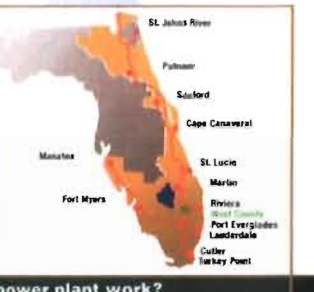
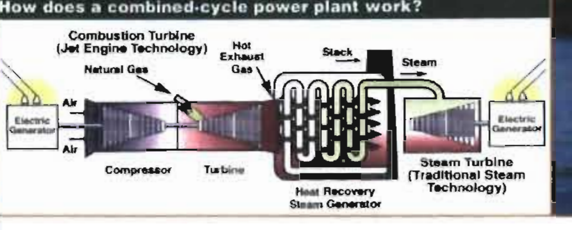
West County energy center





Volume 3 of 3

FPL

VOLUME III

APPENDIX 10.1.5

FDEP LONG-FORM AIR PERMIT
AND PSD APPLICATION

SITE CERTIFICATION APPLICATION
WEST COUNTY ENERGY CENTER

VOLUME 3 OF 3

Submitted by:

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

April 2005

0437649

Kennard F. Kosky, P.E.
Professional Registered Engineer No. 14996

Golder Associates Inc.*
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500
***Board of Professional Engineers**
Certificate of Authorization No. 00001670

SEAL

APPLICANT INFORMATION

Please supply the following information:

Applicant's Official Name *Florida Power and Light Company (FPL)*

Address *700 Universe Boulevard, Juno Beach, FL 33408*

Address of Official Headquarters *700 Universe Boulevard, Juno Beach, FL 33408*

Business Entity (corporation, partnership, co-operative) *Corporation*

Names, owners, etc. *Florida Power and Light Company (an investor-owned electric utility)*

Name and Title of Chief Executive Officer *Armando J. Olivera, President*

Name, Address, and Phone Number of Official Representative responsible for obtaining certification *Barbara Linkiewicz, Environmental Licensing Manager, New Generation Projects, Environmental Services, 700 Universe Boulevard, Juno Beach, FL 33408 Phone: (561) 691-7518 Fax: (561) 691-7049*

Site Location (county) *4000 205th Street, Loxahatchee, Palm Beach County, FL 33470*

Nearest Incorporated City *Wellington, FL (about 5 miles west of nearest boundary)*

Latitude and Longitude *26°41' 54.98" 80°22' 29.54" (HRSG Stack Unit 2; 2nd stack toward north; approx. center of power blocks).*

UTMs: Northerly *2,953.04 km N*

Easterly *562.19 km E (Zone 17)*

Section, Township, Range *Portions of Sections 29 and 32 of Township 43S, Range 40E*

Location of any directly associated transmission facilities (counties) *Not Applicable*

Name Plate Generating Capacity *Site Certification: Unit 1 Nominal 1,100 MW (2009); Unit 2 Nominal 1,100 MW (2010)*

Capacity of Proposed Additions and Ultimate Site Capacity (where applicable): *Ultimate Site Capacity: Nominal 3,300 MW (an addition of a Nominal 1,100 MW as Unit 3)*

Remarks (additional information that will help identify the applicant): *Project Name: West County Energy Center*

EXHIBIT A

LEGAL DESCRIPTION

Part of Parcel I in Sections 29 and 32, Township 43 South, Range 40 East, Palm Beach County, Florida described as follows: Commencing at the Northwest corner of Section 29, Township 43 South, Range 40 East, Palm Beach County, Florida, thence South 88°52'46" East 745.00 feet along the North line of Section 29 to the East right-of-way line of the Florida Power & Light Company corridor as recorded in O.R.B. 2222, Page 1696, thence South 0°49'13" West 589.00 feet along a line parallel with the West line of said Section 29, along the East right-of-way line of the aforementioned Florida Power & Light Company corridor to the Southwest corner of the East 900 feet of the West 1,645 feet of the North 589 feet of said Section 29 and the point of beginning of Parcel II, thence South 88°52'46" East 1,200.00 feet along the South line of the East 900 feet of the West 1,645 feet of the North 589 feet of said Section 29 and its Easterly extension, thence South 0°49'13" West 4,658.85 feet along a line parallel with East right-of-way line of the Florida Power & Light company corridor, to the North line of Section 32, Township 43 South, Range 40 East, thence South 0°56'55" West 3,378.92 feet along a line parallel with the East right-of-way line of the aforesaid Florida Power & Light Company corridor to the North right-of-way line of State Road 80 thence North 88°28'14" West 1,100.09 feet along said right-of-way line of State Road 80, to the East right-of-way line of the Florida Power & Light Company corridor, thence North 0°56'55" East 880.76 feet along a line parallel with said West line of Section 32, Township 43 South, Range 40 East, thence North 89°03'05" West 100.00 feet at right angles to the preceding course, then North 0°56'55" East 2,501.94 feet along the East right-of-way line of Florida Power & Light Company corridor to the South line of Section 29, Township 43 South, Range 40 East, thence North 0°49'13" East 4,647.51 feet along said right-of-way line to the Point of Beginning.

Parcel = Approximately 220 acres.

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APPLICATION FOR PERMIT

Department of
Environmental Protection
Division of Air Resource Management
APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit for a proposed project:
- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:
- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **Florida Power and Light Company**
2. Site Name: **West County Energy Center**
3. Facility Identification Number: **Unknown**
4. Facility Location...:
   Street Address or Other Locator: **4000 205th Street, North**
   City: **Loxahatchee** County: **Palm Beach** Zip Code: **33470**
5. Relocatable Facility? ☐ Yes ☒ No
6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name:
   Barbara Linkiewicz, Environmental Licensing Manager, New Capacity Projects
2. Application Contact Mailing Address...
   Organization/Firm: **Florida Power & Light Company**
   Street Address: **700 Universe Blvd.**
   City: **Juno Beach** State: **FL** Zip Code: **33408**
3. Application Contact Telephone Numbers...
   Telephone: **(561) 691-7518** ext. Fax: **(561) 691-7070**
4. Application Contact Email Address:

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	4-19-05
2. Project Number(s):	0990040-001-AC
3. PSD Number (if applicable):	PSD-FL-354
4. Siting Number (if applicable):	PA 05-47

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

☒ Air construction permit.

Air Operation Permit

☐ Initial Title V air operation permit.

☐ Title V air operation permit revision.

☐ Title V air operation permit renewal.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☐ Air construction permit and Title V permit revision, incorporating the proposed project.

☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

See PSD Report. Application fee not applicable since review is conducted under the Site Certification process, which has an application fee.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
1A - 1D	Unit 1 : Four GE-7FA CT/HRSGs	AC1A	
2A - 2D	Unit 2 : Four GE-7FA CT/HRSGs	AC1A	
	Cooling Tower	AC1A	
	"Or"		
1A - 1D	Unit 1 : Four GE-7FB CT/HRSGs	AC1A	
2A - 2D	Unit 2 : Four GE-7FB CT/HRSGs	AC1A	
	Cooling Tower	AC1A	
	"Or"		
1A - 1C	Unit 1 : Three SW-Frame G CT/HRSGs	AC1A	
2A - 2C	Unit 2 : Three SW-Frame G CT/HRSGs	AC1A	
	Cooling Tower	AC1A	
	"Or"		
1A - 1C	Unit 1 : Three MHI-Frame G CT/HRSGs	AC1A	
2A - 2C	Unit 2 : Three MHI-Frame G CT/HRSGs	AC1A	
	Cooling Tower	AC1A	

Application Processing Fee

Check one: ☐ Attached - Amount: $________________ ☒ Not Applicable

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1.	Owner/Authorized Representative Name : Randall R. LaBauve, Vice President
2.	Owner/Authorized Representative Mailing Address... Organization/Firm: Florida Power & Light Company Street Address: 700 Universe Blvd. City: Juno Beach State: FL Zip Code: 33408
3.	Owner/Authorized Representative Telephone Numbers... Telephone: (561) 691-7001 ext. Fax: (561) 691-7070
4.	Owner/Authorized Representative Email Address:
5.	Owner/Authorized Representative Statement: *I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. 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 and all other requirements identified in this application to which the facility is subject. 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 the facility or any permitted emissions unit.* Signature March 29, 2005 Date

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively. ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. ☐ The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
4. Application Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
5. Application Responsible Official Email Address:
6. Application Responsible Official Certification: I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. 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 and all other applicable requirements identified in this application to which the Title V source is subject. 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 the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application. Signature Date

APPLICATION INFORMATION

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**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext.**516** Fax: **(352) 336-6603**
4. Professional Engineer Email Address: **kkosky@golder.com**
5. Professional Engineer Statement:

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

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

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

(3) If the purpose of this application is to obtain a Title V 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 plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, 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.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal 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 4/12/05

Signature Date

(seal)

* Attach any exception to certification statement.
** **Board of Professional Engineers Certificate of Authorization #00001670**

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **562.19** North (km) **2953.04**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **26/41/54.98** Longitude (DD/MM/SS) **80/22/29.54**	
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 : **The project consists of two nominal 1,100-MW power blocks with three or four CT/HRSG trains. Coordinates are the second HRSG stack in Unit 2 toward north. See Scope of Application and the PSD report.**			

Facility Contact

1. Facility Contact Name: **Barbara Linkiewicz, Environmental Licensing Manager, New Capacity Projects**
2. Facility Contact Mailing Address... Organization/Firm: **Florida Power & Light Company** Street Address: **700 Universe Blvd.** City: **Juno Beach** State: **FL** Zip Code: **33408**
3. Facility Contact Telephone Numbers: Telephone: **(561) 691-7518** ext. Fax: **(561) 691-7070**
4. Facility Contact Email Address:

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☒ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: **CT and HRSG Duct Burners are subject to NSPS Subpart KKKK.**	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	N
PM_{10}	A	N
VOC	A	N
SO_2	A	N
NO_x	A	N
CO	A	N

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID Nos. Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1.	Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: PSD Report ☐ Previously Submitted, Date:_____
2.	Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: PSD Report ☐ Previously Submitted, Date:_____
3.	Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: PSD Report ☐ Previously Submitted, Date: _____

Additional Requirements for Air Construction Permit Applications

1.	Area Map Showing Facility Location: ☒ Attached, Document ID: PSD Report ☐ Not Applicable (existing permitted facility)
2.	Description of Proposed Construction or Modification: ☒ Attached, Document ID: PSD Report
3.	Rule Applicability Analysis: ☒ Attached, Document ID: PSD Report
4.	List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable (no exempt units at facility)
5.	Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
6.	Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): ☒ Attached, Document ID: PSD Report ☐ Not Applicable
7.	Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): ☒ Attached, Document ID: PSD Report ☐ Not Applicable
8.	Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.): ☒ Attached, Document ID: PSD Report ☐ Not Applicable
9.	Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.): ☒ Attached, Document ID: PSD Report ☐ Not Applicable
10.	Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): ☐ Attached, Document ID:_____ ☐ Not Applicable (no exempt units at facility)	

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only): ☐ Attached, Document ID:_____ ☐ Not Applicable (revision application)	
2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought): ☐ Attached, Document ID:_____ ☐ Not Applicable (revision application with no change in applicable requirements)	
3. Compliance Report and Plan (Required for all initial/revision/renewal applications): ☐ Attached, Document ID:_____ Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.	
4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only): ☐ Attached, Document ID:_____ ☐ Equipment/Activities On site but Not Required to be Individually Listed ☐ Not Applicable	
5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) : ☐ Attached, Document ID:_____ ☐ Not Applicable	
6. Requested Changes to Current Title V Air Operation Permit: ☐ Attached, Document ID:_____ ☐ Not Applicable	

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ 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.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

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

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

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

2. Description of Emissions Unit Addressed in this Section:
   Power Block 1: Four identical GE-7FA CT/HRSGs or four GE-7FB CT/HRSGs or three Siemens Westinghouse (SW) Frame G CT/HRSGs or three Mitsubishi (MHI) Frame G CT/HRSGs. Designated as Units 1A, 1B, 1C, and 1D for "F" Class and 1A, 1B, and 1C for "G" class.

