HIGH 24-Hour					
	1987	147.117	250.	1100.	87070924
	1988	139.651	300.	900.	88061824
	1989	158.222	240.	3000.	89072524
	1990	123.634	20.	3000.	90082124
	1991	134.696	360.	1100.	91042224
HSH 24-Hour					
	1987	93.021	40.	4000.	87080524
	1988	117.294	30.	1500.	88072724
	1989	105.322	230.	2000.	89072624
	1990	119.265	220.	1100.	90082024
	1991	114.007	120.	1500.	91070824
HIGH 3-Hour					
	1987	724.415	240.	900.	87071015
	1988	832.438	340.	1100.	88081812
	1989	679.265	120.	1500.	89090215
	1990	642.435	110.	1500.	90062812
	1991	725.357	350.	1100.	91042615
HSH 3-Hour					
	1987	626.637	120.	1500.	87072312
	1988	582.941	290.	900.	88071215
	1989	550.860	320.	1100.	89082212
	1990	598.778	120.	4000.	90073012
	1991	692.058	130.	1500.	91051612

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

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CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (BASELINE)5/11/99
CO TITLETWO  UNIT 3, UNIT 4, AND UNIT 5 IN OPERATION - NO HRSG'S
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 3
CO POLLUTID  SO2
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
** MODELING ORIGIN IS HRSG STACK 4A LOCATION
** DESIGNATED AS BASE195 (HRSG4A)
**          SRCID SRCTYP         XS          YS       ZS
** origin source                 (m)         (m)      (m)
SO LOCATION  BASE195   POINT     0.0          0.0     0.0
SO SRCPARAM   BASE195    0       92.05      408.15    29.90     2.9



SO LOCATION  UNIT3     POINT     95.58      -125.94   0.0
SO LOCATION  UNIT4     POINT    151.68      -101.92   0.0
SO LOCATION  UNIT5     POINT    173.26       -42.63   0.0

** Source Parameter Cards:
** POINT:   SRCID             QS     HS        TS        VS        DS
**                           (g/s)   (m)       (K)       (m/s)     (m)

SO SRCPARAM   UNIT3      571.78   92.05     449.82    26.08     3.81
SO SRCPARAM   UNIT4     1403.36  121.92     422.04    20.20     6.52
SO SRCPARAM   UNIT5     1403.36  121.92     422.04    20.20     6.52

SO BUILDHGT UNIT3      40.23    40.23    40.23    49.28    49.28    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDHGT UNIT3      40.23    40.23    40.23    49.28    49.28    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDWID UNIT3      60.77    49.59    46.27    53.89    67.07    78.22
SO BUILDWID UNIT3      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT3      96.39    93.10    86.98    78.21    67.07    53.89
SO BUILDWID UNIT3      60.77    49.59    46.27    53.89    67.07    78.22
SO BUILDWID UNIT3      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT3      96.39    93.10    86.98    78.21    67.07    53.89

SO BUILDHGT UNIT4       0.00     0.00     0.00     0.00    49.28    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDHGT UNIT4       0.00     0.00     0.00     0.00    49.28    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDWID UNIT4       0.00     0.00     0.00     0.00    67.07    78.22
SO BUILDWID UNIT4      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT4      96.39    93.10    86.98    78.21    67.07    53.89
SO BUILDWID UNIT4       0.00     0.00     0.00     0.00    67.07    78.22
SO BUILDWID UNIT4      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT4      96.39    93.10    86.98    78.21    67.07    53.89
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SO BUILDHGT UNIT5       0.00    0.00   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT5      49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT UNIT5      49.28   49.28   49.28   49.28   49.28   26.21
SO BUILDHGT UNIT5       0.00    0.00   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT5      49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT UNIT5      49.28   49.28   49.28   49.28   49.28    0.00
SO BUILDWID UNIT5       0.00    0.00   46.27   53.89   67.07   78.22
SO BUILDWID UNIT5      86.98   93.10   96.39   96.76   31.09   96.76
SO BUILDWID UNIT5      96.39   93.10   86.98   78.21   67.07   18.55
SO BUILDWID UNIT5       0.00    0.00   46.27   53.89   67.07   78.22
SO BUILDWID UNIT5      86.98   93.10   96.39   96.76   31.09   96.76
SO BUILDWID UNIT5      96.39   93.10   86.98   78.21   67.07    0.00

SO EMISUNIT    .100000E+07 (GRAMS/SEC)         (MICROGRAMS/CUBIC-METER)
SO SRCGROUP ALL    UNIT3 UNIT4 UNIT5
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  500 700 900 1100 1500 2000 2500 3000 4000 5000 7000 10000
RE GRIDPOLR POL GDIR  36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.         10
RE DISCPOLR BASE195      300.         10
RE DISCPOLR BASE195      400.         10
RE DISCPOLR BASE195      211.         20
RE DISCPOLR BASE195      300.         20
RE DISCPOLR BASE195      400.         20
RE DISCPOLR BASE195      229.         30
RE DISCPOLR BASE195      300.         30
RE DISCPOLR BASE195      400.         30
RE DISCPOLR BASE195      257.         40
RE DISCPOLR BASE195      300.         40
RE DISCPOLR BASE195      400.         40
RE DISCPOLR BASE195      305.         50
RE DISCPOLR BASE195      400.         50
RE DISCPOLR BASE195      296.         60
RE DISCPOLR BASE195      300.         60
RE DISCPOLR BASE195      400.         60
RE DISCPOLR BASE195      274.         70
RE DISCPOLR BASE195      300.         70
RE DISCPOLR BASE195      400.         70
RE DISCPOLR BASE195      262.         80
RE DISCPOLR BASE195      300.         80
RE DISCPOLR BASE195      400.         80
RE DISCPOLR BASE195      259.         90
RE DISCPOLR BASE195      300.         90
RE DISCPOLR BASE195      400.         90
RE DISCPOLR BASE195      264.        100
RE DISCPOLR BASE195      300.        100
RE DISCPOLR BASE195      400.        100
RE DISCPOLR BASE195      275.        110
RE DISCPOLR BASE195      300.        110
RE DISCPOLR BASE195      400.        110
RE DISCPOLR BASE195      292.        120
RE DISCPOLR BASE195      300.        120
RE DISCPOLR BASE195      400.        120
RE DISCPOLR BASE195      317.        130
RE DISCPOLR BASE195      400.        130
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RE DISCPOLR BASE195      351.        140
RE DISCPOLR BASE195      400.        140
RE DISCPOLR BASE195      404.        150
RE DISCPOLR BASE195      494.        160
RE DISCPOLR BASE195      515.        170
RE DISCPOLR BASE195      474.        180
RE DISCPOLR BASE195      451.        190
RE DISCPOLR BASE195      354.        190
RE DISCPOLR BASE195      289.        190
RE DISCPOLR BASE195      284.        200
RE DISCPOLR BASE195      300.        200
RE DISCPOLR BASE195      400.        200
RE DISCPOLR BASE195      289.        210
RE DISCPOLR BASE195      300.        210
RE DISCPOLR BASE195      400.        210
RE DISCPOLR BASE195      303.        220
RE DISCPOLR BASE195      400.        220
RE DISCPOLR BASE195      296.        230
RE DISCPOLR BASE195      300.        230
RE DISCPOLR BASE195      400.        230
RE DISCPOLR BASE195      230.        240
RE DISCPOLR BASE195      300.        240
RE DISCPOLR BASE195      400.        240
RE DISCPOLR BASE195      274.        250
RE DISCPOLR BASE195      300.        250
RE DISCPOLR BASE195      400.        250
RE DISCPOLR BASE195      352.        260
RE DISCPOLR BASE195      400.        260
RE DISCPOLR BASE195      389.        270
RE DISCPOLR BASE195      400.        270
RE DISCPOLR BASE195      394.        280
RE DISCPOLR BASE195      400.        280
RE DISCPOLR BASE195      412.        290
RE DISCPOLR BASE195      410.        300
RE DISCPOLR BASE195      316.        310
RE DISCPOLR BASE195      400.        310
RE DISCPOLR BASE195      264.        320
RE DISCPOLR BASE195      300.        320
RE DISCPOLR BASE195      400.        320
RE DISCPOLR BASE195      233.        330
RE DISCPOLR BASE195      300.        330
RE DISCPOLR BASE195      400.        330
RE DISCPOLR BASE195      214.        340
RE DISCPOLR BASE195      300.        340
RE DISCPOLR BASE195      400.        340
RE DISCPOLR BASE195      203.        350
RE DISCPOLR BASE195      300.        350
RE DISCPOLR BASE195      400.        350
RE DISCPOLR BASE195      200.        360
RE DISCPOLR BASE195      200.        360
RE DISCPOLR BASE195      300.        360
RE DISCPOLR BASE195      400.        360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                    UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS  1.54    3.09    5.14    8.23    10.80
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```
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
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ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :B345NOX.087
ISCST3 OUTPUT FILE NUMBER 2 :B345NOX.088
ISCST3 OUTPUT FILE NUMBER 3 :B345NOX.089
ISCST3 OUTPUT FILE NUMBER 4 :B345NOX.090
ISCST3 OUTPUT FILE NUMBER 5 :B345NOX.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (BASELINE)5/11/99
Second title for last output file is: UNIT 3, UNIT 4, AND UNIT 5 IN OPERATION - NO HRSG'S

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	1.799	240.	4000.	87123124
	1988	1.968	240.	4000.	88123124
	1989	1.921	360.	4000.	89123124
	1990	2.089	240.	5000.	90123124
	1991	2.179	360.	4000.	91123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (BASELINE)5/11/99
CO TITLETWO  UNIT 3, UNIT 4, AND UNIT 5 IN OPERATION - NO HRSG'S
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD
CO POLLUTID  NOX
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
** MODELING ORIGIN IS HRSG STACK 4A LOCATION
** DESIGNATED AS BASE195 (HRSG4A)
**          SRCID SRCTYP         XS          YS        ZS
** origin source                 (m)         (m)       (m)
SO LOCATION  BASE195   POINT     0.0          0.0      0.0
SO SRCPARAM   BASE195     0      92.05      408.15     29.90    2.9



SO LOCATION  UNIT3     POINT      95.58      -125.94    0.0
SO LOCATION  UNIT4     POINT     151.68      -101.92    0.0
SO LOCATION  UNIT5     POINT     173.26       -42.63    0.0

** Source Parameter Cards:
** POINT:   SRCID              QS      HS         TS         VS         DS
**                            (g/s)    (m)        (K)       (m/s)       (m)

SO SRCPARAM   UNIT3        99.54   92.05      449.82     26.08      3.81
SO SRCPARAM   UNIT4       414.40  121.92      422.04     20.20      6.52
SO SRCPARAM   UNIT5       339.31  121.92      422.04     20.20      6.52

SO BUILDHGT UNIT3      40.23    40.23    40.23    49.28    49.28    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDHGT UNIT3      40.23    40.23    40.23    49.28    49.28    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDWID UNIT3      60.77    49.59    46.27    53.89    67.07    78.22
SO BUILDWID UNIT3      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT3      96.39    93.10    86.98    78.21    67.07    53.89
SO BUILDWID UNIT3      60.77    49.59    46.27    53.89    67.07    78.22
SO BUILDWID UNIT3      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT3      96.39    93.10    86.98    78.21    67.07    53.89

SO BUILDHGT UNIT4       0.00     0.00     0.00     0.00    49.28    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDHGT UNIT4       0.00     0.00     0.00     0.00    49.28    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDWID UNIT4       0.00     0.00     0.00     0.00    67.07    78.22
SO BUILDWID UNIT4      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT4      96.39    93.10    86.98    78.21    67.07    53.89
SO BUILDWID UNIT4       0.00     0.00     0.00     0.00    67.07    78.22
SO BUILDWID UNIT4      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT4      96.39    93.10    86.98    78.21    67.07    53.89
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SO BUILDHGT UNIT5       0.00    0.00   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT5      49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT UNIT5      49.28   49.28   49.28   49.28   49.28   26.21
SO BUILDHGT UNIT5       0.00    0.00   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT5      49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT UNIT5      49.28   49.28   49.28   49.28   49.28    0.00
SO BUILDWID UNIT5       0.00    0.00   46.27   53.89   67.07   78.22
SO BUILDWID UNIT5      86.98   93.10   96.39   96.76   31.09   96.76
SO BUILDWID UNIT5      96.39   93.10   86.98   78.21   67.07   18.55
SO BUILDWID UNIT5       0.00    0.00   46.27   53.89   67.07   78.22
SO BUILDWID UNIT5      86.98   93.10   96.39   96.76   31.09   96.76
SO BUILDWID UNIT5      96.39   93.10   86.98   78.21   67.07    0.00

SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP ALL    UNIT3 UNIT4 UNIT5
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  500 700 900 1100 1500 2000 2500 3000 4000 5000 7000 10000
RE GRIDPOLR POL GDIR  36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.        10
RE DISCPOLR BASE195      300.        10
RE DISCPOLR BASE195      400.        10
RE DISCPOLR BASE195      211.        20
RE DISCPOLR BASE195      300.        20
RE DISCPOLR BASE195      400.        20
RE DISCPOLR BASE195      229.        30
RE DISCPOLR BASE195      300.        30
RE DISCPOLR BASE195      400.        30
RE DISCPOLR BASE195      257.        40
RE DISCPOLR BASE195      300.        40
RE DISCPOLR BASE195      400.        40
RE DISCPOLR BASE195      305.        50
RE DISCPOLR BASE195      400.        50
RE DISCPOLR BASE195      296.        60
RE DISCPOLR BASE195      300.        60
RE DISCPOLR BASE195      400.        60
RE DISCPOLR BASE195      274.        70
RE DISCPOLR BASE195      300.        70
RE DISCPOLR BASE195      400.        70
RE DISCPOLR BASE195      262.        80
RE DISCPOLR BASE195      300.        80
RE DISCPOLR BASE195      400.        80
RE DISCPOLR BASE195      259.        90
RE DISCPOLR BASE195      300.        90
RE DISCPOLR BASE195      400.        90
RE DISCPOLR BASE195      264.       100
RE DISCPOLR BASE195      300.       100
RE DISCPOLR BASE195      400.       100
RE DISCPOLR BASE195      275.       110
RE DISCPOLR BASE195      300.       110
RE DISCPOLR BASE195      400.       110
RE DISCPOLR BASE195      292.       120
RE DISCPOLR BASE195      300.       120
RE DISCPOLR BASE195      400.       120
RE DISCPOLR BASE195      317.       130
RE DISCPOLR BASE195      400.       130
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RE DISCPOLR BASE195      351.        140
RE DISCPOLR BASE195      400.        140
RE DISCPOLR BASE195      404.        150
RE DISCPOLR BASE195      494.        160
RE DISCPOLR BASE195      515.        170
RE DISCPOLR BASE195      474.        180
RE DISCPOLR BASE195      451.        190
RE DISCPOLR BASE195      354.        190
RE DISCPOLR BASE195      289.        190
RE DISCPOLR BASE195      284.        200
RE DISCPOLR BASE195      300.        200
RE DISCPOLR BASE195      400.        200
RE DISCPOLR BASE195      289.        210
RE DISCPOLR BASE195      300.        210
RE DISCPOLR BASE195      400.        210
RE DISCPOLR BASE195      303.        220
RE DISCPOLR BASE195      400.        220
RE DISCPOLR BASE195      296.        230
RE DISCPOLR BASE195      300.        230
RE DISCPOLR BASE195      400.        230
RE DISCPOLR BASE195      230.        240
RE DISCPOLR BASE195      300.        240
RE DISCPOLR BASE195      400.        240
RE DISCPOLR BASE195      274.        250
RE DISCPOLR BASE195      300.        250
RE DISCPOLR BASE195      400.        250
RE DISCPOLR BASE195      352.        260
RE DISCPOLR BASE195      400.        260
RE DISCPOLR BASE195      389.        270
RE DISCPOLR BASE195      400.        270
RE DISCPOLR BASE195      394.        280
RE DISCPOLR BASE195      400.        280
RE DISCPOLR BASE195      412.        290
RE DISCPOLR BASE195      410.        300
RE DISCPOLR BASE195      316.        310
RE DISCPOLR BASE195      400.        310
RE DISCPOLR BASE195      264.        320
RE DISCPOLR BASE195      300.        320
RE DISCPOLR BASE195      400.        320
RE DISCPOLR BASE195      233.        330
RE DISCPOLR BASE195      300.        330
RE DISCPOLR BASE195      400.        330
RE DISCPOLR BASE195      214.        340
RE DISCPOLR BASE195      300.        340
RE DISCPOLR BASE195      400.        340
RE DISCPOLR BASE195      203.        350
RE DISCPOLR BASE195      300.        350
RE DISCPOLR BASE195      400.        350
RE DISCPOLR BASE195      200.        360
RE DISCPOLR BASE195      200.        360
RE DISCPOLR BASE195      300.        360
RE DISCPOLR BASE195      400.        360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                       UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS  1.54     3.09     5.14     8.23     10.80
```

```
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :B345PM.087
ISCST3 OUTPUT FILE NUMBER 2 :B345PM.088
ISCST3 OUTPUT FILE NUMBER 3 :B345PM.089
ISCST3 OUTPUT FILE NUMBER 4 :B345PM.090
ISCST3 OUTPUT FILE NUMBER 5 :B345PM.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (BASELINE)5/11/99
Second title for last output file is: UNIT 3, UNIT 4, AND UNIT 5 IN OPERATION - NO HRSG'S

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	0.357	240.	4000.	87123124
	1988	0.388	240.	4000.	88123124
	1989	0.375	360.	4000.	89123124
	1990	0.408	240.	5000.	90123124
	1991	0.424	360.	4000.	91123124
HIGH 24-Hour					
	1987	6.682	250.	1100.	87070924
	1988	6.343	300.	900.	88061824
	1989	7.186	240.	3000.	89072524
	1990	5.615	20.	3000.	90082124
	1991	6.118	360.	1100.	91042224
HSH 24-Hour					
	1987	4.225	40.	4000.	87080524
	1988	5.328	30.	1500.	88072724
	1989	4.784	230.	2000.	89072624
	1990	5.417	220.	1100.	90082024
	1991	5.178	120.	1500.	91070824

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (BASELINE)5/11/99
CO TITLETWO  UNIT 3, UNIT 4, AND UNIT 5 IN OPERATION - NO HRSG'S
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24
CO POLLUTID  PM
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
** MODELING ORIGIN IS HRSG STACK 4A LOCATION
** DESIGNATED AS BASE195 (HRSG4A)
**          SRCID SRCTYP        XS          YS        ZS
** origin source               (m)         (m)       (m)
SO LOCATION  BASE195   POINT     0.0         0.0      0.0
SO SRCPARAM   BASE195     0      92.05     408.15    29.90     2.9



SO LOCATION  UNIT3     POINT     95.58     -125.94    0.0
SO LOCATION  UNIT4     POINT    151.68     -101.92    0.0
SO LOCATION  UNIT5     POINT    173.26      -42.63    0.0

** Source Parameter Cards:
** POINT:   SRCID            QS      HS       TS        VS       DS
**                          (g/s)   (m)      (K)       (m/s)     (m)

SO SRCPARAM   UNIT3       25.96   92.05     449.82    26.08     3.81
SO SRCPARAM   UNIT4       63.75  121.92     422.04    20.20     6.52
SO SRCPARAM   UNIT5       63.75  121.92     422.04    20.20     6.52

SO BUILDHGT UNIT3      40.23    40.23    40.23    49.28    49.28    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDHGT UNIT3      40.23    40.23    40.23    49.28    49.28    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT3      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDWID UNIT3      60.77    49.59    46.27    53.89    67.07    78.22
SO BUILDWID UNIT3      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT3      96.39    93.10    86.98    78.21    67.07    53.89
SO BUILDWID UNIT3      60.77    49.59    46.27    53.89    67.07    78.22
SO BUILDWID UNIT3      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT3      96.39    93.10    86.98    78.21    67.07    53.89

SO BUILDHGT UNIT4       0.00     0.00     0.00     0.00    49.28    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDHGT UNIT4       0.00     0.00     0.00     0.00    49.28    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT4      49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDWID UNIT4       0.00     0.00     0.00     0.00    67.07    78.22
SO BUILDWID UNIT4      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT4      96.39    93.10    86.98    78.21    67.07    53.89
SO BUILDWID UNIT4       0.00     0.00     0.00     0.00    67.07    78.22
SO BUILDWID UNIT4      86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT4      96.39    93.10    86.98    78.21    67.07    53.89
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SO BUILDHGT UNIT5      0.00    0.00   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT5     49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT UNIT5     49.28   49.28   49.28   49.28   49.28   26.21
SO BUILDHGT UNIT5      0.00    0.00   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT5     49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT UNIT5     49.28   49.28   49.28   49.28   49.28    0.00
SO BUILDWID UNIT5      0.00    0.00   46.27   53.89   67.07   78.22
SO BUILDWID UNIT5     86.98   93.10   96.39   96.76   31.09   96.76
SO BUILDWID UNIT5     96.39   93.10   86.98   78.21   67.07   18.55
SO BUILDWID UNIT5      0.00    0.00   46.27   53.89   67.07   78.22
SO BUILDWID UNIT5     86.98   93.10   96.39   96.76   31.09   96.76
SO BUILDWID UNIT5     96.39   93.10   86.98   78.21   67.07    0.00

SO EMISUNIT    .100000E+07 (GRAMS/SEC)         (MICROGRAMS/CUBIC-METER)
SO SRCGROUP ALL    UNIT3 UNIT4 UNIT5
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  500 700 900 1100 1500 2000 2500 3000 4000 5000 7000 10000
RE GRIDPOLR POL GDIR  36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE195      202.        10
RE DISCPOLR BASE195      300.        10
RE DISCPOLR BASE195      400.        10
RE DISCPOLR BASE195      211.        20
RE DISCPOLR BASE195      300.        20
RE DISCPOLR BASE195      400.        20
RE DISCPOLR BASE195      229.        30
RE DISCPOLR BASE195      300.        30
RE DISCPOLR BASE195      400.        30
RE DISCPOLR BASE195      257.        40
RE DISCPOLR BASE195      300.        40
RE DISCPOLR BASE195      400.        40
RE DISCPOLR BASE195      305.        50
RE DISCPOLR BASE195      400.        50
RE DISCPOLR BASE195      296.        60
RE DISCPOLR BASE195      300.        60
RE DISCPOLR BASE195      400.        60
RE DISCPOLR BASE195      274.        70
RE DISCPOLR BASE195      300.        70
RE DISCPOLR BASE195      400.        70
RE DISCPOLR BASE195      262.        80
RE DISCPOLR BASE195      300.        80
RE DISCPOLR BASE195      400.        80
RE DISCPOLR BASE195      259.        90
RE DISCPOLR BASE195      300.        90
RE DISCPOLR BASE195      400.        90
RE DISCPOLR BASE195      264.       100
RE DISCPOLR BASE195      300.       100
RE DISCPOLR BASE195      400.       100
RE DISCPOLR BASE195      275.       110
RE DISCPOLR BASE195      300.       110
RE DISCPOLR BASE195      400.       110
RE DISCPOLR BASE195      292.       120
RE DISCPOLR BASE195      300.       120
RE DISCPOLR BASE195      400.       120
RE DISCPOLR BASE195      317.       130
RE DISCPOLR BASE195      400.       130
```

```
RE DISCPOLR BASE195      351.        140
RE DISCPOLR BASE195      400.        140
RE DISCPOLR BASE195      404.        150
RE DISCPOLR BASE195      494.        160
RE DISCPOLR BASE195      515.        170
RE DISCPOLR BASE195      474.        180
RE DISCPOLR BASE195      451.        190
RE DISCPOLR BASE195      354.        190
RE DISCPOLR BASE195      289.        190
RE DISCPOLR BASE195      284.        200
RE DISCPOLR BASE195      300.        200
RE DISCPOLR BASE195      400.        200
RE DISCPOLR BASE195      289.        210
RE DISCPOLR BASE195      300.        210
RE DISCPOLR BASE195      400.        210
RE DISCPOLR BASE195      303.        220
RE DISCPOLR BASE195      400.        220
RE DISCPOLR BASE195      296.        230
RE DISCPOLR BASE195      300.        230
RE DISCPOLR BASE195      400.        230
RE DISCPOLR BASE195      230.        240
RE DISCPOLR BASE195      300.        240
RE DISCPOLR BASE195      400.        240
RE DISCPOLR BASE195      274.        250
RE DISCPOLR BASE195      300.        250
RE DISCPOLR BASE195      400.        250
RE DISCPOLR BASE195      352.        260
RE DISCPOLR BASE195      400.        260
RE DISCPOLR BASE195      389.        270
RE DISCPOLR BASE195      400.        270
RE DISCPOLR BASE195      394.        280
RE DISCPOLR BASE195      400.        280
RE DISCPOLR BASE195      412.        290
RE DISCPOLR BASE195      410.        300
RE DISCPOLR BASE195      316.        310
RE DISCPOLR BASE195      400.        310
RE DISCPOLR BASE195      264.        320
RE DISCPOLR BASE195      300.        320
RE DISCPOLR BASE195      400.        320
RE DISCPOLR BASE195      233.        330
RE DISCPOLR BASE195      300.        330
RE DISCPOLR BASE195      400.        330
RE DISCPOLR BASE195      214.        340
RE DISCPOLR BASE195      300.        340
RE DISCPOLR BASE195      400.        340
RE DISCPOLR BASE195      203.        350
RE DISCPOLR BASE195      300.        350
RE DISCPOLR BASE195      400.        350
RE DISCPOLR BASE195      200.        360
RE DISCPOLR BASE195      200.        360
RE DISCPOLR BASE195      300.        360
RE DISCPOLR BASE195      400.        360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                        UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS  1.54    3.09    5.14    8.23    10.80
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ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
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SUMMARY OF FUTURE AIR QUALITY IMPACTS DURING THE PROJECT'S CONSTRUCTION FOR MODELED AIR EMISSION SOURCES

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :SO2CONST.087
ISCST3 OUTPUT FILE NUMBER 2 :SO2CONST.088
ISCST3 OUTPUT FILE NUMBER 3 :SO2CONST.089
ISCST3 OUTPUT FILE NUMBER 4 :SO2CONST.090
ISCST3 OUTPUT FILE NUMBER 5 :SO2CONST.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, WITH UNIT 3

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	10.553	20.	300.	87123124
	1988	9.635	20.	300.	88123124
	1989	12.118	20.	300.	89123124
	1990	10.441	20.	300.	90123124
	1991	14.974	20.	300.	91123124
HIGH 24-Hour					
	1987	187.696	10.	300.	87022824
	1988	196.994	20.	300.	88012024
	1989	166.789	20.	300.	89060924
	1990	157.945	20.	300.	90121924
	1991	173.265	20.	300.	91032924
HSH 24-Hour					
	1987	122.659	20.	300.	87072924
	1988	168.208	20.	300.	88012124
	1989	120.646	20.	300.	89061324
	1990	147.862	20.	300.	90033124
	1991	160.427	20.	300.	91011124
HIGH 3-Hour					
	1987	513.296	10.	400.	87062803
	1988	486.915	20.	300.	88092406
	1989	423.218	10.	300.	89011503
	1990	478.899	20.	300.	90121915
	1991	475.168	10.	400.	91031312
HSH 3-Hour					
	1987	453.316	10.	400.	87081724
	1988	421.175	20.	300.	88092303
	1989	377.773	10.	300.	89060903
	1990	441.012	20.	300.	90021615
	1991	425.559	20.	300.	91030206

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)5/11/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, WITH UNIT 3
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 3
CO POLLUTID  SO2
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP       XS            YS            ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00    0.00
**  HRSG STACK LETTER CODE
** -----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP         XS          YS       ZS
**   UTM                         (m)         (m)      (m)

SO LOCATION  LD17559  POINT      0.00        0.00    0.0
SO LOCATION  LD27559  POINT    -14.07      -38.67    0.0
SO LOCATION  LD37559  POINT    -28.04      -77.05    0.0
SO LOCATION  LD47559  POINT    -42.12     -115.71    0.0
SO LOCATION  LD57559  POINT     89.60       75.08    0.0
SO LOCATION  LD67559  POINT    128.27       61.00    0.0
SO LOCATION  LD77559  POINT    166.65       47.03    0.0
SO LOCATION  LD87559  POINT    205.32       32.96    0.0

SO LOCATION  UNIT3     POINT    95.58      -125.94    0.0

** Source Parameter Cards:
** POINT:  SRCID             QS     HS       TS        VS        DS
**                         (g/s)   (m)      (K)      (m/s)      (m)

SO SRCPARAM   LD17559      0.504   38.1      377.6     16.79     5.79
SO SRCPARAM   LD27559      0.504   38.1      377.6     16.79     5.79
SO SRCPARAM   LD37559      0.504   38.1      377.6     16.79     5.79
SO SRCPARAM   LD47559      0.504   38.1      377.6     16.79     5.79
SO SRCPARAM   LD57559     10.193   38.1      377.6     16.37     5.79
SO SRCPARAM   LD67559     10.193   38.1      377.6     16.37     5.79
SO SRCPARAM   LD77559     10.193   38.1      377.6     16.37     5.79
SO SRCPARAM   LD87559     10.193   38.1      377.6     16.37     5.79


SO SRCPARAM   UNIT3      571.78   92.05     449.82    26.08    3.81


SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    49.28    40.23    40.23    26.21    26.21
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SO BUILDHGT LD15032-LD17595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD15032-LD17595    26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT LD15032-LD17595    49.28   49.28   40.23   40.23   26.21   26.21
SO BUILDWID LD15032-LD17595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD15032-LD17595    22.66   20.92   96.39  128.84   12.19   15.61
SO BUILDWID LD15032-LD17595    18.55   93.10  132.86  122.72   24.05   23.65
SO BUILDWID LD15032-LD17595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD15032-LD17595    22.66   20.92   96.39   96.76   31.09   96.76
SO BUILDWID LD15032-LD17595    96.39   93.10   84.53   82.17   24.05   23.65

SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    49.28   49.28   40.23   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    49.28   40.23   40.23   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    49.28   49.28   49.28   49.28   40.23   49.28
SO BUILDHGT LD25032-LD27595    49.28   40.23   40.23   26.21   26.21   26.21
SO BUILDWID LD25032-LD27595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD25032-LD27595    86.98   93.10  121.95   15.61   12.19   15.61
SO BUILDWID LD25032-LD27595    96.39  138.96  132.86   23.71   24.05   23.65
SO BUILDWID LD25032-LD27595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD25032-LD27595    86.98   93.10   96.39   96.76   68.73   96.76
SO BUILDWID LD25032-LD27595    96.39   84.32   84.53   23.71   24.05   23.65

SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT LD35032-LD37595    40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT LD35032-LD37595    49.28   49.28   49.28   49.28   40.23   40.23
SO BUILDHGT LD35032-LD37595    40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD35032-LD37595    22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID LD35032-LD37595    97.36   56.70   18.55   15.61   12.19   15.61
SO BUILDWID LD35032-LD37595   140.84   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD35032-LD37595    22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID LD35032-LD37595    86.98   93.10   96.39   96.76   68.73   76.30
SO BUILDWID LD35032-LD37595    81.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   49.28
SO BUILDHGT LD45032-LD47595    49.28   49.28   49.28   40.23   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD45032-LD47595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD45032-LD47595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD45032-LD47595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD45032-LD47595    22.53   20.73   22.53   23.65   24.05   78.22
SO BUILDWID LD45032-LD47595    86.98   93.10   96.39   66.71   12.19   15.61
SO BUILDWID LD45032-LD47595    18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD55032-LD57595    40.23   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   49.28   49.28   49.28   49.28   49.28
SO BUILDWID LD55032-LD57595    60.77   12.19   15.61   18.55   24.05   23.71
SO BUILDWID LD55032-LD57595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595    23.65   93.10   86.98   78.21   67.07   53.89
SO BUILDWID LD55032-LD57595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD55032-LD57595    23.71   24.05   23.65   22.53   20.73   22.53
```

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SO BUILDWID LD55032-LD57595   23.65   93.10   86.98   78.21   67.07   53.89

SO BUILDHGT LD65032-LD67595   40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDWID LD65032-LD67595   60.77   49.59   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89
SO BUILDWID LD65032-LD67595   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89

SO BUILDHGT LD75032-LD77595   40.23   40.23   40.23   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDWID LD75032-LD77595   60.77   49.59   46.27   41.54   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69
SO BUILDWID LD75032-LD77595   15.61   12.19   15.61   53.89   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69

SO BUILDHGT LD85032-LD87595   26.21   26.21   40.23   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD85032-LD87595   15.61   12.19   46.27   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD85032-LD87595   15.61   12.19   15.61   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT UNIT3       40.23   40.23   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT3       49.28   49.28   49.28   49.28   40.23   49.28
SO BUILDHGT UNIT3       49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT UNIT3       40.23   40.23   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT3       49.28   49.28   49.28   49.28   40.23   49.28
SO BUILDHGT UNIT3       49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDWID UNIT3       60.77   49.59   46.27   53.89   67.07   78.22
SO BUILDWID UNIT3       86.98   93.10   96.39   96.76   68.73   96.76
SO BUILDWID UNIT3       96.39   93.10   86.98   78.21   67.07   53.89
SO BUILDWID UNIT3       60.77   49.59   46.27   53.89   67.07   78.22
SO BUILDWID UNIT3       86.98   93.10   96.39   96.76   68.73   96.76
SO BUILDWID UNIT3       96.39   93.10   86.98   78.21   67.07   53.89

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

RE STARTING
RE GRIDPOLR POL STA
```

```
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 6000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR LD17559      202.         10
RE DISCPOLR LD17559      300.         10
RE DISCPOLR LD17559      400.         10
RE DISCPOLR LD17559      211.         20
RE DISCPOLR LD17559      300.         20
RE DISCPOLR LD17559      400.         20
RE DISCPOLR LD17559      229.         30
RE DISCPOLR LD17559      300.         30
RE DISCPOLR LD17559      400.         30
RE DISCPOLR LD17559      257.         40
RE DISCPOLR LD17559      300.         40
RE DISCPOLR LD17559      400.         40
RE DISCPOLR LD17559      305.         50
RE DISCPOLR LD17559      400.         50
RE DISCPOLR LD17559      296.         60
RE DISCPOLR LD17559      300.         60
RE DISCPOLR LD17559      400.         60
RE DISCPOLR LD17559      274.         70
RE DISCPOLR LD17559      300.         70
RE DISCPOLR LD17559      400.         70
RE DISCPOLR LD17559      262.         80
RE DISCPOLR LD17559      300.         80
RE DISCPOLR LD17559      400.         80
RE DISCPOLR LD17559      259.         90
RE DISCPOLR LD17559      300.         90
RE DISCPOLR LD17559      400.         90
RE DISCPOLR LD17559      264.        100
RE DISCPOLR LD17559      300.        100
RE DISCPOLR LD17559      400.        100
RE DISCPOLR LD17559      275.        110
RE DISCPOLR LD17559      300.        110
RE DISCPOLR LD17559      400.        110
RE DISCPOLR LD17559      292.        120
RE DISCPOLR LD17559      300.        120
RE DISCPOLR LD17559      400.        120
RE DISCPOLR LD17559      317.        130
RE DISCPOLR LD17559      400.        130
RE DISCPOLR LD17559      351.        140
RE DISCPOLR LD17559      400.        140
RE DISCPOLR LD17559      404.        150
RE DISCPOLR LD17559      494.        160
RE DISCPOLR LD17559      515.        170
RE DISCPOLR LD17559      474.        180
RE DISCPOLR LD17559      451.        190
RE DISCPOLR LD17559      354.        190
RE DISCPOLR LD17559      289.        190
RE DISCPOLR LD17559      284.        200
RE DISCPOLR LD17559      300.        200
RE DISCPOLR LD17559      400.        200
RE DISCPOLR LD17559      289.        210
RE DISCPOLR LD17559      300.        210
RE DISCPOLR LD17559      400.        210
RE DISCPOLR LD17559      303.        220
RE DISCPOLR LD17559      400.        220
RE DISCPOLR LD17559      296.        230
RE DISCPOLR LD17559      300.        230
```

```
RE DISCPOLR LD17559      400.        230
RE DISCPOLR LD17559      230.        240
RE DISCPOLR LD17559      300.        240
RE DISCPOLR LD17559      400.        240
RE DISCPOLR LD17559      274.        250
RE DISCPOLR LD17559      300.        250
RE DISCPOLR LD17559      400.        250
RE DISCPOLR LD17559      352.        260
RE DISCPOLR LD17559      400.        260
RE DISCPOLR LD17559      389.        270
RE DISCPOLR LD17559      400.        270
RE DISCPOLR LD17559      394.        280
RE DISCPOLR LD17559      400.        280
RE DISCPOLR LD17559      412.        290
RE DISCPOLR LD17559      410.        300
RE DISCPOLR LD17559      316.        310
RE DISCPOLR LD17559      400.        310
RE DISCPOLR LD17559      264.        320
RE DISCPOLR LD17559      300.        320
RE DISCPOLR LD17559      400.        320
RE DISCPOLR LD17559      233.        330
RE DISCPOLR LD17559      300.        330
RE DISCPOLR LD17559      400.        330
RE DISCPOLR LD17559      214.        340
RE DISCPOLR LD17559      300.        340
RE DISCPOLR LD17559      400.        340
RE DISCPOLR LD17559      203.        350
RE DISCPOLR LD17559      300.        350
RE DISCPOLR LD17559      400.        350
RE DISCPOLR LD17559      200.        360
RE DISCPOLR LD17559      200.        360
RE DISCPOLR LD17559      300.        360
RE DISCPOLR LD17559      400.        360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                     UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :NOXCONST.087
ISCST3 OUTPUT FILE NUMBER 2 :NOXCONST.088
ISCST3 OUTPUT FILE NUMBER 3 :NOXCONST.089
ISCST3 OUTPUT FILE NUMBER 4 :NOXCONST.090
ISCST3 OUTPUT FILE NUMBER 5 :NOXCONST.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, WITH UNIT 3

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	29.125	20.	300.	87123124
	1988	26.892	20.	300.	88123124
	1989	34.661	20.	300.	89123124
	1990	30.073	20.	300.	90123124
	1991	42.807	20.	300.	91123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)5/11/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, WITH UNIT 3
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD
CO POLLUTID  NOX
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00    0.00
**  HRSG STACK LETTER CODE
** -----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP         XS          YS       ZS
**   UTM                         (m)         (m)      (m)

SO LOCATION  LD15059  POINT      0.00        0.00    0.0
SO LOCATION  LD25059  POINT    -14.07      -38.67    0.0
SO LOCATION  LD35059  POINT    -28.04      -77.05    0.0
SO LOCATION  LD45059  POINT    -42.12     -115.71    0.0
SO LOCATION  LD55059  POINT     89.60       75.08    0.0
SO LOCATION  LD65059  POINT    128.27       61.00    0.0
SO LOCATION  LD75059  POINT    166.65       47.03    0.0
SO LOCATION  LD85059  POINT    205.32       32.96    0.0

SO LOCATION  UNIT3     POINT    95.58      -125.94    0.0

** Source Parameter Cards:
** POINT:   SRCID             QS     HS       TS        VS        DS
**                          (g/s)   (m)       (K)      (m/s)      (m)

SO SRCPARAM   LD15059     5.241    38.1      377.6     13.90     5.79
SO SRCPARAM   LD25059     5.241    38.1      377.6     13.90     5.79
SO SRCPARAM   LD35059     5.241    38.1      377.6     13.90     5.79
SO SRCPARAM   LD45059     5.241    38.1      377.6     13.90     5.79
SO SRCPARAM   LD55059    27.959    38.1      377.6     13.90     5.79
SO SRCPARAM   LD65059    27.959    38.1      377.6     13.90     5.79
SO SRCPARAM   LD75059    27.959    38.1      377.6     13.90     5.79
SO SRCPARAM   LD85059    27.959    38.1      377.6     13.90     5.79


SO SRCPARAM   UNIT3       99.54   92.05     449.82    26.08     3.81


SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    49.28    40.23    40.23    26.21    26.21
```