3. Emissions Unit Identification Number: **1A, 1B, 1C, and 1D**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C			**49**	☒ Yes ☐ No

9. Package Unit:
   Manufacturer: **GE, SW, or MHI** Model Number: **7FA, 7FB, or Frame G**

10. Generator Nameplate Rating: **(See Tables 2-1 and 2-2 of PSD Report)** MW

11. Emissions Unit Comment:
    Each combined cycle unit will have a nominal capacity of 1,100 MW consisting of either 4 or 3 CT/HRSG Trains.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Natural Gas
- **Combined cycle - SCR**

Distiallate Fuel Oil
- **Water injection**
- **Combined cycle - SCR**

2. Control Device or Method Code(s): **25, 28, 65**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **(see Table 2-1 and 2-2 of PSD Report)** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **7** days/week **52** weeks/year **8,760** hours/year	
6. Operating Capacity/Schedule Comment: **Tables 2-1 and 2-2 of the PSD Report shows the maximum heat input at ISO conditions and base load. Appendix A of PSD Report has performance at various turbine inlet temperatures and loads.**	

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See PSD Report**	2. Emission Point Type Code: **1**

3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Exhausts through the HRSG stack.**
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:

5. Discharge Type Code: **V**	6. Stack Height: **149** feet	7. Exit Diameter: **See PSD Report** feet
8. Exit Temperature: **See PSD Report** °F	9. Actual Volumetric Flow Rate: **See PSD Report** acfm	10. Water Vapor: %

11. Maximum Dry Standard Flow Rate: **See PSD Report** dscfm	12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)

15. Emission Point Comment:

Tables 2-1 and 2-2 of the PSD Report shows the emission point characteristics at ISO conditions and base load for each CT/HRSG. Appendix A of the PSD Report has emission point characteristics for various turbine inlet temperatures and operating loads.

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **Distillate (No. 2) Fuel Oil**		
2. Source Classification Code (SCC): **20100101**	3. SCC Units: **1,000 Gallons Used**	
4. Maximum Hourly Rate: **14**	5. Maximum Annual Rate: **7,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.0015**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **130**
10. Segment Comment: **Million British Thermal Units (Btu) per SCC unit = 129.9 (rounded to 130). Based on 7.1 pounds per gallon (lb/gal); LHV = 18,367 Btu/lb ISO conditions, 500 hours per year (hr/yr) operation. Based on GE-7FA Units. See Section 2.0 in PSD Report for fuel usage of other units.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **Natural Gas**		
2. Source Classification Code (SCC): **20100201**	3. SCC Units: **Million cubic feet**	
4. Maximum Hourly Rate: **1.68**	5. Maximum Annual Rate: **14,754**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **950**
10. Segment Comment: **Based on 950 Btu/cf (LHV); ISO conditions and 8,760 hr/yr operation. Based on GE-7FA Units. See Section 2.0 in PSD Report for fuel usage of other units.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM_{10}			EL
SO_2			EL
NO_x	025, 028	065	EL
CO			EL
VOC			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **GE, 2005; SW, 2005; MHI, 2005; FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0, Tables 2-1, 2-2, and 2-7.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Annual VE test: EPA Method 9; if > 400 hrs.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0, Table 2-2, and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Annual VE test: EPA Method 9.**	
6. Allowable Emissions Comment (Description of Operating Method): **Gas-firing: See PSD Report, Section 2.0, Table 2-1, and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **GE, 2005; SW, 2005; MHI, 2005; FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0, Tables 2-1, 2-2, and 2-7.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Annual VE test: EPA Method 9; if > 400 hrs.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0, Table 2-2, and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Annual VE test: EPA Method 9.**	
6. Allowable Emissions Comment (Description of Operating Method): **Gas-firing: See PSD Report, Section 2.0, Table 2-1, and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Emission factor: 2 grains Sulfur (S) per 100 CF gas; 0.0015% S oil. See PSD Report, Section 2.0 and Appendix A.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.0015% S oil**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Fuel sampling.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2 grains/100 SCF**	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance: **Fuel sampling.**	
6. Allowable Emissions Comment (Description of Operating Method): **Natural gas-firing CT with duct firing. See PSD Report Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **Natural gas-firing: See PSD Report, Section 2.0 and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0 and Appendix A.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10 ppmvd**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Methods 20 and 7e; CEM - 24-hr block average.**	
6. Allowable Emissions Comment (Description of Operating Method): **Requested allowable emissions and units at 15% O_2. Gas-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2.5 ppmvd**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Methods 20 and 7e; CEM - 24-hr block average.**	
6. Allowable Emissions Comment (Description of Operating Method): **Requested allowable emissions and units at 15% O_2. Gas-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **GE, 2005; SW, 2005; MHI, 2005; FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **See PSD Table 2-2**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Method 10; base load; if > 400 hrs. CEM 24-hr block.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **See PSD Table 2-1**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Method 10; base load. CEM 24-hr block.**	
6. Allowable Emissions Comment (Description of Operating Method): **Gas-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

<u>**Potential/Estimated Fugitive Emissions**</u>

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **GE, 2005; SW, 2005; MHI, 2005; FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **See PSD Table 2-2**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Methods 18, 25, or 25A; base load.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **See PSD Table 2-1**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Methods, 18, 25, or 25A; base load.**	
6. Allowable Emissions Comment (Description of Operating Method): **Gas-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **60** min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **FDEP Rule 62-296.320(4)(b)1, F.A.C. requires 20 percent opacity. Excess emissions provided by Rule 62-210.700.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Proposed as BACT.**	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: **EM**	2. Pollutant(s): **NO_x**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **not yet identified** Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **CEM required pursuant to 40 CFR, Part 75. NO_x monitoring includes diluent monitor (O_2 or CO_2).**	

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: **EM**	2. Pollutant(s): **CO**
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **not yet identified** Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **CEM monitor anticipated pursuant to previous BACT determinations.**	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **PSD Report** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **PSD Report** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **PSD Report** ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____

   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____

   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) ☒ Attached, Document ID: **PSD Report** ☐ Not Applicable	
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) ☒ Attached, Document ID: **PSD Report** ☐ Not Applicable	
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) ☒ Attached, Document ID: **PSD Report** ☐ Not Applicable	

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements ☐ Attached, Document ID: _____ ☐ Not Applicable	
2. Compliance Assurance Monitoring ☐ Attached, Document ID: _____ ☐ Not Applicable	
3. Alternative Methods of Operation ☐ Attached, Document ID: _____ ☐ Not Applicable	
4. Alternative Modes of Operation (Emissions Trading) ☐ Attached, Document ID: _____ ☐ Not Applicable	
5. Acid Rain Part Application ☐ Certificate of Representation (EPA Form No. 7610-1) ☐ Copy Attached, Document ID: _____ ☐ Acid Rain Part (Form No. 62-210.900(1)(a)) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Not Applicable	

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☐ 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.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

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

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

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

2. Description of Emissions Unit Addressed in this Section:
   Cooling Tower

3. Emissions Unit Identification Number:

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C				☐ Yes ☒ No

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
    This emission unit is a 22-cell or 24-cell mechanical draft cooling tower (see PSD Report).

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description: **Drift Eliminators**
2. Control Device or Method Code(s):

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:			
2. Maximum Production Rate:			
3. Maximum Heat Input Rate:	million Btu/hr		
4. Maximum Incineration Rate:	pounds/hr tons/day		
5. Requested Maximum Operating Schedule:	**24** hours/day **52** weeks/year		**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment:			

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See PSD Report**	2. Emission Point Type Code:	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Exhausts through 22 or 24 stacks.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **65** feet	7. Exit Diameter: **38** feet
8. Exit Temperature: **90** °F	9. Actual Volumetric Flow Rate: **1,500,000** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: **800,000** dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **Stack Diameter and Volume are per cell for 22-cell cooling tower. See PSD Report.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM_{10}			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **15.3** lb/hour **67.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0 and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **Design Drift Rate = 0.0005%**	4. Equivalent Allowable Emissions: **15.3** lb/hour **67.1** tons/year
5. Method of Compliance: **None, design basis.**	
6. Allowable Emissions Comment (Description of Operating Method): **See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM_{10}	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.17 lb/hour 5.1 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: See PSD Report Reference: FPL, 2005; Golder, 2005.	7. Emissions Method Code: 2
8. Calculation of Emissions: PM_{10} = 38.3% of PM at a TDS of 4,000; see PSD Report, Section 2.0 and Appendix A.	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **Design Drift Rate = 0.0005%**	4. Equivalent Allowable Emissions: **1.17** lb/hour **5.1** tons/year
5. Method of Compliance: **None, design basis.**	
6. Allowable Emissions Comment (Description of Operating Method): **See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor _____ of _____

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

Continuous Monitoring System: Continuous Monitor _____ of _____

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

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1.	Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **PSD Report** ☐ Previously Submitted, Date _____
2.	Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
3.	Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **PSD Report** ☐ Previously Submitted, Date _____
4.	Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____ ☒ Not Applicable (construction application)
5.	Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____ ☒ Not Applicable
6.	Compliance Demonstration Reports/Records ☐ Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ ☐ Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ ☐ To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ ☒ Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7.	Other Information Required by Rule or Statute ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) ☒ Attached, Document ID: **PSD Report** ☐ Not Applicable	
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) ☒ Attached, Document ID: **PSD Report** ☐ Not Applicable	
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☒ Not Applicable	

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: _____ ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID: _____
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Not Applicable

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ 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.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

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

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

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

2. Description of Emissions Unit Addressed in this Section:
   Power Block 1: Four identical GE-7FA CT/HRSGs or four GE-7FB CT/HRSGs or three Siemens Westinghouse (SW) Frame G CT/HRSGs or three Mitsubishi (MHI) Frame G CT/HRSGs. Designated as Units 1A, 1B, 1C, and 1D for "F" Class and 1A, 1B, and 1C for "G" class.

3. Emissions Unit Identification Number: **1A, 1B, 1C, and 1D**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C			**49**	☒ Yes ☐ No

9. Package Unit:
   Manufacturer: **GE, SW, or MHI** Model Number: **7FA, 7FB, or Frame G**

10. Generator Nameplate Rating: **(See Tables 2-1 and 2-2 of PSD Report)** MW

11. Emissions Unit Comment:
    Each combined cycle unit will have a nominal capacity of 1,100 MW consisting of either 4 or 3 CT/HRSG Trains.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description: **Natural Gas** • **Combined cycle - SCR** **Distiallate Fuel Oil** • **Water injection** • **Combined cycle - SCR**
2. Control Device or Method Code(s): **25, 28, 65**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **(see Table 2-1 and 2-2 of PSD Report)** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **7** days/week **52** weeks/year **8,760** hours/year	
6. Operating Capacity/Schedule Comment: **Tables 2-1 and 2-2 of the PSD Report shows the maximum heat input at ISO conditions and base load. Appendix A of PSD Report has performance at various turbine inlet temperatures and loads.**	

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See PSD Report**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Exhausts through the HRSG stack.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **149** feet	7. Exit Diameter: **See PSD Report** feet
8. Exit Temperature: **See PSD Report** °F	9. Actual Volumetric Flow Rate: **See PSD Report** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: **See PSD Report** dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **Tables 2-1 and 2-2 of the PSD Report shows the emission point characteristics at ISO conditions and base load for each CT/HRSG. Appendix A of the PSD Report has emission point characteristics for various turbine inlet temperatures and operating loads.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **Distillate (No. 2) Fuel Oil**		
2. Source Classification Code (SCC): **20100101**	3. SCC Units: **1,000 Gallons Used**	
4. Maximum Hourly Rate: **14**	5. Maximum Annual Rate: **7,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.0015**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **130**
10. Segment Comment: **Million British Thermal Units (Btu) per SCC unit = 129.9 (rounded to 130). Based on 7.1 pounds per gallon (lb/gal); LHV = 18,367 Btu/lb ISO conditions, 500 hours per year (hr/yr) operation. Based on GE-7FA Units. See Section 2.0 in PSD Report for fuel usage of other units.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **Natural Gas**		
2. Source Classification Code (SCC): **20100201**	3. SCC Units: **Million cubic feet**	
4. Maximum Hourly Rate: **1.68**	5. Maximum Annual Rate: **14,754**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **950**
10. Segment Comment: **Based on 950 Btu/cf (LHV); ISO conditions and 8,760 hr/yr operation. Based on GE-7FA Units. See Section 2.0 in PSD Report for fuel usage of other units.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM_{10}			EL
SO_2			EL
NO_x	025, 028	065	EL
CO			EL
VOC			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **GE, 2005; SW, 2005; MHI, 2005; FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0, Tables 2-1, 2-2, and 2-7.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Annual VE test: EPA Method 9; if > 400 hrs.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0, Table 2-2, and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Annual VE test: EPA Method 9.**	
6. Allowable Emissions Comment (Description of Operating Method): **Gas-firing: See PSD Report, Section 2.0, Table 2-1, and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **GE, 2005; SW, 2005; MHI, 2005; FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0, Tables 2-1, 2-2, and 2-7.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Annual VE test: EPA Method 9; if > 400 hrs.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0, Table 2-2, and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Annual VE test: EPA Method 9.**	
6. Allowable Emissions Comment (Description of Operating Method): **Gas-firing: See PSD Report, Section 2.0, Table 2-1, and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

<u>Potential/Estimated Fugitive Emissions</u>
Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Emission factor: 2 grains Sulfur (S) per 100 CF gas; 0.0015% S oil. See PSD Report, Section 2.0 and Appendix A.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.0015% S oil**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **Fuel sampling.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2 grains/100 SCF**	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance: **Fuel sampling.**	
6. Allowable Emissions Comment (Description of Operating Method): **Natural gas-firing CT with duct firing. See PSD Report Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **Natural gas-firing: See PSD Report, Section 2.0 and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0 and Appendix A.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10 ppmvd**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Methods 20 and 7e; CEM - 24-hr block average.**	
6. Allowable Emissions Comment (Description of Operating Method): **Requested allowable emissions and units at 15% O_2. Gas-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2.5 ppmvd**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Methods 20 and 7e; CEM - 24-hr block average.**	
6. Allowable Emissions Comment (Description of Operating Method): **Requested allowable emissions and units at 15% O_2. Gas-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **GE, 2005; SW, 2005; MHI, 2005; FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **See PSD Table 2-2**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Method 10; base load; if > 400 hrs. CEM 24-hr block.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **See PSD Table 2-1**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Method 10; base load. CEM 24-hr block.**	
6. Allowable Emissions Comment (Description of Operating Method): **Gas-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

<u>**Potential/Estimated Fugitive Emissions**</u>

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See PSD Report** lb/hour **See PSD Report** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **GE, 2005; SW, 2005; MHI, 2005; FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0, Tables 2-1 and 2-2, and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See PSD Report, Section 2.0.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **See PSD Table 2-2**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Methods 18, 25, or 25A; base load.**	
6. Allowable Emissions Comment (Description of Operating Method): **Oil-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **See PSD Table 2-1**	4. Equivalent Allowable Emissions: **See PSD** lb/hour **See PSD** tons/year
5. Method of Compliance: **EPA Methods, 18, 25, or 25A; base load.**	
6. Allowable Emissions Comment (Description of Operating Method): **Gas-firing: See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **60** min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **FDEP Rule 62-296.320(4)(b)1, F.A.C. requires 20 percent opacity. Excess emissions provided by Rule 62-210.700.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Proposed as BACT.**	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: **EM**	2. Pollutant(s): **NO_x**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **not yet identified** Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **CEM required pursuant to 40 CFR, Part 75. NO_x monitoring includes diluent monitor (O_2 or CO_2).**	

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: **EM**	2. Pollutant(s): **CO**
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **not yet identified** Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **CEM monitor anticipated pursuant to previous BACT determinations.**	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1.	Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **PSD Report** ☐ Previously Submitted, Date ____
2.	Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **PSD Report** ☐ Previously Submitted, Date ____
3.	Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **PSD Report** ☐ Previously Submitted, Date ____
4.	Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID: ____ ☐ Previously Submitted, Date ____ ☒ Not Applicable (construction application)
5.	Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID: ____ ☐ Previously Submitted, Date ____ ☒ Not Applicable
6.	Compliance Demonstration Reports/Records ☐ Attached, Document ID: ____ Test Date(s)/Pollutant(s) Tested: ____ ☐ Previously Submitted, Date: ____ Test Date(s)/Pollutant(s) Tested: ____ ☐ To be Submitted, Date (if known): ____ Test Date(s)/Pollutant(s) Tested: ____ ☒ Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7.	Other Information Required by Rule or Statute ☐ Attached, Document ID: ____ ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) ☒ Attached, Document ID: **PSD Report** ☐ Not Applicable	
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) ☒ Attached, Document ID: **PSD Report** ☐ Not Applicable	
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) ☒ Attached, Document ID: **PSD Report** ☐ Not Applicable	

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements ☐ Attached, Document ID: ____ ☐ Not Applicable	
2. Compliance Assurance Monitoring ☐ Attached, Document ID: ____ ☐ Not Applicable	
3. Alternative Methods of Operation ☐ Attached, Document ID: ____ ☐ Not Applicable	
4. Alternative Modes of Operation (Emissions Trading) ☐ Attached, Document ID: ____ ☐ Not Applicable	
5. Acid Rain Part Application ☐ Certificate of Representation (EPA Form No. 7610-1) ☐ Copy Attached, Document ID: ____ ☐ Acid Rain Part (Form No. 62-210.900(1)(a)) ☐ Attached, Document ID: ____ ☐ Previously Submitted, Date: ____ ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) ☐ Attached, Document ID: ____ ☐ Previously Submitted, Date: ____ ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.) ☐ Attached, Document ID: ____ ☐ Previously Submitted, Date: ____ ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) ☐ Attached, Document ID: ____ ☐ Previously Submitted, Date: ____ ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) ☐ Attached, Document ID: ____ ☐ Previously Submitted, Date: ____ ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) ☐ Attached, Document ID: ____ ☐ Previously Submitted, Date: ____ ☐ Not Applicable	

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☐ 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.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

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

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

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

2. Description of Emissions Unit Addressed in this Section:
   Cooling Tower

3. Emissions Unit Identification Number:

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C				☐ Yes ☒ No

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
    This emission unit is a 22-cell or 24-cell mechanical draft cooling tower (see PSD Report).

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description: **Drift Eliminators**
2. Control Device or Method Code(s):

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:		
2. Maximum Production Rate:		
3. Maximum Heat Input Rate:	million Btu/hr	
4. Maximum Incineration Rate:	pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	24 hours/day 52 weeks/year	7 days/week 8,760 hours/year
6. Operating Capacity/Schedule Comment:		

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See PSD Report**	2. Emission Point Type Code:	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Exhausts through 22 or 24 stacks.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **65** feet	7. Exit Diameter: **38** feet
8. Exit Temperature: **90** °F	9. Actual Volumetric Flow Rate: **1,500,000** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: **800,000** dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **Stack Diameter and Volume are per cell for 22-cell cooling tower. See PSD Report.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM_{10}			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **15.3** lb/hour **67.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See PSD Report, Section 2.0 and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **Design Drift Rate = 0.0005%**	4. Equivalent Allowable Emissions: **15.3** lb/hour **67.1** tons/year
5. Method of Compliance: **None, design basis.**	
6. Allowable Emissions Comment (Description of Operating Method): **See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **1.17** lb/hour **5.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See PSD Report** Reference: **FPL, 2005; Golder, 2005.**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **PM_{10} = 38.3% of PM at a TDS of 4,000; see PSD Report, Section 2.0 and Appendix A.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **Design Drift Rate = 0.0005%**	4. Equivalent Allowable Emissions: **1.17** lb/hour **5.1** tons/year
5. Method of Compliance: **None, design basis.**	
6. Allowable Emissions Comment (Description of Operating Method): **See PSD Report, Section 2.0 and Appendix A.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor _____ of _____

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

Continuous Monitoring System: Continuous Monitor _____ of _____

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

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: PSD Report ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: PSD Report ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____

   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____

   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) ☒ Attached, Document ID: PSD Report ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) ☒ Attached, Document ID: PSD Report ☐ Not Applicable
3.	Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1.	Identification of Applicable Requirements ☐ Attached, Document ID: _____ ☐ Not Applicable
2.	Compliance Assurance Monitoring ☐ Attached, Document ID: _____ ☐ Not Applicable
3.	Alternative Methods of Operation ☐ Attached, Document ID: _____ ☐ Not Applicable
4.	Alternative Modes of Operation (Emissions Trading) ☐ Attached, Document ID: _____ ☐ Not Applicable
5.	Acid Rain Part Application ☐ Certificate of Representation (EPA Form No. 7610-1) ☐ Copy Attached, Document ID: _____ ☐ Acid Rain Part (Form No. 62-210.900(1)(a)) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Not Applicable

Additional Requirements Comment

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1.0 INTRODUCTION

Florida Power & Light Company (FPL), proposes to license, construct, and operate two nominal 1,100-megawatt (MW) combined cycle units on a 220 acre Site located in unincorporated Palm Beach County, Florida (Figure 1-1). The first unit is expected to be operational in mid-2009, with the second unit expected to be operational by mid-2010.

The West County Energy Center will consist of two nominal 1,100 MW combined cycle units. There are two potential configurations for each unit. The first configuration is referred to as "4-on-1" combined cycle unit. The "4-on-1" unit will consist of four GE "F" Class advanced combustion turbines (CTs) and four heat recovery steam generators (HRSGs), which will utilize the waste heat from the CT to produce steam to be utilized in a single steam turbine generator. The GE "F" Class turbines considered for the West County Energy Center include the nominal 170-MW Frame 7FA combustion turbine and the nominal 190-MW Frame 7FB combustion turbine. The second configuration is referred to as a "3-on-1" combined cycle unit. The "3-on-1" unit will consist of three nominal 250-MW "G" Class advanced combustion turbines (CTs) and three heat recovery steam generators (HRSGs), which will utilize the waste heat from the CT to produce steam to be utilized in a single steam turbine generator. The "G" Class combustion turbines considered for the West County Energy Center are the Siemens 501G combustion turbines and the Mitsubishi Heavy Industries (MHI) M501G combustion turbines. The "4-on-1" and "3-on-1" configurations each have a total nominal generating capacity of 1,100 MW (net) firing gas at an annual average ambient condition of 75 degrees Fahrenheit (°F) and 60-percent relative humidity. Duct burners are also proposed for each HRSG and are fired during peak demand periods to achieve the total nominal generating capacity. Duct firing will be limited to an equivalent of 2,880 hours per CT per year at the maximum firing rate.