SO BUILDHGT	LD15032-LD17595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD15032-LD17595	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT	LD15032-LD17595	49.28	49.28	40.23	40.23	26.21	26.21
SO BUILDWID	LD15032-LD17595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD15032-LD17595	22.66	20.92	96.39	128.84	12.19	15.61
SO BUILDWID	LD15032-LD17595	18.55	93.10	132.86	122.72	24.05	23.65
SO BUILDWID	LD15032-LD17595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD15032-LD17595	22.66	20.92	96.39	96.76	31.09	96.76
SO BUILDWID	LD15032-LD17595	96.39	93.10	84.53	82.17	24.05	23.65
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	49.28	49.28	40.23	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	49.28	49.28	49.28	49.28	40.23	49.28
SO BUILDHGT	LD25032-LD27595	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDWID	LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD25032-LD27595	86.98	93.10	121.95	15.61	12.19	15.61
SO BUILDWID	LD25032-LD27595	96.39	138.96	132.86	23.71	24.05	23.65
SO BUILDWID	LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD25032-LD27595	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID	LD25032-LD27595	96.39	84.32	84.53	23.71	24.05	23.65
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT	LD35032-LD37595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT	LD35032-LD37595	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT	LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID	LD35032-LD37595	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID	LD35032-LD37595	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID	LD35032-LD37595	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID	LD35032-LD37595	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT	LD45032-LD47595	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID	LD45032-LD47595	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD55032-LD57595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID	LD55032-LD57595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD55032-LD57595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53

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SO BUILDWID LD55032-LD57595    23.65    93.10    86.98    78.21    67.07    53.89

SO BUILDHGT LD65032-LD67595    40.23    40.23    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDHGT LD65032-LD67595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595    26.21    26.21    49.28    49.28    49.28    49.28
SO BUILDWID LD65032-LD67595    60.77    49.59    15.61    18.55    20.92    22.66
SO BUILDWID LD65032-LD67595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD65032-LD67595    23.65    24.05    86.98    78.21    67.07    53.89
SO BUILDWID LD65032-LD67595    15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD65032-LD67595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD65032-LD67595    23.65    24.05    86.98    78.21    67.07    53.89

SO BUILDHGT LD75032-LD77595    40.23    40.23    40.23    40.23    40.23    26.21
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    40.23    40.23    26.21
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    40.23
SO BUILDWID LD75032-LD77595    60.77    49.59    46.27    41.54    44.43    22.66
SO BUILDWID LD75032-LD77595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD75032-LD77595    23.65    24.05    23.71    22.66    20.92    91.69
SO BUILDWID LD75032-LD77595    15.61    12.19    15.61    53.89    44.43    22.66
SO BUILDWID LD75032-LD77595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD75032-LD77595    23.65    24.05    23.71    22.66    20.92    91.69

SO BUILDHGT LD85032-LD87595    26.21    26.21    40.23    49.28    49.28    49.28
SO BUILDHGT LD85032-LD87595    49.28    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595    26.21    26.21    26.21    49.28    49.28    49.28
SO BUILDHGT LD85032-LD87595    49.28    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDWID LD85032-LD87595    15.61    12.19    46.27    53.89    67.07    78.22
SO BUILDWID LD85032-LD87595    86.98    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD85032-LD87595    23.65    24.05    23.71    22.66    20.92    18.55
SO BUILDWID LD85032-LD87595    15.61    12.19    15.61    53.89    67.07    78.22
SO BUILDWID LD85032-LD87595    86.98    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD85032-LD87595    23.65    24.05    23.71    22.66    20.92    18.55

SO BUILDHGT UNIT3        40.23    40.23    40.23    49.28    49.28    49.28
SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDHGT UNIT3        40.23    40.23    40.23    49.28    49.28    49.28
SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    40.23    49.28
SO BUILDHGT UNIT3        49.28    49.28    49.28    49.28    49.28    49.28
SO BUILDWID UNIT3        60.77    49.59    46.27    53.89    67.07    78.22
SO BUILDWID UNIT3        86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT3        96.39    93.10    86.98    78.21    67.07    53.89
SO BUILDWID UNIT3        60.77    49.59    46.27    53.89    67.07    78.22
SO BUILDWID UNIT3        86.98    93.10    96.39    96.76    68.73    96.76
SO BUILDWID UNIT3        96.39    93.10    86.98    78.21    67.07    53.89