The CTs will use dry low-NO_x (DLN) combustion technology and water injection for minimizing emissions of nitrogen oxides (NO_x) when operating on natural gas and ultra low-sulfur distillate oil ("light oil"), respectively. Each CT/HRSG will be installed with selective catalytic reduction (SCR) to further reduce emissions of NO_x. Each HRSG will be equipped with duct burners that will fire only natural gas. The primary fuel for the CTs will be natural gas, with light oil used as backup fuel. Light oil will contain a maximum sulfur content of 0.0015 percent.

The construction of the West County Energy Center requires an Air Construction Permit and PSD approval. PSD approval requires submission of air quality assessments for determining the facility's compliance with state and federal new source review (NSR) regulations, including addressing applicable PSD requirements. The critical aspects of these assessments include the air quality impact analyses performed using appropriate air dispersion models and the Best Available Control Technology (BACT) analyses performed to evaluate the selected emission control technology.

The West County Energy Center will be a "major air pollution" source under PSD rules. The U.S. Environmental Protection Agency (EPA) has implemented regulations requiring a PSD review for new sources with air emissions above certain threshold amounts. EPA's PSD regulations are promulgated under 40 Code of Federal Regulations (CFR), Part 51.166. Florida's PSD regulations are codified in Rules 62-212.400, Florida Administrative Code (F.A.C.) and have been approved by EPA. The Florida PSD regulations incorporate the requirements of EPA's PSD regulations.

Based on the emissions from the proposed facility, PSD review is required for each of the following regulated pollutants:

- Particulate matter (PM) as total suspended particulate matter (TSP);
- Particulate matter with aerodynamic diameter of 10 microns or less (PM_{10});
- Nitrogen dioxide (NO_2);
- Sulfur dioxide (SO_2);
- Carbon monoxide (CO);
- Volatile organic compounds (VOCs); and
- Sulfuric acid mist (SAM).

Palm Beach County has been designated as an attainment area for all criteria pollutants [i.e., attainment: (O_3), PM_{10}, SO_2, CO, and NO_2; unclassifiable: lead] and is a PSD Class II area for PM_{10}, SO_2, and NO_2; therefore, the PSD review will follow regulations pertaining to such designations.

This PSD Report is divided into seven major sections:

- Section 2.0 presents a description of the West County Energy Center, including air emissions and stack parameters.
- Section 3.0 provides a review of the PSD and nonattainment requirements applicable to the West County Energy Center.
- Section 4.0 includes the control technology review with discussions on BACT.
- Section 5.0 discusses the ambient air monitoring analysis (pre-construction monitoring) required by PSD regulations.
- Section 6.0 presents a summary of the air modeling approach and results used in assessing compliance of the proposed facility with ambient air quality standards (AAQS), and PSD increments.
- Section 7.0 provides the additional impact analyses for soils, vegetation, and visibility.

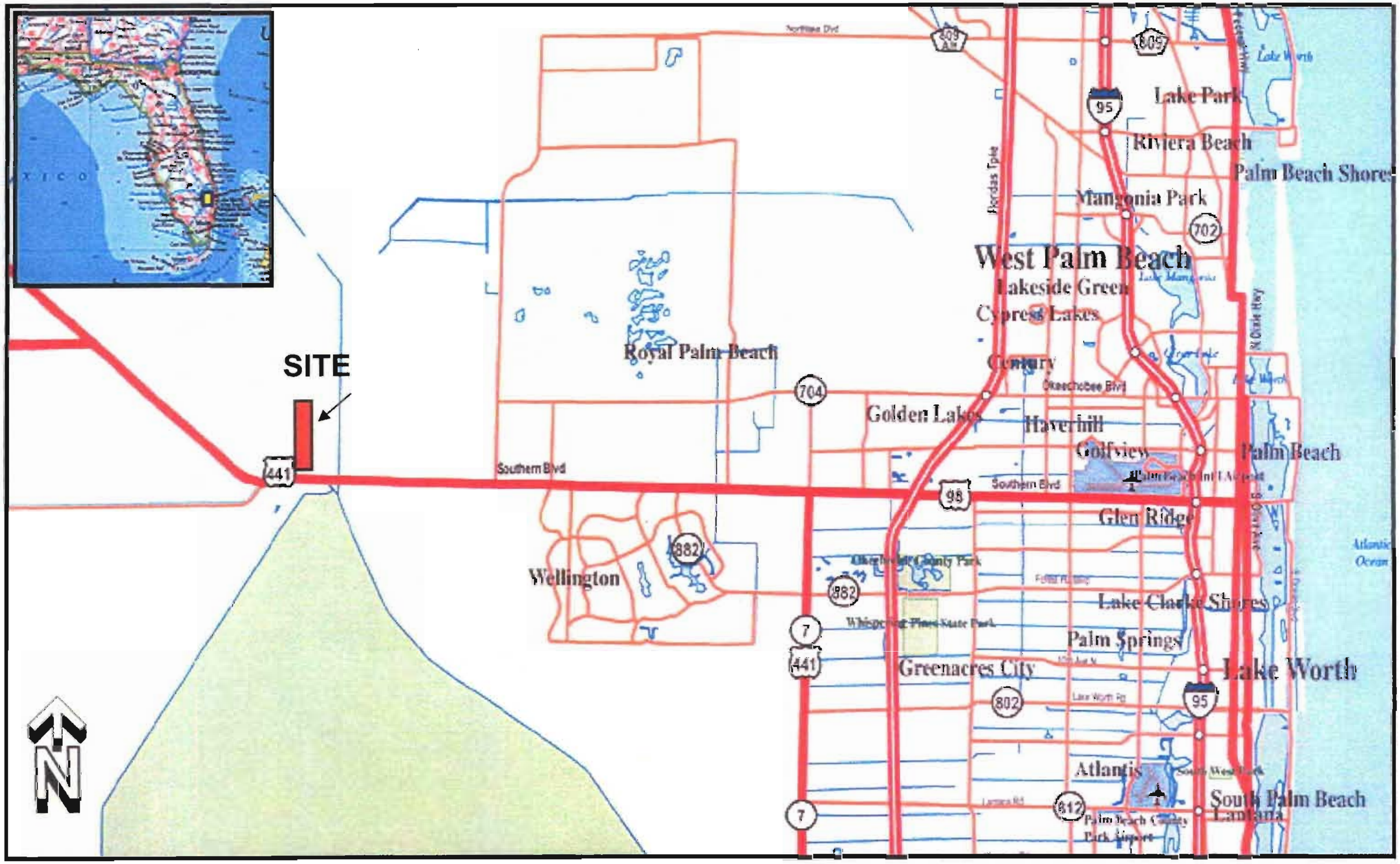


Figure 1-1.
Plant Site Location
FPL West County Energy Center, Palm Beach County, Florida

Source: SFWMD website; Golder, 2005.

Not to Scale: 1" = ~3 miles.

FPL

2.0 PROJECT DESCRIPTION

2.1 SITE DESCRIPTION

The West County Energy Center Site encompasses 220 acres. Figures 2-1 and 2-2 present the site plans for the 4-on-1 and 3-on-1 combined cycle configurations, respectively. FPL currently owns the northern 100 acres of the Site and has an option to purchase the remaining 120 acres. Approximately 40 acres of the Site will be used for the two 1,100-MW units. The area surrounding the Site consists of mining activities associated with Palm Beach Aggregates Inc. located north and east, as well as a transmission line corridor and agricultural lands located to the west. The Site elevation will be approximately 23 feet above sea level and about 15 feet above the surrounding terrain. The terrain surrounding the site is flat.

No onsite storage will be provided for natural gas. Light oil will be stored in one new 4.2 million-gallon tank for each combined cycle unit.

2.2 POWER PLANT

The West County Energy Center will be configured as either 4-on-1 or 3-on-1 combined units for base load service. The CTs will use DLN combustion technology when firing natural gas and water injection when firing light oil to minimize NO_x formation. SCR will be installed in each HRSG to further reduce emissions of NO_x. Natural gas will be used as the primary fuel, and light oil will be used a backup fuel. Light oil usage will be limited to the equivalent of 500 hours per year (hr/yr) per CT at full load.

For the GE Frame 7FA CT, the maximum heat input is 1,688 million British thermal units per hour (MMBtu/hr) (LHV) for each CT when firing natural gas (100-percent capacity, 35°F). The corresponding maximum fuel usage is about 1.8 million cubic feet per hour (MMcf/hr) of natural gas for each CT. Maximum potential fuel usage at 59°F turbine inlet temperature would be about 5.9×10^{10} cubic feet per year (yr^3) of natural gas for each 4-on-1 combined cycle unit using the GE Frame 7FA CT.

For the GE Frame 7FB CT, the maximum heat input is 1,790 MMBtu/hr (LHV) for each CT when firing natural gas (100-percent capacity, 35°F). The corresponding maximum fuel usage is about 1.9 MMcf/hr of natural gas for each CT. Maximum potential fuel usage at 59°F turbine inlet temperature would be about $6.4x10^{10}$ yr^3 of natural gas for each 4-on-1 combined cycle unit using the GE Frame 7FB CT.

The duct burners for each HRSG associated with the 4-on-1 combined cycle unit using the GE Frame 7FA or 7FB CTs will have a maximum firing rate of 550 MMBtu/hr high heating value (HHV) or 495.5 MMBtu/hr (LHV). The maximum annual fuel usage for the duct burners is based on 2,880 hr/yr at this heat input. The maximum potential annual fuel usage for the duct burners is calculated to be about 6 billion scf/yr.

The 3-on-1 combined cycle unit will utilize either the Siemens 501G or the MHI 501G CTs. These machines are very similar in capacity and heat rate as well as the corresponding fuel use. The maximum heat input for CT associated with a 3-on-1 configuration is 2,420 MMBtu/hr (LHV) for each CT when firing natural gas (100-percent capacity, 35°F). The corresponding maximum fuel usage is about 2.6 MMcf/hr of natural gas for each CT. Maximum potential fuel usage at 59°F turbine inlet temperature would be about $6.3x10^{10}$ yr^3 of natural gas for each 3-on-1 combined cycle unit using the "G" Class CTs.

The duct burners for each HRSG associated with the 3-on-1 combined cycle unit using the will have a maximum firing rate of 475 MMBtu/hr high heating value (HHV) or 428 MMBtu/hr (LHV). The maximum annual fuel usage for the duct burners is based on 2,880 hr/yr at this heat input. The maximum potential annual fuel usage for the duct burners is calculated to be about 4 billion scf/year.

Ultra low-sulfur light oil will be limited to 500 hours per year per CT at full load for either the 4-on-1 or 3-on-1 combined cycle configuration. For the GE Frame 7FA turbines, the maximum fuel use of about 14,700 gallons/hour/CT at 35°F turbine inlet temperature. Annual usage is 28.2 million gallons for four CTs each operating for 500 hours and a turbine inlet temperature of 59°F. For the GE Frame 7FB turbines, the maximum fuel use is about 15,700 gallons/hour/CT at 35°F turbine inlet temperature. Maximum annual usage would be about 29.9 million gallons for the four CTs operating for 500 hr/yr and turbine inlet temperature of 59°F. For the "G" Class CTs, the maximum fuel use is about 19,100 gallons/hr/C at a 35°F turbine inlet temperature and the annual usage would be about 27.3 million gallons for three CTs each operating for 500 hours and a turbine inlet temperature of 59°F.

Plant performance for each of the CTs under consideration for the West County Energy Center was developed for natural gas and oil-firing at 100 percent and lower operating loads and turbine inlet temperatures of 35°F, 59°F, 75°F, and 95°F. Nominal part load information is presented in Appendix A.