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

RE STARTING
RE GRIDPOLR POL STA
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RE GRIDPOLR POL ORIG    0.0   0.0
RE GRIDPOLR POL DIST    500 700 900 1100 1500 2000 2500 3000 4000 5000 6000
RE GRIDPOLR POL GDIR    36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR LD15059      202.        10
RE DISCPOLR LD15059      300.        10
RE DISCPOLR LD15059      400.        10
RE DISCPOLR LD15059      211.        20
RE DISCPOLR LD15059      300.        20
RE DISCPOLR LD15059      400.        20
RE DISCPOLR LD15059      229.        30
RE DISCPOLR LD15059      300.        30
RE DISCPOLR LD15059      400.        30
RE DISCPOLR LD15059      257.        40
RE DISCPOLR LD15059      300.        40
RE DISCPOLR LD15059      400.        40
RE DISCPOLR LD15059      305.        50
RE DISCPOLR LD15059      400.        50
RE DISCPOLR LD15059      296.        60
RE DISCPOLR LD15059      300.        60
RE DISCPOLR LD15059      400.        60
RE DISCPOLR LD15059      274.        70
RE DISCPOLR LD15059      300.        70
RE DISCPOLR LD15059      400.        70
RE DISCPOLR LD15059      262.        80
RE DISCPOLR LD15059      300.        80
RE DISCPOLR LD15059      400.        80
RE DISCPOLR LD15059      259.        90
RE DISCPOLR LD15059      300.        90
RE DISCPOLR LD15059      400.        90
RE DISCPOLR LD15059      264.       100
RE DISCPOLR LD15059      300.       100
RE DISCPOLR LD15059      400.       100
RE DISCPOLR LD15059      275.       110
RE DISCPOLR LD15059      300.       110
RE DISCPOLR LD15059      400.       110
RE DISCPOLR LD15059      292.       120
RE DISCPOLR LD15059      300.       120
RE DISCPOLR LD15059      400.       120
RE DISCPOLR LD15059      317.       130
RE DISCPOLR LD15059      400.       130
RE DISCPOLR LD15059      351.       140
RE DISCPOLR LD15059      400.       140
RE DISCPOLR LD15059      404.       150
RE DISCPOLR LD15059      494.       160
RE DISCPOLR LD15059      515.       170
RE DISCPOLR LD15059      474.       180
RE DISCPOLR LD15059      451.       190
RE DISCPOLR LD15059      354.       190
RE DISCPOLR LD15059      289.       190
RE DISCPOLR LD15059      284.       200
RE DISCPOLR LD15059      300.       200
RE DISCPOLR LD15059      400.       200
RE DISCPOLR LD15059      289.       210
RE DISCPOLR LD15059      300.       210
RE DISCPOLR LD15059      400.       210
RE DISCPOLR LD15059      303.       220
RE DISCPOLR LD15059      400.       220
RE DISCPOLR LD15059      296.       230
RE DISCPOLR LD15059      300.       230
```

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RE DISCPOLR LD15059      400.       230
RE DISCPOLR LD15059      230.       240
RE DISCPOLR LD15059      300.       240
RE DISCPOLR LD15059      400.       240
RE DISCPOLR LD15059      274.       250
RE DISCPOLR LD15059      300.       250
RE DISCPOLR LD15059      400.       250
RE DISCPOLR LD15059      352.       260
RE DISCPOLR LD15059      400.       260
RE DISCPOLR LD15059      389.       270
RE DISCPOLR LD15059      400.       270
RE DISCPOLR LD15059      394.       280
RE DISCPOLR LD15059      400.       280
RE DISCPOLR LD15059      412.       290
RE DISCPOLR LD15059      410.       300
RE DISCPOLR LD15059      316.       310
RE DISCPOLR LD15059      400.       310
RE DISCPOLR LD15059      264.       320
RE DISCPOLR LD15059      300.       320
RE DISCPOLR LD15059      400.       320
RE DISCPOLR LD15059      233.       330
RE DISCPOLR LD15059      300.       330
RE DISCPOLR LD15059      400.       330
RE DISCPOLR LD15059      214.       340
RE DISCPOLR LD15059      300.       340
RE DISCPOLR LD15059      400.       340
RE DISCPOLR LD15059      203.       350
RE DISCPOLR LD15059      300.       350
RE DISCPOLR LD15059      400.       350
RE DISCPOLR LD15059      200.       360
RE DISCPOLR LD15059      200.       360
RE DISCPOLR LD15059      300.       360
RE DISCPOLR LD15059      400.       360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                      UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :PMCONST.087
ISCST3 OUTPUT FILE NUMBER 2 :PMCONST.088
ISCST3 OUTPUT FILE NUMBER 3 :PMCONST.089
ISCST3 OUTPUT FILE NUMBER 4 :PMCONST.090
ISCST3 OUTPUT FILE NUMBER 5 :PMCONST.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, WITH UNIT 3

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	4.457	240.	230.	87123124
	1988	4.513	240.	230.	88123124
	1989	2.870	20.	300.	89123124
	1990	4.819	240.	230.	90123124
	1991	4.460	240.	230.	91123124
HIGH 24-Hour					
	1987	34.659	240.	230.	87110324
	1988	40.518	240.	230.	88091624
	1989	36.080	20.	300.	89060924
	1990	39.241	240.	230.	90030824
	1991	34.572	20.	300.	91032924
HSH 24-Hour					
	1987	30.097	240.	230.	87032324
	1988	36.774	240.	230.	88091124
	1989	27.630	240.	230.	89051824
	1990	33.978	240.	230.	90041924
	1991	32.476	20.	300.	91032224

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (CONSTRUCTION)5/11/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 STANDING, WITH UNIT 3
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24
CO POLLUTID  PM
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00    0.00
**  HRSG STACK LETTER CODE
** -----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP         XS          YS       ZS
**   UTM                         (m)         (m)      (m)

SO LOCATION  LD15095  POINT      0.00        0.00    0.0
SO LOCATION  LD25095  POINT    -14.07      -38.67    0.0
SO LOCATION  LD35095  POINT    -28.04      -77.05    0.0
SO LOCATION  LD45095  POINT    -42.12     -115.71    0.0
SO LOCATION  LD55095  POINT     89.60       75.08    0.0
SO LOCATION  LD65095  POINT    128.27       61.00    0.0
SO LOCATION  LD75095  POINT    166.65       47.03    0.0
SO LOCATION  LD85095  POINT    205.32       32.96    0.0

SO LOCATION  UNIT3     POINT    95.58     -125.94    0.0

** Source Parameter Cards:
** POINT:   SRCID           QS      HS       TS        VS       DS
**                         (g/s)   (m)      (K)       (m/s)     (m)

SO SRCPARAM   LD15095      1.260   38.1     377.6     13.26     5.79
SO SRCPARAM   LD25095      1.260   38.1     377.6     13.26     5.79
SO SRCPARAM   LD35095      1.260   38.1     377.6     13.26     5.79
SO SRCPARAM   LD45095      1.260   38.1     377.6     13.26     5.79
SO SRCPARAM   LD55095      2.142   38.1     377.6     13.66     5.79
SO SRCPARAM   LD65095      2.142   38.1     377.6     13.66     5.79
SO SRCPARAM   LD75095      2.142   38.1     377.6     13.66     5.79
SO SRCPARAM   LD85095      2.142   38.1     377.6     13.66     5.79


SO SRCPARAM   UNIT3       25.96   92.05    449.82    26.08    3.81


SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    49.28    40.23    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    49.28    40.23    40.23    26.21    26.21
```

SO BUILDHGT	LD15032-LD17595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD15032-LD17595	26.21	26.21	49.28	49.28	49.28	49.28
SO BUILDHGT	LD15032-LD17595	49.28	49.28	40.23	40.23	26.21	26.21
SO BUILDWID	LD15032-LD17595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD15032-LD17595	22.66	20.92	96.39	128.84	12.19	15.61
SO BUILDWID	LD15032-LD17595	18.55	93.10	132.86	122.72	24.05	23.65
SO BUILDWID	LD15032-LD17595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD15032-LD17595	22.66	20.92	96.39	96.76	31.09	96.76
SO BUILDWID	LD15032-LD17595	96.39	93.10	84.53	82.17	24.05	23.65
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	49.28	49.28	40.23	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	49.28	49.28	49.28	49.28	40.23	49.28
SO BUILDHGT	LD25032-LD27595	49.28	40.23	40.23	26.21	26.21	26.21
SO BUILDWID	LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD25032-LD27595	86.98	93.10	121.95	15.61	12.19	15.61
SO BUILDWID	LD25032-LD27595	96.39	138.96	132.86	23.71	24.05	23.65
SO BUILDWID	LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD25032-LD27595	86.98	93.10	96.39	96.76	68.73	96.76
SO BUILDWID	LD25032-LD27595	96.39	84.32	84.53	23.71	24.05	23.65
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT	LD35032-LD37595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT	LD35032-LD37595	49.28	49.28	49.28	49.28	40.23	40.23
SO BUILDHGT	LD35032-LD37595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID	LD35032-LD37595	97.36	56.70	18.55	15.61	12.19	15.61
SO BUILDWID	LD35032-LD37595	140.84	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID	LD35032-LD37595	86.98	93.10	96.39	96.76	68.73	76.30
SO BUILDWID	LD35032-LD37595	81.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	49.28
SO BUILDHGT	LD45032-LD47595	49.28	49.28	49.28	40.23	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	78.22
SO BUILDWID	LD45032-LD47595	86.98	93.10	96.39	66.71	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD55032-LD57595	40.23	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	49.28	49.28	49.28	49.28	49.28
SO BUILDWID	LD55032-LD57595	60.77	12.19	15.61	18.55	24.05	23.71
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD55032-LD57595	23.65	93.10	86.98	78.21	67.07	53.89
SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53

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SO BUILDWID LD55032-LD57595   23.65   93.10   86.98   78.21   67.07   53.89

SO BUILDHGT LD65032-LD67595   40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595   26.21   26.21   49.28   49.28   49.28   49.28
SO BUILDWID LD65032-LD67595   60.77   49.59   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89
SO BUILDWID LD65032-LD67595   15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595   23.65   24.05   86.98   78.21   67.07   53.89

SO BUILDHGT LD75032-LD77595   40.23   40.23   40.23   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   40.23   40.23   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595   26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDWID LD75032-LD77595   60.77   49.59   46.27   41.54   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69
SO BUILDWID LD75032-LD77595   15.61   12.19   15.61   53.89   44.43   22.66
SO BUILDWID LD75032-LD77595   23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595   23.65   24.05   23.71   22.66   20.92   91.69

SO BUILDHGT LD85032-LD87595   26.21   26.21   40.23   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   49.28   49.28   49.28
SO BUILDHGT LD85032-LD87595   49.28   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595   26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD85032-LD87595   15.61   12.19   46.27   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD85032-LD87595   15.61   12.19   15.61   53.89   67.07   78.22
SO BUILDWID LD85032-LD87595   86.98   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595   23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT UNIT3      40.23   40.23   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT3      49.28   49.28   49.28   49.28   40.23   49.28
SO BUILDHGT UNIT3      49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDHGT UNIT3      40.23   40.23   40.23   49.28   49.28   49.28
SO BUILDHGT UNIT3      49.28   49.28   49.28   49.28   40.23   49.28
SO BUILDHGT UNIT3      49.28   49.28   49.28   49.28   49.28   49.28
SO BUILDWID UNIT3      60.77   49.59   46.27   53.89   67.07   78.22
SO BUILDWID UNIT3      86.98   93.10   96.39   96.76   68.73   96.76
SO BUILDWID UNIT3      96.39   93.10   86.98   78.21   67.07   53.89
SO BUILDWID UNIT3      60.77   49.59   46.27   53.89   67.07   78.22
SO BUILDWID UNIT3      86.98   93.10   96.39   96.76   68.73   96.76
SO BUILDWID UNIT3      96.39   93.10   86.98   78.21   67.07   53.89

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

RE STARTING
RE GRIDPOLR POL STA
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RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 6000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR LD15095      202.        10
RE DISCPOLR LD15095      300.        10
RE DISCPOLR LD15095      400.        10
RE DISCPOLR LD15095      211.        20
RE DISCPOLR LD15095      300.        20
RE DISCPOLR LD15095      400.        20
RE DISCPOLR LD15095      229.        30
RE DISCPOLR LD15095      300.        30
RE DISCPOLR LD15095      400.        30
RE DISCPOLR LD15095      257.        40
RE DISCPOLR LD15095      300.        40
RE DISCPOLR LD15095      400.        40
RE DISCPOLR LD15095      305.        50
RE DISCPOLR LD15095      400.        50
RE DISCPOLR LD15095      296.        60
RE DISCPOLR LD15095      300.        60
RE DISCPOLR LD15095      400.        60
RE DISCPOLR LD15095      274.        70
RE DISCPOLR LD15095      300.        70
RE DISCPOLR LD15095      400.        70
RE DISCPOLR LD15095      262.        80
RE DISCPOLR LD15095      300.        80
RE DISCPOLR LD15095      400.        80
RE DISCPOLR LD15095      259.        90
RE DISCPOLR LD15095      300.        90
RE DISCPOLR LD15095      400.        90
RE DISCPOLR LD15095      264.       100
RE DISCPOLR LD15095      300.       100
RE DISCPOLR LD15095      400.       100
RE DISCPOLR LD15095      275.       110
RE DISCPOLR LD15095      300.       110
RE DISCPOLR LD15095      400.       110
RE DISCPOLR LD15095      292.       120
RE DISCPOLR LD15095      300.       120
RE DISCPOLR LD15095      400.       120
RE DISCPOLR LD15095      317.       130
RE DISCPOLR LD15095      400.       130
RE DISCPOLR LD15095      351.       140
RE DISCPOLR LD15095      400.       140
RE DISCPOLR LD15095      404.       150
RE DISCPOLR LD15095      494.       160
RE DISCPOLR LD15095      515.       170
RE DISCPOLR LD15095      474.       180
RE DISCPOLR LD15095      451.       190
RE DISCPOLR LD15095      354.       190
RE DISCPOLR LD15095      289.       190
RE DISCPOLR LD15095      284.       200
RE DISCPOLR LD15095      300.       200
RE DISCPOLR LD15095      400.       200
RE DISCPOLR LD15095      289.       210
RE DISCPOLR LD15095      300.       210
RE DISCPOLR LD15095      400.       210
RE DISCPOLR LD15095      303.       220
RE DISCPOLR LD15095      400.       220
RE DISCPOLR LD15095      296.       230
RE DISCPOLR LD15095      300.       230
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RE DISCPOLR LD15095      400.       230
RE DISCPOLR LD15095      230.       240
RE DISCPOLR LD15095      300.       240
RE DISCPOLR LD15095      400.       240
RE DISCPOLR LD15095      274.       250
RE DISCPOLR LD15095      300.       250
RE DISCPOLR LD15095      400.       250
RE DISCPOLR LD15095      352.       260
RE DISCPOLR LD15095      400.       260
RE DISCPOLR LD15095      389.       270
RE DISCPOLR LD15095      400.       270
RE DISCPOLR LD15095      394.       280
RE DISCPOLR LD15095      400.       280
RE DISCPOLR LD15095      412.       290
RE DISCPOLR LD15095      410.       300
RE DISCPOLR LD15095      316.       310
RE DISCPOLR LD15095      400.       310
RE DISCPOLR LD15095      264.       320
RE DISCPOLR LD15095      300.       320
RE DISCPOLR LD15095      400.       320
RE DISCPOLR LD15095      233.       330
RE DISCPOLR LD15095      300.       330
RE DISCPOLR LD15095      400.       330
RE DISCPOLR LD15095      214.       340
RE DISCPOLR LD15095      300.       340
RE DISCPOLR LD15095      400.       340
RE DISCPOLR LD15095      203.       350
RE DISCPOLR LD15095      300.       350
RE DISCPOLR LD15095      400.       350
RE DISCPOLR LD15095      200.       360
RE DISCPOLR LD15095      200.       360
RE DISCPOLR LD15095      300.       360
RE DISCPOLR LD15095      400.       360
RE FINISHED
ME STARTING

ME INPUTFIL S:\MET\ORLPRL87.BIN                    UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987           ORLANDO
ME UAIRDATA  12842  1987           RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
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SUMMARY OF FUTURE AIR QUALITY IMPACTS DURING THE PROJECT'S OPERATION FOR MODELED AIR EMISSION SOURCES

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :SO2FUT.087
ISCST3 OUTPUT FILE NUMBER 2 :SO2FUT.088
ISCST3 OUTPUT FILE NUMBER 3 :SO2FUT.089
ISCST3 OUTPUT FILE NUMBER 4 :SO2FUT.090
ISCST3 OUTPUT FILE NUMBER 5 :SO2FUT.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3

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	2.483	240.	4000.	87123124
	1988	2.688	240.	4000.	88123124
	1989	2.719	360.	3000.	89123124
	1990	2.860	240.	4000.	90123124
	1991	2.995	360.	3000.	91123124
HIGH 24-Hour					
	1987	36.029	350.	2000.	87050324
	1988	44.711	20.	1100.	88041724
	1989	48.408	240.	2500.	89072524
	1990	39.450	20.	2500.	90082124
	1991	39.120	120.	3000.	91062324
HSH 24-Hour					
	1987	33.520	120.	2500.	87043024
	1988	35.105	30.	1100.	88072724
	1989	34.748	230.	2000.	89072624
	1990	32.602	10.	3000.	90040624
	1991	35.585	360.	3000.	91072824
HIGH 3-Hour					
	1987	219.970	120.	3000.	87050812
	1988	221.557	340.	900.	88081812
	1989	219.666	230.	1100.	89081212
	1990	193.270	160.	1100.	90052315
	1991	214.520	350.	900.	91042615
HSH 3-Hour					
	1987	163.404	250.	900.	87070915
	1988	180.892	20.	900.	88060612
	1989	183.033	220.	1100.	89081212
	1990	164.993	120.	2500.	90073012
	1991	161.613	130.	1100.	91053112

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

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CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 3
CO POLLUTID  SO2
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN    POINT   0.00      0.00    0.00
**  HRSG STACK LETTER CODE
** -----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP          XS          YS        ZS
**   UTM                          (m)         (m)       (m)
SO LOCATION  LD15059  POINT      0.00        0.00     0.0
SO LOCATION  LD25059  POINT    -14.07      -38.67     0.0
SO LOCATION  LD35059  POINT    -28.04      -77.05     0.0
SO LOCATION  LD45059  POINT    -42.12     -115.71     0.0
SO LOCATION  LD55059  POINT     89.60       75.08     0.0
SO LOCATION  LD65059  POINT    128.27       61.00     0.0
SO LOCATION  LD75059  POINT    166.65       47.03     0.0
SO LOCATION  LD85059  POINT    205.32       32.96     0.0

SO LOCATION  UNIT3     POINT    95.58     -125.94     0.0

** Source Parameter Cards:
** POINT:   SRCID          QS      HS       TS       VS       DS
**                        (g/s)   (m)      (K)      (m/s)    (m)
SO SRCPARAM   LD15059    0.391    38.1    377.6    13.90     5.79
SO SRCPARAM   LD25059    0.391    38.1    377.6    13.90     5.79
SO SRCPARAM   LD35059    0.391    38.1    377.6    13.90     5.79
SO SRCPARAM   LD45059    0.391    38.1    377.6    13.90     5.79
SO SRCPARAM   LD55059    8.00     38.1    377.6    13.90     5.79
SO SRCPARAM   LD65059    8.00     38.1    377.6    13.90     5.79
SO SRCPARAM   LD75059    8.00     38.1    377.6    13.90     5.79
SO SRCPARAM   LD85059    8.00     38.1    377.6    13.90     5.79

SO SRCPARAM   UNIT3     571.78   92.05    449.82   26.08    3.81

SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    40.23    40.23    40.23    26.21    26.21
SO BUILDWID LD15032-LD17595     22.53    20.73    22.53    23.65    24.05    23.71
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SO BUILDWID LD15032-LD17595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD15032-LD17595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD15032-LD17595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD15032-LD17595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD15032-LD17595    18.55   30.24   30.93   30.69   24.05   23.65

SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD25032-LD27595    26.21   26.21   26.21   26.21   26.21   40.23
SO BUILDHGT LD25032-LD27595    40.23   40.23   26.21   26.21   26.21   26.21
SO BUILDWID LD25032-LD27595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD25032-LD27595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD25032-LD27595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD25032-LD27595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD25032-LD27595    22.66   20.92   18.55   15.61   12.19   26.14
SO BUILDWID LD25032-LD27595    28.62   30.24   22.66   23.71   24.05   23.65

SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   40.23   40.23   40.23
SO BUILDHGT LD35032-LD37595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD35032-LD37595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD35032-LD37595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD35032-LD37595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD35032-LD37595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD35032-LD37595    22.66   20.92   18.55   25.77   22.86   25.77
SO BUILDWID LD35032-LD37595    18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   40.23   40.23   40.23   26.21   26.21
SO BUILDHGT LD45032-LD47595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD45032-LD47595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD45032-LD47595    22.66   20.92   18.55   15.61   12.19   15.61
SO BUILDWID LD45032-LD47595    18.55   20.92   22.66   23.71   24.05   23.65
SO BUILDWID LD45032-LD47595    22.53   20.73   22.53   23.65   24.05   23.71
SO BUILDWID LD45032-LD47595    22.66   29.85   28.62   26.14   12.19   15.61
SO BUILDWID LD45032-LD47595    18.55   20.92   22.66   23.71   24.05   23.65

SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD55032-LD57595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD55032-LD57595    15.61   12.19   15.61   18.55   24.05   23.71
SO BUILDWID LD55032-LD57595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD55032-LD57595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD55032-LD57595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD55032-LD57595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
```

```
SO BUILDHGT LD65032-LD67595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDWID LD65032-LD67595    15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD65032-LD67595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD65032-LD67595    23.65    24.05    23.71    22.66    20.92    18.55
SO BUILDWID LD65032-LD67595    15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD65032-LD67595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD65032-LD67595    23.65    24.05    23.71    22.66    20.92    18.55

SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDWID LD75032-LD77595    15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD75032-LD77595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD75032-LD77595    23.65    24.05    23.71    22.66    20.92    18.55
SO BUILDWID LD75032-LD77595    15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD75032-LD77595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD75032-LD77595    23.65    24.05    23.71    22.66    20.92    18.55

SO BUILDHGT LD85032-LD87595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDWID LD85032-LD87595    15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD85032-LD87595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD85032-LD87595    23.65    24.05    23.71    22.66    20.92    18.55
SO BUILDWID LD85032-LD87595    15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD85032-LD87595    23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD85032-LD87595    23.65    24.05    23.71    22.66    20.92    18.55

SO BUILDHGT UNIT3              0.00     0.00     0.00    40.23    40.23    40.23
SO BUILDHGT UNIT3             40.23    40.23    40.23    40.23    40.23    40.23
SO BUILDHGT UNIT3             40.23    40.23    40.23    40.23    40.23    40.23
SO BUILDHGT UNIT3              0.00     0.00     0.00    40.23    40.23    40.23
SO BUILDHGT UNIT3             40.23    40.23    40.23    40.23    40.23    40.23
SO BUILDHGT UNIT3             40.23    40.23    40.23    40.23    40.23    40.23
SO BUILDWID UNIT3              0.00     0.00     0.00    27.44    29.51    30.67
SO BUILDWID UNIT3             30.67    30.24    28.62    26.14    22.86    26.14
SO BUILDWID UNIT3             28.62    30.24    30.67    30.67    29.51    27.44
SO BUILDWID UNIT3              0.00     0.00     0.00    27.44    29.51    30.67
SO BUILDWID UNIT3             30.67    30.24    28.62    26.14    22.86    26.14
SO BUILDWID UNIT3             28.62    30.24    30.67    30.67    29.51    27.44


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

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 6000
RE GRIDPOLR POL GDIR   36  10.00  10.00
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RE GRIDPOLR POL END
RE DISCPOLR LD15059     202.        10
RE DISCPOLR LD15059     300.        10
RE DISCPOLR LD15059     400.        10
RE DISCPOLR LD15059     211.        20
RE DISCPOLR LD15059     300.        20
RE DISCPOLR LD15059     400.        20
RE DISCPOLR LD15059     229.        30
RE DISCPOLR LD15059     300.        30
RE DISCPOLR LD15059     400.        30
RE DISCPOLR LD15059     257.        40
RE DISCPOLR LD15059     300.        40
RE DISCPOLR LD15059     400.        40
RE DISCPOLR LD15059     305.        50
RE DISCPOLR LD15059     400.        50
RE DISCPOLR LD15059     296.        60
RE DISCPOLR LD15059     300.        60
RE DISCPOLR LD15059     400.        60
RE DISCPOLR LD15059     274.        70
RE DISCPOLR LD15059     300.        70
RE DISCPOLR LD15059     400.        70
RE DISCPOLR LD15059     262.        80
RE DISCPOLR LD15059     300.        80
RE DISCPOLR LD15059     400.        80
RE DISCPOLR LD15059     259.        90
RE DISCPOLR LD15059     300.        90
RE DISCPOLR LD15059     400.        90
RE DISCPOLR LD15059     264.       100
RE DISCPOLR LD15059     300.       100
RE DISCPOLR LD15059     400.       100
RE DISCPOLR LD15059     275.       110
RE DISCPOLR LD15059     300.       110
RE DISCPOLR LD15059     400.       110
RE DISCPOLR LD15059     292.       120
RE DISCPOLR LD15059     300.       120
RE DISCPOLR LD15059     400.       120
RE DISCPOLR LD15059     317.       130
RE DISCPOLR LD15059     400.       130
RE DISCPOLR LD15059     351.       140
RE DISCPOLR LD15059     400.       140
RE DISCPOLR LD15059     404.       150
RE DISCPOLR LD15059     494.       160
RE DISCPOLR LD15059     515.       170
RE DISCPOLR LD15059     474.       180
RE DISCPOLR LD15059     451.       190
RE DISCPOLR LD15059     354.       190
RE DISCPOLR LD15059     289.       190
RE DISCPOLR LD15059     284.       200
RE DISCPOLR LD15059     300.       200
RE DISCPOLR LD15059     400.       200
RE DISCPOLR LD15059     289.       210
RE DISCPOLR LD15059     300.       210
RE DISCPOLR LD15059     400.       210
RE DISCPOLR LD15059     303.       220
RE DISCPOLR LD15059     400.       220
RE DISCPOLR LD15059     296.       230
RE DISCPOLR LD15059     300.       230
RE DISCPOLR LD15059     400.       230
RE DISCPOLR LD15059     230.       240
RE DISCPOLR LD15059     300.       240
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RE DISCPOLR LD15059      400.       240
RE DISCPOLR LD15059      274.       250
RE DISCPOLR LD15059      300.       250
RE DISCPOLR LD15059      400.       250
RE DISCPOLR LD15059      352.       260
RE DISCPOLR LD15059      400.       260
RE DISCPOLR LD15059      389.       270
RE DISCPOLR LD15059      400.       270
RE DISCPOLR LD15059      394.       280
RE DISCPOLR LD15059      400.       280
RE DISCPOLR LD15059      412.       290
RE DISCPOLR LD15059      410.       300
RE DISCPOLR LD15059      316.       310
RE DISCPOLR LD15059      400.       310
RE DISCPOLR LD15059      264.       320
RE DISCPOLR LD15059      300.       320
RE DISCPOLR LD15059      400.       320
RE DISCPOLR LD15059      233.       330
RE DISCPOLR LD15059      300.       330
RE DISCPOLR LD15059      400.       330
RE DISCPOLR LD15059      214.       340
RE DISCPOLR LD15059      300.       340
RE DISCPOLR LD15059      400.       340
RE DISCPOLR LD15059      203.       350
RE DISCPOLR LD15059      300.       350
RE DISCPOLR LD15059      400.       350
RE DISCPOLR LD15059      200.       360
RE DISCPOLR LD15059      200.       360
RE DISCPOLR LD15059      300.       360
RE DISCPOLR LD15059      400.       360
RE FINISHED
ME STARTING