Natural gas will be transported to the site via pipeline, and light oil will be trucked to the site. The light oil, which will have a maximum sulfur content of 0.0015 percent, will be stored onsite in aboveground storage tanks, one for each unit, sized to hold approximately 100,000 barrels (4.2 million gallons).

When firing natural gas, NO_x emissions from the GE 7FA and GE 7FB turbines will controlled using dry low-NO_x combustors to 9 parts per million by volume dry (ppmvd) and 25 ppmvd (corrected to 15-percent O_2), respectively. For the "G" Class turbine, the NO_x emissions will be controlled using dry low-NO_x combustors to 35 ppmvd (corrected to 15-percent O_2) or less. When firing ultra low-sulfur light oil, all turbines will utilize water injection to reduce NO_x emissions to 42 ppmvd (corrected to 15-percent O_2).

SCR reactors will be located in each HRSG to provide the proper operating temperature range for the required reaction between ammonia and NO_x to achieve the proposed BACT emission rate and to assure the economical operation of the system. NO_x is reduced by a chemical reaction with the ammonia in the presence of the catalyst. The catalyst will be provided in modules, which will be installed into a structural steel reactor housing that is incorporated into the HRSG. Ammonia is carried by a diluent and injected into the exhaust gas upstream of the catalyst modules. The reactor housing will include an internal support structure for the catalyst modules, man-access and catalyst loading openings and instrument connections for monitoring catalyst performance. The ammonia handling system will include primary and standby diluent air blowers (each sized for 100-percent capacity), ammonia flow control and measurement devices, an ammonia/air mixing chamber, distribution header(s), and an ammonia injection grid (AIG). Overall control of the system will be by the distributed control system (DCS).

Each CT will have evaporative cooling at the turbine air inlet that reduces the inlet air temperature and increases both the efficiency and power output at elevated ambient temperatures. This cooling system will only operate when the ambient temperature is 60°F or greater and the CTs are operating.

This cooling system adds water vapor to the compressor inlet of the CTs, which increases the mass flow of air by evaporative cooling, but does not affect emission rate (i.e., ppmvd) of regulated pollutants. The CTs can operate with or without the evaporative coolers in service.

2.3 PROPOSED SOURCE EMISSIONS AND STACK PARAMETERS

Performance, estimated maximum hourly emissions and exhaust information representative of each CT/HRSG option operating at base-load conditions (100-percent load) in combined cycle mode are presented in Tables 2-1 and 2-2 for natural gas and light oil firing, respectively. Table 2-1 also includes emissions and exhaust information for duct firing. The data are presented for turbine inlet temperature of 59°F. The performance and emissions data for the operating conditions are given in Appendix A for turbine inlet temperatures of 35°F, 59°F, 75°F, and 95°F and various operating conditions (100-percent load and low load operation applicable for each CT).

The maximum short-term emission rates [pounds per hour (lb/hr)] generally occur at base load, 35°F operation, where the CT has the greatest output and greatest fuel consumption. The GE 7FA CTs will be equipped to operate in power augmentation or in peak mode. Power augmentation is the use of steam when firing natural gas at loads above 95 percent to increase power output. About 1.5 lb steam per lb of fuel is used in this mode of operation. Peak mode is achieved by slightly increasing the exhaust temperature through the automated control system by adjusting the fuel distribution between the fuel nozzles while in pre-mix mode. The GE 7FA CTs, if ultimately selected for the West County Energy Center, are proposed to operate 400 hours per CT in peak mode or power augmentation mode.

Maximum potential annual emissions for the CTs/HRSGs for regulated air pollutants are based on an ambient temperature of 59°F. To produce the maximum annual emissions, it is assumed that each CT/HRSG would operate for 8,760 hours. Of the 8,760 operating hours, 8,260 hr/yr are assumed to be natural gas firing with 2,880 hours fired at 100-percent load with maximum duct firing. For the remaining 500 hr/yr, it is assumed that the CTs operated on light oil. Since the ultra low sulfur (2 gr/100 scf) content (0.0015 percent) light oil has lower fuel sulfur content than that assumed for natural gas, the maximum annual SO_2 and SAM emissions, all 8,760 hours of operation are based on firing natural gas.

Process flow diagrams of a CT/HRSG options, operating at base load conditions with a compressor inlet temperature of 59°F, are presented in Figure 2-3.

Each combined cycle unit will have a mechanical draft cooling tower. PM will be emitted from the mechanical draft cooling tower in the form of drift. Cooling tower drift will be controlled through the use of mist eliminators that will be designed to limit drift to 0.0005 percent of the circulating water rate of the cooling tower. Table 2-3 presents information on the cooling tower and potential PM and PM_{10} from drift. The information presented in Table 2-3 is for a 22-cell design. Alternatively, a 24-cell tower design may be used. However, the circulating water and drift rates will remain the same, therefore the emissions (total PM and PM_{10}) will remain the same. The 24-cell tower design has slightly smaller dimensions (2 percent smaller length and 16 percent smaller width) and slight greater velocity for each cell (about 3.3 percent). For the purpose of the air quality analyses, the 22-cell cooling tower design would envelope the 24-cell design given the slightly lower exit velocity and smaller dimensions of the 24-cell tower design.

Each combined cycle unit will be equipped with two, 100-percent capability, 2,250-kW emergency generators. These emergency generators will be used when electric power cannot be transmitted into the FPL transmission system and is unavailable to the site. This primarily would occur during catastrophic events such as hurricanes. Table 2-4 presents information on performance and emissions from the emergency generators. Appendix A contains manufacturer's information. Normally these emergency generators would be operated 1 to 2 hours per month for maintenance and reliability testing.

The Project will include two natural gas fired fuel heaters. These heaters will utilize a heat transfer fluid for heating the natural gas and be fired with only natural gas. The manufacturer will be Hanover Compression Company, or equivalent, with a heat input of 10 MMBtu/hr or less. These heaters will be used as necessary to heat natural gas above the dew point. Table 2-5 presents the estimated performance and emissions for the gas heaters. The annual emissions shown in Table 2-5 are based on 8,760 hours per year (hr/yr), although the actual usage is expected to be much lower.

If the "G" Class CTs are selected for the project, an auxiliary boiler is required for startup. The combustor for the "G" Class CT requires steam for combustor cooling, which normally comes from the HRSG. For startup of each "G" Class CT, an auxiliary boiler is required to supply steam for the combustion process. Once sufficient quality and quantity of steam is available from the HRSG, steam from the auxiliary boiler is not required. The steam boiler will have a steam capacity of 85,000 lb/hr and be a Nebraska Boiler or equivalent. One boiler is required for each nominal 1,100-MW combined cycle unit. Table 2-6 presents estimated performance and emissions information for the auxiliary boiler. It was conservatively assumed that the annual operation of the auxiliary boilers would be 500 hr/yr for the startup of the "G" Class CTs.

A summary of the maximum total potential annual emissions estimated for the West County Energy Center is given in Table 2-7.

Emission factors for hazardous air pollutants (HAPs) were evaluated based on the revised AP-42 emission factors, the EPA Combustion Turbine Emissions Database and the combustion turbine Achievable Control Technology (MACT) standards. The HAP emissions are based on emission factors from the April 2000 revision of EPA's AP-42 emission factors for large stationary combustion turbines. Summaries of the emission factors and emissions for light oil firing and gas firing are presented in Appendix A.

The MACT standard in 40 CFR, Subpart YYYY is potentially applicable to the West County Energy Center. The West County Energy Center will be a major source of HAP emissions since emissions are projected to exceed 10 tons per year (TPY) of a single HAP and exceed 25 TPY for all HAPs. Since ultra low sulfur light oil is proposed to be fired in each CT for up to 500 hr/yr, the proposed CTs are defined as "stationary diffusion flame oil-fired combustion turbines" under the Subpart YYYY requirements and would have the potential for an aggregate total potential of 1,000 hours of oil firing during any calendar year. Actual applicability of Subpart YYYY is based on actual oil fuel used in a calendar year. The proposed West County Energy Center will be required to demonstrate compliance with the combustion turbine MACT of 91-ppbvd formaldehyde corrected to 15-percent oxygen if the aggregate 1,000 hr/yr is exceeded. Based on the applicability of Subpart YYYY, compliance will be determined upon initial operation and annually (40 CFR Part 63, Section 63.6120, Table 3).

An emission factor for toluene of 33 lb/10^{12} Btu, for natural gas firing, was developed from the data in the EPA Combustion Turbine Emissions Database. This factor is based on the median value for loads greater than 80 percent. Similar to formaldehyde emission factors, there are no confirmed test data of toluene emissions from F or G Class turbines. The recent EPA emission factor, which is based on much smaller turbines than those proposed for the West County Energy Center, suggests toluene emissions from gas turbines of 130 lb/10^{12} Btu when firing natural gas at loads greater than 80 percent. For all loads, the average and median EPA factors are 94 and 19 lb/10^{12} Btu, respectively. Since the median emission factor is about 4 to 5 times lower than the average factor, this clearly points to the large range in toluene emissions and how the individual turbine combustion characteristics can influence the results.

The emission factors for many of the other HAPs were developed by EPA in a manner similar to toluene. For these HAPs, fewer data are available and are also considered not representative of state-of-the-art DLN combustion systems. The use of AP-42 emission factors for HAPs is considered to provide conservative estimates of emissions.

The emergency generators will be subject 40 CFR 63 Subpart ZZZZ, the Reciprocating Internal Combustion Engine (RICE) MACT Rule since they will be located at a major source of HAP emissions and will have a site rating of greater that 500 hp. The emergency generators will only be subject to the notification requirements of the RICE MACT (i.e., no emissions limitations will apply) since it would qualify for one of the following rule exemptions:

> Emergency Generator - Any stationary RICE that operates in an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility is interrupted, or stationary RICE used to pump water in case of fire or flood, etc. Emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of the emergency stationary RICE in emergency situations and for routine testing and maintenance. Emergency stationary RICE may also operate an additional 50 hours per year in non-emergency situations.
>
> Limited Use - Any stationary RICE that operates less than 100 hours per year.

Note that the estimated emissions provided a worst-case estimate for determining PSD applicability and not representative of normal operation. For maintenance and reliability testing, the emergency generators will normally be operated about 1 to 2 hours per month or approximately 12 to 24 hr/yr.

The National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD is applicable to industrial, commercial, or institutional boilers or process heaters. Subpart DDDDD defines boiler and process heaters as follows in 40 CFR 63.7575:

> *"Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded from this definition."*
>
> *"Process heater means an enclosed device using controlled flame, that is not a boiler, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to heat transfer material for use in a process material for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials. Process heaters do not include units for comfort heat or space heat, food preparation for on-site consumption, or autoclaves."*

FPL proposes to install one auxiliary boiler rated at 99.77 MMBtu/hr to produce steam during startup of the CTs. In addition, the Project will include one 10 MMBtu/hr indirect process heater for the purpose of heating the natural gas supply to the CTs. The auxiliary boiler will be used only for startup and be limited to 500 hours per year of operation.

The auxiliary boiler will be subject to the Boiler MACT under the "Limited use Gaseous Fuel" subcategory, which is defined as follows in 40 CFR 63.7575:

> *"Limited use gaseous fuel subcategory includes any watertube boiler or process heater that burns gaseous fuels not combined with any liquid or solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu/hr input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent."*

New or reconstructed limited use gaseous fuel boilers and process heaters must meet a carbon monoxide emission limit of 400 ppm by volume on a dry basis corrected to 3-percent oxygen based on a 3-run average. The auxiliary boiler proposed for the Project will meet these requirements.