ME INPUTFIL D:\MET\ORLPRL87.BIN                          UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987            ORLANDO
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :NOXFUT.087
ISCST3 OUTPUT FILE NUMBER 2 :NOXFUT.088
ISCST3 OUTPUT FILE NUMBER 3 :NOXFUT.089
ISCST3 OUTPUT FILE NUMBER 4 :NOXFUT.090
ISCST3 OUTPUT FILE NUMBER 5 :NOXFUT.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3

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	1.888	80.	300.	87123124
	1988	1.797	240.	3000.	88123124
	1989	1.668	360.	3000.	89123124
	1990	2.121	240.	3000.	90123124
	1991	1.931	360.	3000.	91123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD
CO POLLUTID  NOX
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP       XS            YS            ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00    0.00
**  HRSG STACK LETTER CODE
** -----------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP        XS          YS        ZS
**   UTM                        (m)         (m)       (m)
SO LOCATION  LD15059  POINT      0.00        0.00    0.0
SO LOCATION  LD25059  POINT    -14.07      -38.67    0.0
SO LOCATION  LD35059  POINT    -28.04      -77.05    0.0
SO LOCATION  LD45059  POINT    -42.12     -115.71    0.0
SO LOCATION  LD55059  POINT     89.60       75.08    0.0
SO LOCATION  LD65059  POINT    128.27       61.00    0.0
SO LOCATION  LD75059  POINT    166.65       47.03    0.0
SO LOCATION  LD85059  POINT    205.32       32.96    0.0

SO LOCATION  UNIT3     POINT    95.58      -125.94    0.0

** Source Parameter Cards:
** POINT:   SRCID            QS      HS       TS        VS       DS
**                          (g/s)   (m)      (K)       (m/s)    (m)
SO SRCPARAM   LD15059     5.241    38.1     377.6     13.90     5.79
SO SRCPARAM   LD25059     5.241    38.1     377.6     13.90     5.79
SO SRCPARAM   LD35059     5.241    38.1     377.6     13.90     5.79
SO SRCPARAM   LD45059     5.241    38.1     377.6     13.90     5.79
SO SRCPARAM   LD55059    27.959    38.1     377.6     13.90     5.79
SO SRCPARAM   LD65059    27.959    38.1     377.6     13.90     5.79
SO SRCPARAM   LD75059    27.959    38.1     377.6     13.90     5.79
SO SRCPARAM   LD85059    27.959    38.1     377.6     13.90     5.79

SO SRCPARAM   UNIT3       99.54   92.05    449.82    26.08    3.81


SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595    26.21    40.23    40.23    40.23    26.21    26.21
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SO BUILDWID	LD15032-LD17595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD15032-LD17595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD15032-LD17595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD15032-LD17595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD15032-LD17595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD15032-LD17595	18.55	30.24	30.93	30.69	24.05	23.65
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDHGT	LD25032-LD27595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDWID	LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD25032-LD27595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD25032-LD27595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD25032-LD27595	22.66	20.92	18.55	15.61	12.19	26.14
SO BUILDWID	LD25032-LD27595	28.62	30.24	22.66	23.71	24.05	23.65
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	40.23	40.23	40.23
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD35032-LD37595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD35032-LD37595	22.66	20.92	18.55	25.77	22.86	25.77
SO BUILDWID	LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	40.23	40.23	40.23	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD45032-LD47595	22.66	29.85	28.62	26.14	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	24.05	23.71
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT	LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21

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SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD65032-LD67595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD65032-LD67595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD65032-LD67595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD65032-LD67595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD65032-LD67595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD75032-LD77595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD75032-LD77595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD75032-LD77595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD75032-LD77595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD75032-LD77595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD75032-LD77595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDHGT LD85032-LD87595    26.21   26.21   26.21   26.21   26.21   26.21
SO BUILDWID LD85032-LD87595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD85032-LD87595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595    23.65   24.05   23.71   22.66   20.92   18.55
SO BUILDWID LD85032-LD87595    15.61   12.19   15.61   18.55   20.92   22.66
SO BUILDWID LD85032-LD87595    23.71   24.05   23.65   22.53   20.73   22.53
SO BUILDWID LD85032-LD87595    23.65   24.05   23.71   22.66   20.92   18.55

SO BUILDHGT UNIT3              0.00    0.00    0.00   40.23   40.23   40.23
SO BUILDHGT UNIT3             40.23   40.23   40.23   40.23   40.23   40.23
SO BUILDHGT UNIT3             40.23   40.23   40.23   40.23   40.23   40.23
SO BUILDHGT UNIT3              0.00    0.00    0.00   40.23   40.23   40.23
SO BUILDHGT UNIT3             40.23   40.23   40.23   40.23   40.23   40.23
SO BUILDHGT UNIT3             40.23   40.23   40.23   40.23   40.23   40.23
SO BUILDWID UNIT3              0.00    0.00    0.00   27.44   29.51   30.67
SO BUILDWID UNIT3             30.67   30.24   28.62   26.14   22.86   26.14
SO BUILDWID UNIT3             28.62   30.24   30.67   30.67   29.51   27.44
SO BUILDWID UNIT3              0.00    0.00    0.00   27.44   29.51   30.67
SO BUILDWID UNIT3             30.67   30.24   28.62   26.14   22.86   26.14
SO BUILDWID UNIT3             28.62   30.24   30.67   30.67   29.51   27.44


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

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 6000
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RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR LD15059      202.        10
RE DISCPOLR LD15059      300.        10
RE DISCPOLR LD15059      400.        10
RE DISCPOLR LD15059      211.        20
RE DISCPOLR LD15059      300.        20
RE DISCPOLR LD15059      400.        20
RE DISCPOLR LD15059      229.        30
RE DISCPOLR LD15059      300.        30
RE DISCPOLR LD15059      400.        30
RE DISCPOLR LD15059      257.        40
RE DISCPOLR LD15059      300.        40
RE DISCPOLR LD15059      400.        40
RE DISCPOLR LD15059      305.        50
RE DISCPOLR LD15059      400.        50
RE DISCPOLR LD15059      296.        60
RE DISCPOLR LD15059      300.        60
RE DISCPOLR LD15059      400.        60
RE DISCPOLR LD15059      274.        70
RE DISCPOLR LD15059      300.        70
RE DISCPOLR LD15059      400.        70
RE DISCPOLR LD15059      262.        80
RE DISCPOLR LD15059      300.        80
RE DISCPOLR LD15059      400.        80
RE DISCPOLR LD15059      259.        90
RE DISCPOLR LD15059      300.        90
RE DISCPOLR LD15059      400.        90
RE DISCPOLR LD15059      264.       100
RE DISCPOLR LD15059      300.       100
RE DISCPOLR LD15059      400.       100
RE DISCPOLR LD15059      275.       110
RE DISCPOLR LD15059      300.       110
RE DISCPOLR LD15059      400.       110
RE DISCPOLR LD15059      292.       120
RE DISCPOLR LD15059      300.       120
RE DISCPOLR LD15059      400.       120
RE DISCPOLR LD15059      317.       130
RE DISCPOLR LD15059      400.       130
RE DISCPOLR LD15059      351.       140
RE DISCPOLR LD15059      400.       140
RE DISCPOLR LD15059      404.       150
RE DISCPOLR LD15059      494.       160
RE DISCPOLR LD15059      515.       170
RE DISCPOLR LD15059      474.       180
RE DISCPOLR LD15059      451.       190
RE DISCPOLR LD15059      354.       190
RE DISCPOLR LD15059      289.       190
RE DISCPOLR LD15059      284.       200
RE DISCPOLR LD15059      300.       200
RE DISCPOLR LD15059      400.       200
RE DISCPOLR LD15059      289.       210
RE DISCPOLR LD15059      300.       210
RE DISCPOLR LD15059      400.       210
RE DISCPOLR LD15059      303.       220
RE DISCPOLR LD15059      400.       220
RE DISCPOLR LD15059      296.       230
RE DISCPOLR LD15059      300.       230
RE DISCPOLR LD15059      400.       230
RE DISCPOLR LD15059      230.       240
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RE DISCPOLR LD15059      300.       240
RE DISCPOLR LD15059      400.       240
RE DISCPOLR LD15059      274.       250
RE DISCPOLR LD15059      300.       250
RE DISCPOLR LD15059      400.       250
RE DISCPOLR LD15059      352.       260
RE DISCPOLR LD15059      400.       260
RE DISCPOLR LD15059      389.       270
RE DISCPOLR LD15059      400.       270
RE DISCPOLR LD15059      394.       280
RE DISCPOLR LD15059      400.       280
RE DISCPOLR LD15059      412.       290
RE DISCPOLR LD15059      410.       300
RE DISCPOLR LD15059      316.       310
RE DISCPOLR LD15059      400.       310
RE DISCPOLR LD15059      264.       320
RE DISCPOLR LD15059      300.       320
RE DISCPOLR LD15059      400.       320
RE DISCPOLR LD15059      233.       330
RE DISCPOLR LD15059      300.       330
RE DISCPOLR LD15059      400.       330
RE DISCPOLR LD15059      214.       340
RE DISCPOLR LD15059      300.       340
RE DISCPOLR LD15059      400.       340
RE DISCPOLR LD15059      203.       350
RE DISCPOLR LD15059      300.       350
RE DISCPOLR LD15059      400.       350
RE DISCPOLR LD15059      200.       360
RE DISCPOLR LD15059      200.       360
RE DISCPOLR LD15059      300.       360
RE DISCPOLR LD15059      400.       360
RE FINISHED
ME STARTING

ME INPUTFIL D:\MET\ORLPRL87.BIN                         UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987           ORLANDO
ME UAIRDATA  12842  1987           RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :PMFUT.087
ISCST3 OUTPUT FILE NUMBER 2 :PMFUT.088
ISCST3 OUTPUT FILE NUMBER 3 :PMFUT.089
ISCST3 OUTPUT FILE NUMBER 4 :PMFUT.090
ISCST3 OUTPUT FILE NUMBER 5 :PMFUT.091
First title for last output file is: 1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3

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	0.253	240.	4000.	87123124
	1988	0.256	240.	3000.	88123124
	1989	0.248	360.	3000.	89123124
	1990	0.302	240.	230.	90123124
	1991	0.280	360.	3000.	91123124
HIGH 24-Hour					
	1987	7.217	90.	300.	87033124
	1988	6.282	70.	300.	88041224
	1989	5.137	100.	300.	89022324
	1990	5.242	240.	230.	90030824
	1991	6.614	80.	300.	91021524
HSH 24-Hour					
	1987	3.833	240.	300.	87032324
	1988	4.687	90.	300.	88021224
	1989	3.006	90.	400.	89022324
	1990	3.926	330.	233.	90031624
	1991	4.022	80.	300.	91030424

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE  1987 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
CO TITLETWO  2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3
CO MODELOPT  DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24
CO POLLUTID  PM
CO DCAYCOEF   .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS             ZS
** MODELING ORIGIN IS STACK 4A LOCATION
** SO LOCATION  ORIGIN   POINT   0.00      0.00    0.00
**  HRSG STACK LETTER CODE
** ------------------------
**  4A -  HRSG 1
**  4B -  HRSG 2
**  4C -  HRSG 3
**  4D -  HRSG 4
**  5A -  HRSG 5
**  5B -  HRSG 6
**  5C -  HRSG 7
**  5D -  HRSG 8
**          SRCID SRCTYP         XS           YS        ZS
**   UTM                         (m)          (m)       (m)
SO LOCATION  LD15095  POINT      0.00         0.00     0.0
SO LOCATION  LD25095  POINT    -14.07       -38.67     0.0
SO LOCATION  LD35095  POINT    -28.04       -77.05     0.0
SO LOCATION  LD45095  POINT    -42.12      -115.71     0.0
SO LOCATION  LD55095  POINT     89.60        75.08     0.0
SO LOCATION  LD65095  POINT    128.27        61.00     0.0
SO LOCATION  LD75095  POINT    166.65        47.03     0.0
SO LOCATION  LD85095  POINT    205.32        32.96     0.0