The natural gas heaters are defined as small gaseous fuel units and are not subject to the initial notification or any requirements of the Subpart DDDDD pursuant to 40 CFR 63.7506(c).

2.4 SITE LAYOUT, STRUCTURES, AND STACK SAMPLING FACILITIES

Plot plans of the proposed West County Energy Center are presented in Figures 2-4 and 2-5 for the 4-on-1 and 3-on-1 combined cycle configurations, respectively. A typical profile of a CT/HRSG train is presented in Figure 2-6. The dimensions of the buildings and structures are presented in Section 6.0. Stack sampling facilities will be constructed in accordance with Rule 62-297.310(6), F.A.C.

2.5 EXCESS EMISSIONS

The start-up and shutdown and fuel changes in combined cycle operation will require an excess emission allowance greater than 2 hours provided under the FDEP rules. During cold start-up, the operating load of the CTs is limited by the amount of steam that can be accepted by the steam turbine. This will result in excess emissions. The same excess emission allowance is requested for the West County Energy Center that was authorized for the Turkey Point Expansion Project. The combined cycle units associated with these facilities have similar steam turbines that receive steam during start-up (i.e., 400 MW). The proposed condition follows:

> "Excess Emissions Allowed: As specified in this condition, excess emissions resulting from startup, shutdown, oil-to-gas fuel switches and documented malfunctions are allowed provided that operators employ the best operational practices to minimize the amount and duration of emissions during such incidents. A "documented malfunction" means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail. For each gas turbine/HRSG system, excess emissions resulting from startup, shutdown, or documented malfunctions shall not exceed two hours in any 24-hour period except for the following specific cases.
>
> a. For cold startup of the steam turbine system, excess emissions from any gas turbine/HRSG system shall not exceed six hours in any 24-hour period. Cold startup of the steam turbine system shall be completed within twelve hours. A cold "startup of the steam turbine system" is defined as startup of the 4-on-1 combined cycle system following a shutdown of the steam turbine lasting at least 48 hours. *{Permitting Note: During a cold startup of the steam turbine system, each gas turbine/HRSG system is sequentially brought on line at low load to gradually increase the temperature of the steam-electrical turbine and prevent thermal metal fatigue. Note that shutdowns and documented malfunctions are separately regulated in accordance with the requirements of this condition.}*
>
> b. For shutdown of the steam turbine system, excess emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.
>
> c. For cold startup of a gas turbine/HRSG system, excess emissions shall not exceed four hours in any 24-hour period. "Cold startup of a gas turbine/HRSG system" is defined as a startup after the pressure in the high-pressure (HP) steam drum falls below 450 psig for at least a one-hour period.

d. For oil-to-gas fuel switching excess emissions shall not exceed 1 hour in any 24-hour period.

Ammonia injection shall begin as soon as operation of the gas turbine/HRSG system achieves the operating parameters specified by the manufacturer. As authorized by Rule 62-210.700(5), F.A.C., the above conditions allow excess emissions only for specifically defined periods of startup, shutdown, fuel switching and documented malfunction of the gas turbines. [Design; Rules 62-212.400(BACT) and 62-210.700, F.A.C.]"

Table 2-1. Stack, Operating, and Emission Data for the Combustion Turbines/HRSGs and Duct Burners for Combined Cycle Operation- Natural Gas Combustion

		Operating and Emission Data a for Ambient Temperarure 59 °F					
		Combustion Turbine/ HRSG			Combustion Turbine/ HRSG/ Duct Burner		
Parameter		GE-7FA	GE-7FB	Frame G	GE-7FA	GE-7FB	Frame G
Combustion Turbine Performance							
Net power output (MW)		173.64	191.38	255.43	173.64	191.383	255.43
Net heat rate (Btu/kWh, LHV)		9,258	9,052	8,857	9,258	9,052	8,857
(Btu/kWh, HHV)		10,279	10,048	9,831	10,279	10,048	9,831
Heat Input (MMBtu/hr, LHV)		1,608	1,733	2,262	1,608	1,733	2,262
(MMBtu/hr, HHV)		1,785	1,923	2,511	1,785	1,923	2,511
Evaporative Cooler		Off	Off	Off	Off	Off	Off
Relative Humidity (%)		60	60	60	60	60	60
Fuel heating value (Btu/lb, LHV)		20,835	20,835	20,835	20,835	20,835	20,835
(Btu/lb, HHV)		23,127	23,127	23,127	23,127	23,127	23,127
(HHV/LHV)		1.110	1.110	1.110	1.110	1.110	1.110
Steam Flow (lb/hr)		NA	NA	NA	NA	NA	NA
Duct Burner (DB)							
Heat input (MMBtu/hr, HHV)		0	0	0	550	550	475
(MMBtu/hr, LHV)		0	0	0	495.5	495.5	427.9
CT/HRSG Stack Data (ft)							
Height		149	149	149	149	149	149
Diameter		19.0	19.0	22.0	19.0	19.0	22.0
100 Percent Load							
Temperature (oF)		202	202	188	188	188	188
Velocity (ft/sec)		60.2	60.1	57.1	59.6	59.4	57.5
Maximum Hourly Emissions per Unit							
SO_2	lb/hr	9.8	10.6	14.9	12.9	13.6	16.5
PM/PM_{10}	lb/hr	11.0	11.1	11.5	14.4	14.5	13.9
NO_x	lb/hr	16.2	17.4	25.0	23.5	24.9	30.2
	ppmvd @ 15% O_2	2.5	2.5	2.5	2.5	2.5	2.5
CO	lb/hr	16.3	50.0	30.0	38.3	72.0	46.9
	ppmvd @ 15% O_2	4.1	11.8	5.0	7.6	13.6	7.2
VOC (as methane)	lb/hr	2.8	2.8	4.1	5.0	5.0	6.1
	ppmvd @ 15% O_2	1.3	1.2	1.2	1.9	1.9	1.8
Sulfuric Acid Mist	lb/hr	0.98	1.06	1.49	1.29	1.36	1.65

a Refer to Appendix 10.1.5 for detailed information on basis of pollutant emission rates and operating data.

Source: GE, 2005; Siemens-Westinghouse, 2005; MHI, 2005; FPL, 2005; Golder, 2005.

Table 2-2. Stack, Operating, and Emission Data for the Combustion Turbines/HRSGs and Duct Burners for Combined Cycle Operation- Fuel Oil Combustion

		Operating and Emission Data a for Ambient Temperarure 59 °F		
		Combustion Turbine/ HRSG		
Parameter		GE-7FA	GE-7FB	Frame G
Combustion Turbine Performance				
Net power output (MW)		179.2	191.9	254.5
Net heat rate (Btu/kWh, LHV)		10,208	10,106	9,300
(Btu/kWh, HHV)		10,821	10,712	9,858
Heat Input (MMBtu/hr, LHV)		1,830	1,830	2,367
(MMBtu/hr, HHV)		1,939	1,939	2,509
Relative Humidity (%)		60	60	60
Fuel heating value (Btu/lb, LHV)		18,367	18,367	18,367
(Btu/lb, HHV)		19,469	19,469	19,469
(HHV/LHV)		1.060	1.060	1.060
CT/HRSG Stack Data (ft)				
Height		149	149	149
Diameter		19.0	19.0	22.0
100 Percent Load				
Temperature (oF)		295	295	293
Velocity (ft/sec)		72.0	68.4	68.1
Maximum Hourly Emissions per Unit				
SO_2	lb/hr	3.0	3.0	3.9
PM/PM_{10}	lb/hr	17.6	17.6	69.2
NO_x	lb/hr	77.6	80.7	103.0
	ppmvd @ 15% O_2	10.0	10.0	10.0
CO	lb/hr	37.9	62.0	44.0
	ppmvd @ 15% O_2	8.0	12.7	7.0
VOC (as methane)	lb/hr	7.5	7.0	37.3
	ppmvd @ 15% O_2	2.8	2.6	10.0
Lead	lb/hr	0.03	0.03	0.03
Sulfuric Acid Mist	lb/hr	0.60	0.60	0.77

a Refer to Appendix 10.1.5 for detailed information on basis of pollutant emission rates and operating data.

Source: GE, 2005; Siemens-Westinghouse, 2005; MHI, 2005; FPL, 2005; Golder, 2005.

Table 2-3. Physical, Performance, and Emissions Data for the Mechanical Draft Cooling Towers

Parameter	One Cooling Tower
Physical Data	
Number of Cells	22
Deck Dimensions, ft	
Length	661.1
Width	114
Height	51
Stack Dimensions	
Height, ft	65
Stack Top Effective Inner Diameter, per cell, ft	38
Effective Diameter, all cells, ft	178.2
Performance Data	
Discharge Velocity, ft/min	1,323
Circulating Water Flow Rate (CWFR), gal/min	306,000
Design hot water temperature, °F	105.2
Design cold water temperature, °F	86.9
Heat Rejected, million Btu/hr	2,600
Design Air Flow Rate per cell, acfm	1,500,000
Liquid/ Gas (Air Flow) (L/G) Ratio	1.045
Hours of operation	8,760
Emission Data	
Drift Ratea (DR), percent	0.0005
Total Dissolved Solids (TDS) Concentration b, maximum ppm	20,000
Solution Drift c (SD), lb/hr	765.6
PM Drift d, lb/hr	15.3
tons/year	67.1
PM10 Drifte	
PM10 Emissions, lb/hr	1.17
tons/year	5.1

a Drift rate is the percent of circulating water.
b A TDS of 20,000 results in maximum PM emissions.
c Includes water and based on circulating water flow rate and drift rate (CWFR x DR x 8.34 lb/gal x 60 min/hr).
d PM calculated based on total dissolved solids and solution drift (TDS x SD).
e PM10 based on Cooling Tower PM10 emissions study see SCA Appendix 10.1.5.

Source: Marley, 2003; FPL, 2005; Golder, 2005.

Table 2-4. Performance and Emission Data for the Emergency Generators Associated with the West County Energy Center

Parameter		Emergency Generator	Emergency Generators
Performance			
Number of Units		1	6
Rating (kW)		2,250	13,500
Rating (hp)		3,200	19,200
Fuel		Diesel	Diesel
Fuel Heat content (Btu/lb) (HHV)		19,300	19,300
Fuel density (lb/gal)		7.0	7.0
Heat input (MMBtu/hr) (HHV)		21.01	126.05
Fuel usage (gallons/hr)		155.5	933.0
Maximum operation (hours)		160	160
Maximum fuel usage (gallons/yr)		24,880	149,280
Emissions			
SO_2 -	Basis (%S)	0.0015%	0.0015%
	Conversion of S to SO_2	100	100
	Molecular weight SO_2/ S (64/32)	2	2
	Emission rate (lb/hr)	0.005	0.028
	(tpy)	0.0004	0.0022
NO_x -	Basis (g/hp-hr)	8.740	8.740
	Emission rate (lb/hr)	61.7	369.9
	(tpy)	4.93	29.60
CO -	Basis (g/hp-hr)	0.32000	0.32000
	Emission rate (lb/hr)	2.3	13.5
	(tpy)	0.18	1.08
VOC -	Basis (g/hp-hr)	0.14000	0.14000
	Emission rate (lb/hr)	1.0	5.9
	(tpy)	0.08	0.47
PM/PM_{10} -	Basis (g/hp-hr)	0.0780	0.0780
	Emission rate (lb/hr)	0.6	3.3
	(tpy)	0.04	0.26

Source: Caterpillar, 2004; Golder, 2005.

Table 2-5. Performance, Stack Parameters, and Emissions for Natural Gas Fuel Heaters

	Natural Gas Heaters
Performance[a]	
Fuel Usage (scf/hr-gas)	9,479
Heat Input (MMBtu/hr-HHV)	10.00
Hours per Year	8,760
Maximum Fuel Usage (MMscf/yr)	83.03
Number of Units	2
Stack Parameters (typical)	
Diameter (ft)	1
Height (ft)	30
Temperature (°F)	500
Velocity (ft/sec)	53
Flow (acfm)	4,950
Emissions	
SO_2 -Basis (grains S/100 scf-gas)[b]	2
(lb/hr)	0.054
(tpy) - one unit	0.237
(tpy) - maximum two units	0.47
NO_x - (lb/MMscf)[c]	100
(lb/hr)	0.95
(tpy)	4.2
(tpy) - maximum two units	8.3
CO - (lb/MMscf)[c]	84
(lb/hr)	0.80
(tpy)	3.49
(tpy) - maximum two units	7.0
VOC - (lb/MMscf)[c]	5.5
(lb/hr)	0.05
(tpy)	0.228
(tpy) - maximum two units	0.46
PM/PM10 - (lb/MMscf)[d]	1.9
(lb/hr)	0.02
(tpy)	0.079
(tpy) - maximum two units	0.16

[a] Based on 10 MMBtu/hr (HHV) indirect gas heaters from Hanover Compression Company or equivalent.

[b] Typical maximum for natural gas.

[c] EPA, AP-42 Table 1.4-1 using small boilers < 100 MMBtu.hr and Table 1.4-2.

[d] EPA, AP-42 Table 1.4-2 Filterable PM.

Table 2-6. Performance, Stack Parameters, and Emissions for the Steam Boiler Associated with "G" Class Start-up Requirements

	Boiler-100% Load	Boiler-75% Load	Boiler-50% Load
Performance			
Fuel	Natural gas	Natural gas	Natural gas
Heat Content (HHV-Btu/scf)	1,055	1,055	1,055
Fuel Usage (scf/hr-boiler)	94,569	74.58	49.64
Rating (lb steam/hr-boiler)a	85,000	63,750	42,500
Heat Input (MMBtu/hr-HHV)a	99.77	74.58	49.64
Maximum Hours per Year	500	500	500
Maximum Fuel Usage (scf/yr)	47,284,360	37,290	24,820
Exhaust Flow[a]			
Mass Flow (lb/hr)	88,066	65,827	41,728
Molecular Weight	27.62	27.62	27.62
Moisture (%)	18.17	18.17	18.17
Stack Parameters[a]			
Diameter (ft)	2.75	2.75	2.75
Height (ft)	60	60	60
Temperature (°F)	296	280	266
Velocity (ft/sec)	82	60	37
Flow (acfm)	29,325	21,455	13,343
Emissions			
SO_2 -Basis (grains S/100 scf-gas) [b]	1	1	1
(lb/hr)	0.270	0.000	0.000
(tpy)	0.0675	0.0001	0.0000
NO_x - (lb/MMBtu) [a]	0.100	0.100	0.100
(lb/hr)	9.977	7.458	4.964
(tpy)	2.4943	1.8645	1.2410
CO - (lb/MMBtu) [a]	0.184	0.184	0.176
(lb/hr)	18.395	13.750	8.716
(tpy)	4.5988	3.4375	2.1791
VOC - (lb/mmBtu) [c]	0.005	0.005	0.005
(lb/hr)	0.520	0.389	0.259
(tpy)	0.1300	0.0972	0.0647
PM/PM10 - (lb/mmBtu) [c]	0.002	0.002	0.002
(lb/hr)	0.180	0.134	0.089
(tpy)	0.0449	0.0336	0.0223

[a] Nebraska Boiler (2005); Golder Associates, (2005); Values are typical.

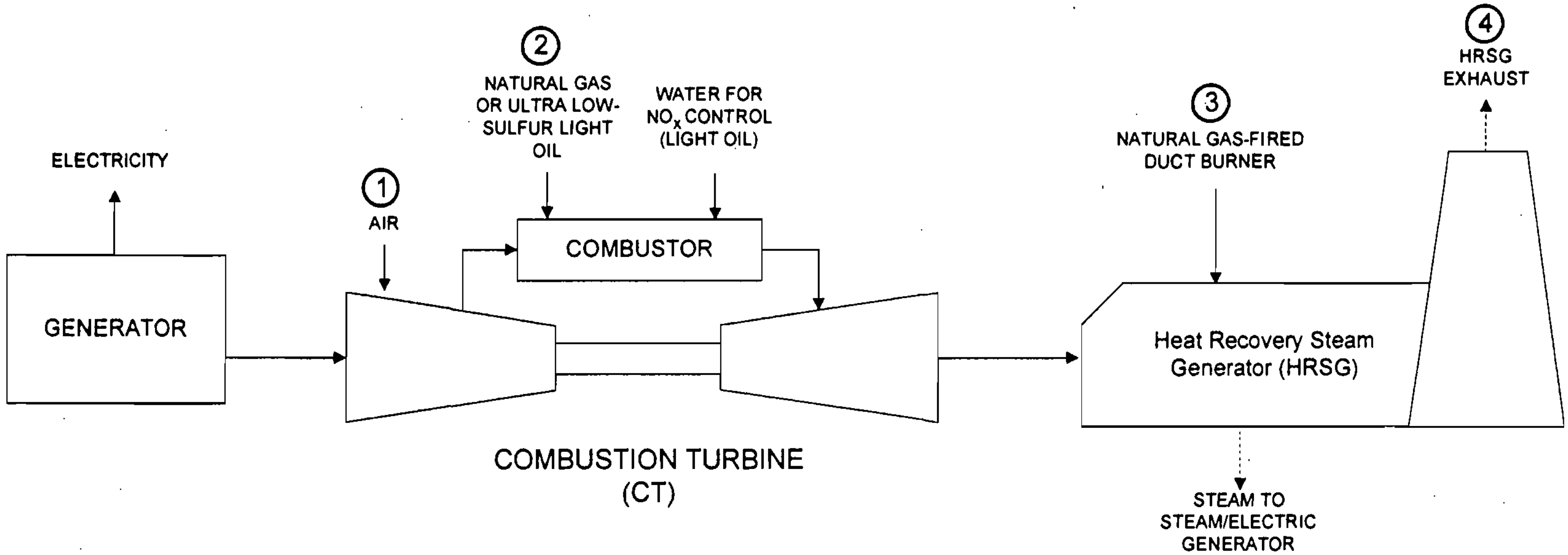
[b] Typical maximum sulfur content for natural gas

[c] Emissions based on EPA, 1996 (AP-42, Tables 1.4-1 and 1.4-2).

Table 2-7. Summary of Maximum Potential Annual Emissions for the West County Energy Center

	Annual Emissions (tons/year) for Each Combined Cycle Unit							Annual Emissions (tons/year)		
Pollutant	GE-7FA 4 CTs/HRSGs (per Unit)	GE-7FB 4 CTs/HRSGs (per Unit)	Frame G 3 CTs/HRSGs (per Unit)	Cooling Tower (per Unit)	Emergency Generators (2 per Unit)	Natural Gas Heaters[a] (2 in gas yard)	Auxiliary Boiler[b] (per G-Unit)	Maximum Emissions (2 Units)	PSD Significant Emission Rate (tons/year)	PSD Review Required?
SO_2	193	205	203	NA	0.00	0.47	0.07	411	40	Yes
PM	219	321	205	100.6	0.09	0.16	0.04	843	25	Yes
PM_{10}	219	321	205	5.1	0.09	0.16	0.04	652	15	Yes
NO_x	390	411	410	NA	9.87	8.30	2.49	856	40	Yes
CO	464	1,006	478	NA	0.36	7.00	4.60	2020	100	Yes
VOC (as methane)	67.7	66.7	87.4	NA	0.16	0.46	0.13	176	40	Yes
Sulfuric Acid Mist	19.3	20.5	20.3	NA	0.00	0.04	0.00	41	7	Yes
Lead	0.026	0.026	0.025	NA	0.00	0.00	0.00	0	0.6	No

Source: GE, 2005; Siemens, 2005; MHI, 2005; FPL, 2005; Golder, 2005.



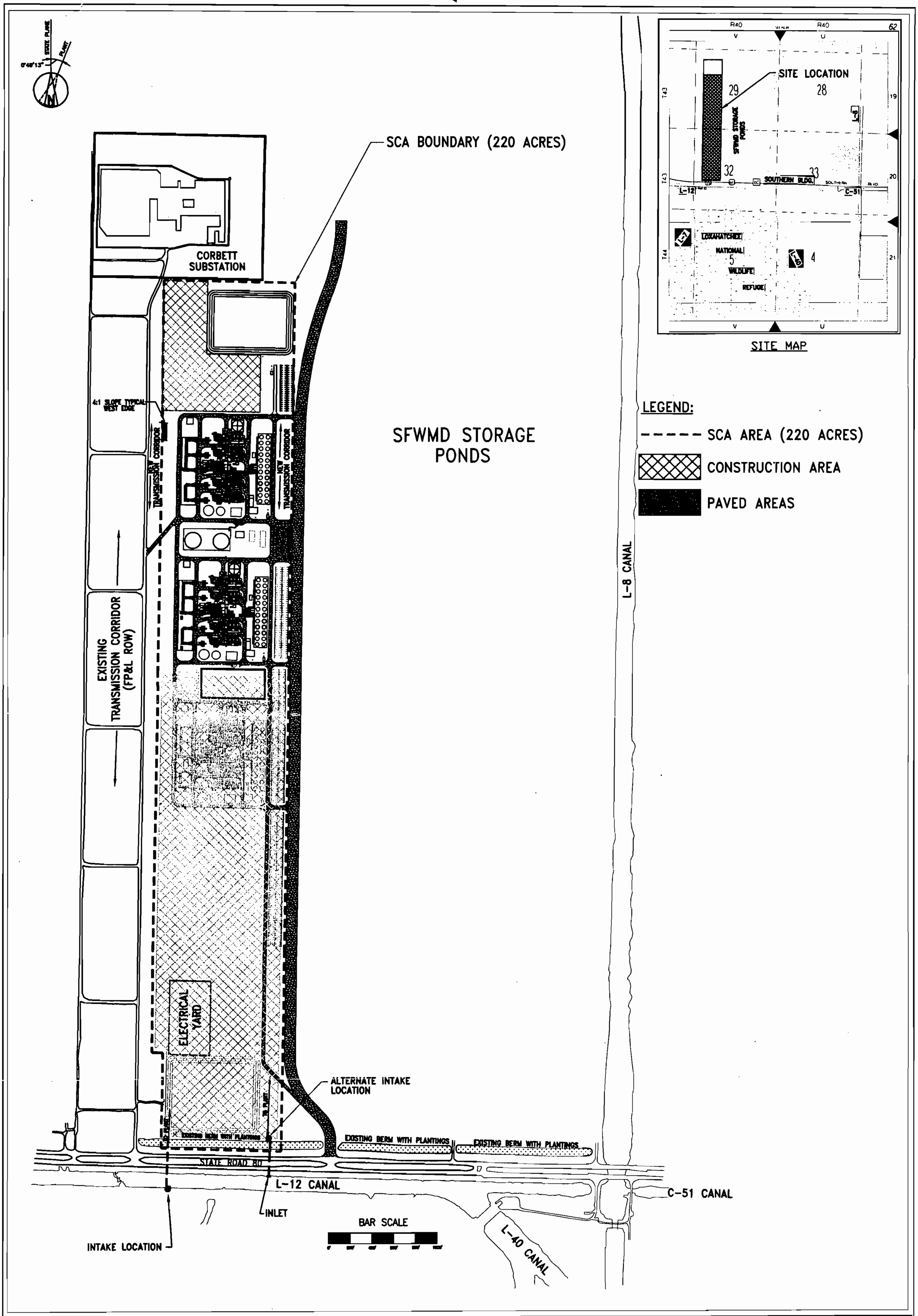
			CT Option		
Parameters	Units	Fuel	GE FA	GE FB	G
(1) Inlet Air	lb/hr	Gas	3,610,000	3,600,000	4,683,000
	lb/hr	Oil	3,771,000	3,568,000	4,848,700
(2) CT Heat Input	MMBtu/hr (HHV)	Gas	1,785	1,923	2,511
	MMBtu/hr (HHV)	Oil	1,939	2,056	2,509
(3) DB Heat Input	MMBtu/hr (HHV)	Gas	550	550	475
(4) HRSG Velocity	ft/sec w/o DB	Gas	60.2	60.1	57
	ft/sec w/o DB	Oil	72	68.4	68
(4) HRSG Temperature	°F	Gas	202	202	188
	°F	Oil	295	295	293
(4) HRSG Stack Height	feet	Gas/Oil	149	149	149
(4) HRSH Stack Diameter	feet	Gas/Oil	19	19	22

Figure 2-3. Process Flow Diagram for Each CT/HRSG Train
Baseload Operation, Turbine Inlet Temperature of 59°F
FPL West County Energy Center, Palm Beach County, Florida

Source: Golder, 2005.