SO LOCATION  UNIT3     POINT    95.58      -125.94     0.0

** Source Parameter Cards:
** POINT:   SRCID            QS      HS       TS        VS       DS
**                          (g/s)   (m)      (K)      (m/s)     (m)
SO SRCPARAM   LD15095      1.260   38.1     377.6     13.26     5.79
SO SRCPARAM   LD25095      1.260   38.1     377.6     13.26     5.79
SO SRCPARAM   LD35095      1.260   38.1     377.6     13.26     5.79
SO SRCPARAM   LD45095      1.260   38.1     377.6     13.26     5.79
SO SRCPARAM   LD55095      2.142   38.1     377.6     13.66     5.79
SO SRCPARAM   LD65095      2.142   38.1     377.6     13.66     5.79
SO SRCPARAM   LD75095      2.142   38.1     377.6     13.66     5.79
SO SRCPARAM   LD85095      2.142   38.1     377.6     13.66     5.79

SO SRCPARAM   UNIT3       25.96   92.05    449.82    26.08    3.81


SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD15032-LD17595     26.21    40.23    40.23    40.23    26.21    26.21
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SO BUILDWID	LD15032-LD17595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD15032-LD17595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD15032-LD17595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD15032-LD17595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD15032-LD17595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD15032-LD17595	18.55	30.24	30.93	30.69	24.05	23.65
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD25032-LD27595	26.21	26.21	26.21	26.21	26.21	40.23
SO BUILDHGT	LD25032-LD27595	40.23	40.23	26.21	26.21	26.21	26.21
SO BUILDWID	LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD25032-LD27595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD25032-LD27595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD25032-LD27595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD25032-LD27595	22.66	20.92	18.55	15.61	12.19	26.14
SO BUILDWID	LD25032-LD27595	28.62	30.24	22.66	23.71	24.05	23.65
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	40.23	40.23	40.23
SO BUILDHGT	LD35032-LD37595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD35032-LD37595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD35032-LD37595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD35032-LD37595	22.66	20.92	18.55	25.77	22.86	25.77
SO BUILDWID	LD35032-LD37595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	40.23	40.23	40.23	26.21	26.21
SO BUILDHGT	LD45032-LD47595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD45032-LD47595	22.66	20.92	18.55	15.61	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDWID	LD45032-LD47595	22.53	20.73	22.53	23.65	24.05	23.71
SO BUILDWID	LD45032-LD47595	22.66	29.85	28.62	26.14	12.19	15.61
SO BUILDWID	LD45032-LD47595	18.55	20.92	22.66	23.71	24.05	23.65
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDHGT	LD55032-LD57595	26.21	26.21	26.21	26.21	26.21	26.21
SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	24.05	23.71
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDWID	LD55032-LD57595	15.61	12.19	15.61	18.55	20.92	22.66
SO BUILDWID	LD55032-LD57595	23.71	24.05	23.65	22.53	20.73	22.53
SO BUILDWID	LD55032-LD57595	23.65	24.05	23.71	22.66	20.92	18.55
SO BUILDHGT	LD65032-LD67595	26.21	26.21	26.21	26.21	26.21	26.21

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SO BUILDHGT LD65032-LD67595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD65032-LD67595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDWID LD65032-LD67595     15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD65032-LD67595     23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD65032-LD67595     23.65    24.05    23.71    22.66    20.92    18.55
SO BUILDWID LD65032-LD67595     15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD65032-LD67595     23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD65032-LD67595     23.65    24.05    23.71    22.66    20.92    18.55

SO BUILDHGT LD75032-LD77595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD75032-LD77595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDWID LD75032-LD77595     15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD75032-LD77595     23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD75032-LD77595     23.65    24.05    23.71    22.66    20.92    18.55
SO BUILDWID LD75032-LD77595     15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD75032-LD77595     23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD75032-LD77595     23.65    24.05    23.71    22.66    20.92    18.55

SO BUILDHGT LD85032-LD87595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDHGT LD85032-LD87595     26.21    26.21    26.21    26.21    26.21    26.21
SO BUILDWID LD85032-LD87595     15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD85032-LD87595     23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD85032-LD87595     23.65    24.05    23.71    22.66    20.92    18.55
SO BUILDWID LD85032-LD87595     15.61    12.19    15.61    18.55    20.92    22.66
SO BUILDWID LD85032-LD87595     23.71    24.05    23.65    22.53    20.73    22.53
SO BUILDWID LD85032-LD87595     23.65    24.05    23.71    22.66    20.92    18.55

SO BUILDHGT UNIT3                0.00     0.00     0.00    40.23    40.23    40.23
SO BUILDHGT UNIT3               40.23    40.23    40.23    40.23    40.23    40.23
SO BUILDHGT UNIT3               40.23    40.23    40.23    40.23    40.23    40.23
SO BUILDHGT UNIT3                0.00     0.00     0.00    40.23    40.23    40.23
SO BUILDHGT UNIT3               40.23    40.23    40.23    40.23    40.23    40.23
SO BUILDHGT UNIT3               40.23    40.23    40.23    40.23    40.23    40.23
SO BUILDWID UNIT3                0.00     0.00     0.00    27.44    29.51    30.67
SO BUILDWID UNIT3               30.67    30.24    28.62    26.14    22.86    26.14
SO BUILDWID UNIT3               28.62    30.24    30.67    30.67    29.51    27.44
SO BUILDWID UNIT3                0.00     0.00     0.00    27.44    29.51    30.67
SO BUILDWID UNIT3               30.67    30.24    28.62    26.14    22.86    26.14
SO BUILDWID UNIT3               28.62    30.24    30.67    30.67    29.51    27.44


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

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST   500 700 900 1100 1500 2000 2500 3000 4000 5000 6000
```

```
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR LD15095      202.        10
RE DISCPOLR LD15095      300.        10
RE DISCPOLR LD15095      400.        10
RE DISCPOLR LD15095      211.        20
RE DISCPOLR LD15095      300.        20
RE DISCPOLR LD15095      400.        20
RE DISCPOLR LD15095      229.        30
RE DISCPOLR LD15095      300.        30
RE DISCPOLR LD15095      400.        30
RE DISCPOLR LD15095      257.        40
RE DISCPOLR LD15095      300.        40
RE DISCPOLR LD15095      400.        40
RE DISCPOLR LD15095      305.        50
RE DISCPOLR LD15095      400.        50
RE DISCPOLR LD15095      296.        60
RE DISCPOLR LD15095      300.        60
RE DISCPOLR LD15095      400.        60
RE DISCPOLR LD15095      274.        70
RE DISCPOLR LD15095      300.        70
RE DISCPOLR LD15095      400.        70
RE DISCPOLR LD15095      262.        80
RE DISCPOLR LD15095      300.        80
RE DISCPOLR LD15095      400.        80
RE DISCPOLR LD15095      259.        90
RE DISCPOLR LD15095      300.        90
RE DISCPOLR LD15095      400.        90
RE DISCPOLR LD15095      264.       100
RE DISCPOLR LD15095      300.       100
RE DISCPOLR LD15095      400.       100
RE DISCPOLR LD15095      275.       110
RE DISCPOLR LD15095      300.       110
RE DISCPOLR LD15095      400.       110
RE DISCPOLR LD15095      292.       120
RE DISCPOLR LD15095      300.       120
RE DISCPOLR LD15095      400.       120
RE DISCPOLR LD15095      317.       130
RE DISCPOLR LD15095      400.       130
RE DISCPOLR LD15095      351.       140
RE DISCPOLR LD15095      400.       140
RE DISCPOLR LD15095      404.       150
RE DISCPOLR LD15095      494.       160
RE DISCPOLR LD15095      515.       170
RE DISCPOLR LD15095      474.       180
RE DISCPOLR LD15095      451.       190
RE DISCPOLR LD15095      354.       190
RE DISCPOLR LD15095      289.       190
RE DISCPOLR LD15095      284.       200
RE DISCPOLR LD15095      300.       200
RE DISCPOLR LD15095      400.       200
RE DISCPOLR LD15095      289.       210
RE DISCPOLR LD15095      300.       210
RE DISCPOLR LD15095      400.       210
RE DISCPOLR LD15095      303.       220
RE DISCPOLR LD15095      400.       220
RE DISCPOLR LD15095      296.       230
RE DISCPOLR LD15095      300.       230
RE DISCPOLR LD15095      400.       230
RE DISCPOLR LD15095      230.       240
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RE DISCPOLR LD15095      300.        240
RE DISCPOLR LD15095      400.        240
RE DISCPOLR LD15095      274.        250
RE DISCPOLR LD15095      300.        250
RE DISCPOLR LD15095      400.        250
RE DISCPOLR LD15095      352.        260
RE DISCPOLR LD15095      400.        260
RE DISCPOLR LD15095      389.        270
RE DISCPOLR LD15095      400.        270
RE DISCPOLR LD15095      394.        280
RE DISCPOLR LD15095      400.        280
RE DISCPOLR LD15095      412.        290
RE DISCPOLR LD15095      410.        300
RE DISCPOLR LD15095      316.        310
RE DISCPOLR LD15095      400.        310
RE DISCPOLR LD15095      264.        320
RE DISCPOLR LD15095      300.        320
RE DISCPOLR LD15095      400.        320
RE DISCPOLR LD15095      233.        330
RE DISCPOLR LD15095      300.        330
RE DISCPOLR LD15095      400.        330
RE DISCPOLR LD15095      214.        340
RE DISCPOLR LD15095      300.        340
RE DISCPOLR LD15095      400.        340
RE DISCPOLR LD15095      203.        350
RE DISCPOLR LD15095      300.        350
RE DISCPOLR LD15095      400.        350
RE DISCPOLR LD15095      200.        360
RE DISCPOLR LD15095      200.        360
RE DISCPOLR LD15095      300.        360
RE DISCPOLR LD15095      400.        360
RE FINISHED
ME STARTING

ME INPUTFIL D:\MET\ORLPRL87.BIN                      UNFORM
ME ANEMHGHT   10.100 METERS
ME SURFDATA  12815  1987           ORLANDO
ME UAIRDATA  12842  1987           RUSKIN
ME WINDCATS    1.54     3.09    5.14    8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :so2ftr03.o88
ISCST3 OUTPUT FILE NUMBER 2 :so2ftr03.o89
First title for last output file is: 1988 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3,3HR REF

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
HIGH 3-Hour					
	1988	218.84377	28.	900.	88041715
	1989	225.55446	228.	1000.	89081212
HSH 3-Hour					
	1988	198.03151	24.	1000.	88060612
	1989	191.32216	222.	1100.	89072612

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :so2ftr24.o88
ISCST3 OUTPUT FILE NUMBER 2 :so2ftr24.o89
First title for last output file is: 1988 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3,24HR REF

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
HIGH 24-Hour					
	1988	45.21046	22.	1100.	88041724
	1989	48.63799	238.	2400.	89072524
HSH 24-Hour					
	1988	36.74605	32.	1000.	88072724
	1989	35.13056	230.	1800.	89072624

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :so2ftra2.o91
First title for last output file is: 1991 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3, ANN,24HR REF.

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1991	3.02126	2.	3100.	91123124
HIGH 24-Hour					
	1991	38.22745	360.	3400.	91042824

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :noxfutra.o90
First title for last output file is: 1990 FPL SANFORD REPOWERING IMPACT ANALYSIS (FUTURE)5/11/99
Second title for last output file is: 2 BANKS GE HRSG STACKS, Blg 4&5 REMOVED, with Unit 3, REFINED

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: ALL					
Annual					
	1990	2.16491	238.	3200.	90123124

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00