Process Flow Legend
Solid/Liquid
Gas
Steam

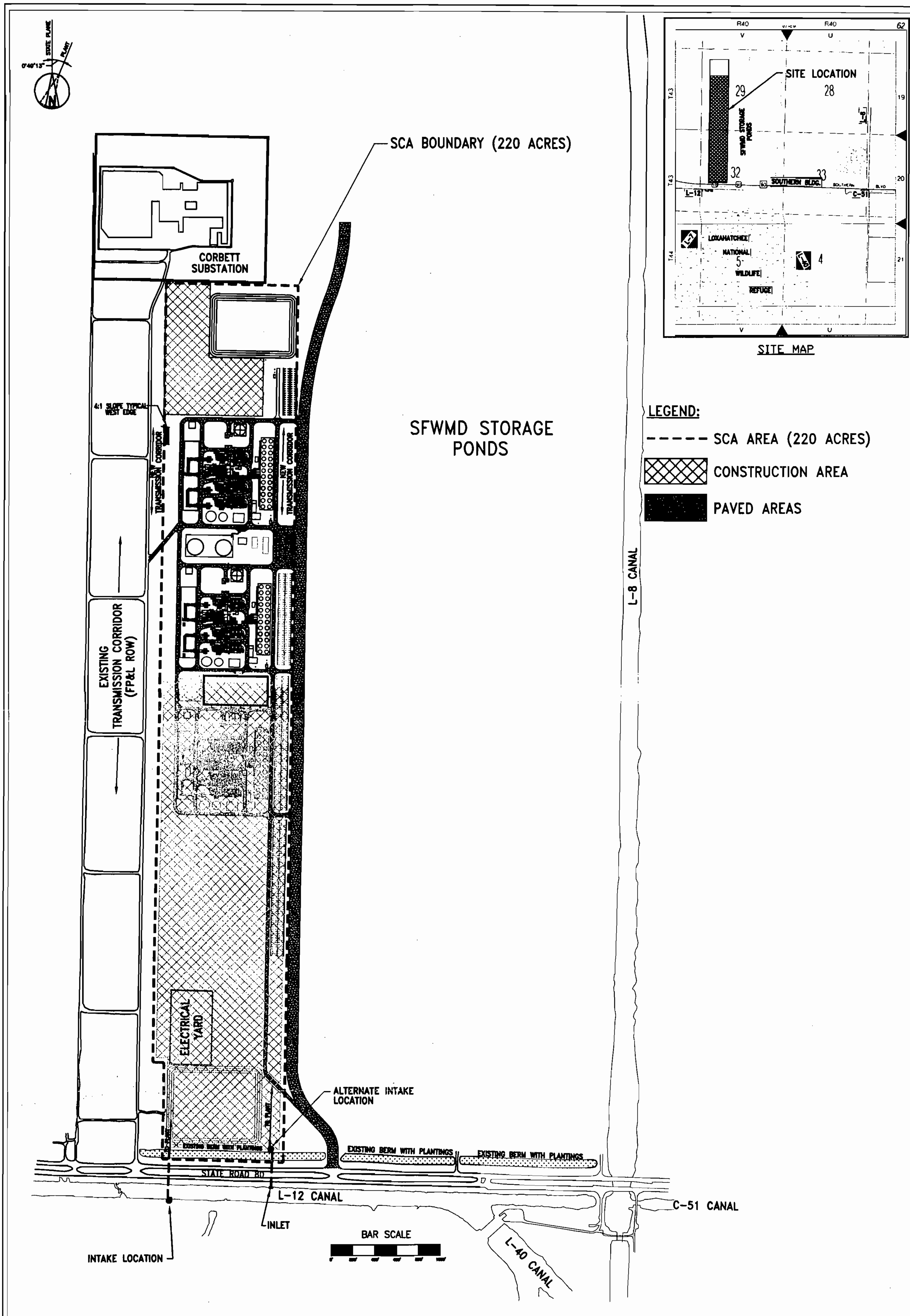
FPL



SYSTEM	DISCIPLINE	PLANT/UNIT
N/A	CS	Figure 2-1
SCALE 1"=800'	CAD FILE NAME COMP.DWG	TITLE 3-4X1 POWER BLOCKS SITE PLAN
DRAWING SIZE B (11X17)	FPL ARCHIVE NAME N/A	

DRAWING NUMBER SCA-001 — SHEET 1 OF 1 — REV 3

REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG
3	03/14/05	ISSUED FOR USE	GMG			TDJ	PGD



SYSTEM	DISCIPLINE	PLANT/UNIT
N/A	CS	Figure 2-2
SCALE 1"=800'	CAD FILE NAME COMP.DWG	TITLE 3-3X1 POWER BLOCKS SITE PLAN
DRAWING SIZE B (11X17)	FPL ARCHIVE NAME N/A	

FPL

DRAWING NUMBER SCA-003 | SHEET 1 OF 1 | REV 3

REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG
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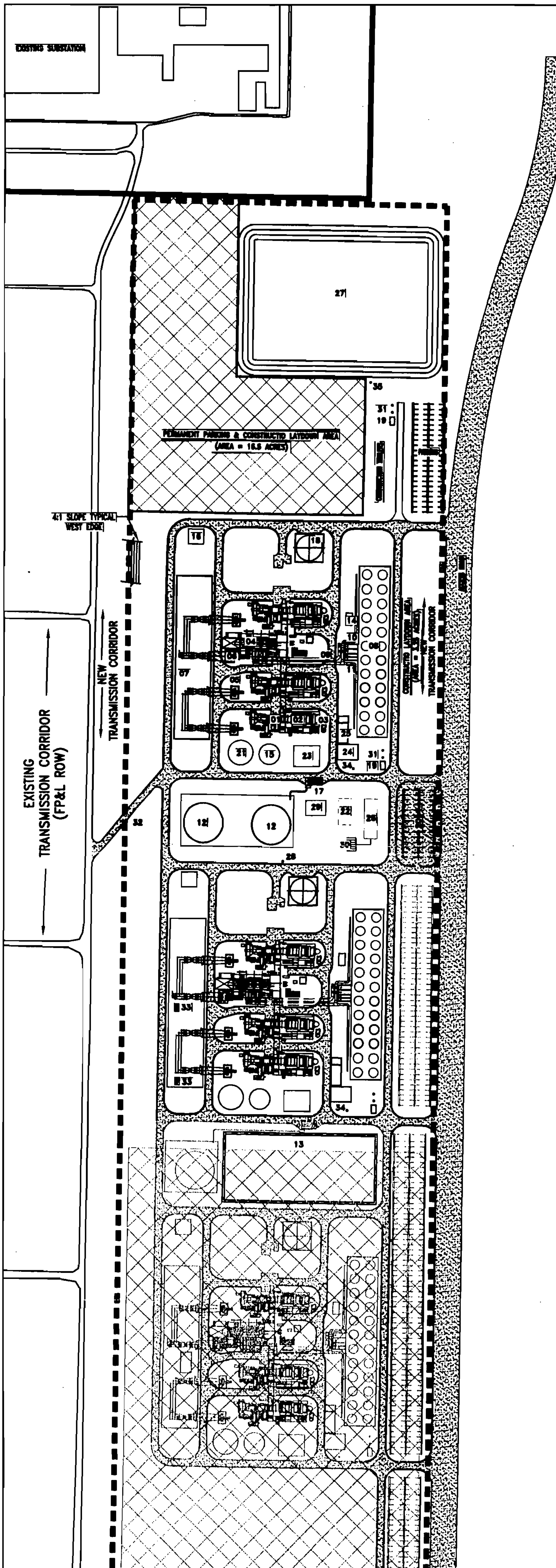

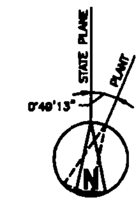

FACILITIES LEGEND

I.D	FACILITY	REMARKS
01	COMBUSTION TURBINE	–
02	HEAT RECOVERY STEAM GENERATOR (HRSG)	–
03	HRSG STACK (4–TOTAL)	–
04	STEAM TURBINE	–
05	CT GENERATOR STEP UP TRANSFORMER	–
06	ST GENERATOR STEP UP TRANSFORMER	–
07	COLLECTOR YARD	U1–230 KV U2–500 KV
08	COOLING TOWER	–
09	CIRCULATING WATER LINES	–
10	CIRCULATING WATER PUMPS	–
11	AUXILIARY WATER PUMPS	–
12	FUEL OIL TANK	100,000 BBL
13	GAS REGULATING STATION	WITH HEATERS
14	CIRC. WATER CHEMICAL FEED AREA	–
15	DEMIN TANK	2 MIL. GAL.
16	STORMWATER SUMP	–
17	OIL TRUCK UNLOADING STATION	–
18	AMONIA TANK AND UNLOADING STATION	–
19	UNDERGROUND INJECTION WELLS	1–UNIT CAPACITY
20	PARKING	104 SPACES
21	RAW/FIREWATER WATER TANK	3 MIL. GAL.
22	MAINTANENCE BUILDING	7,500 SQ. FT.
23	WATER & FIRE PUMPS	–
24	DEMIN TRAILER AREA	–
25	DEMIN PUMP & PRE–TREATMENT AREA	–
26	CONTROL ADMIN BUILDING	20,000 SQ. FT.
27	STORMWATER POND	–
28	POTABLE WELL	–
29	EMERGENCY STANDBY DIESEL GENERATOR	–
30	POTABLE WATER WASTE TREATMENT SYSTEM	–
31	GROUND WATER WELLS	BACKUP PRODUCTION WELLS
32	EMERGENCY ACCESS ROAD	–
33	AUX TRANSFORMER	U2 ONLY
34	MONITORING WELL	–
35	EXPLORATORY/DUAL ZONE MONITORING WELL	–

ASPHALT PAVING	AGGREGATE SURFACING	CONCRETE SURFACING
EXISTING FENCING		NEW FENCING

SYSTEM N/A	DISCIPLINE CS	PLANT/UNIT Figure 2–4	
SCALE 1"=400'	CAD FILE NAME SCA.DWG	TITLE 3–3X1 POWER BLOCKS PLOT PLAN	
DRAWING SIZE B (11X17)	FPL ARCHIVE NAME N/A		
DRAWING NUMBER SCA–004		SHEET 1 OF 1	REV 3

FPL

REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG
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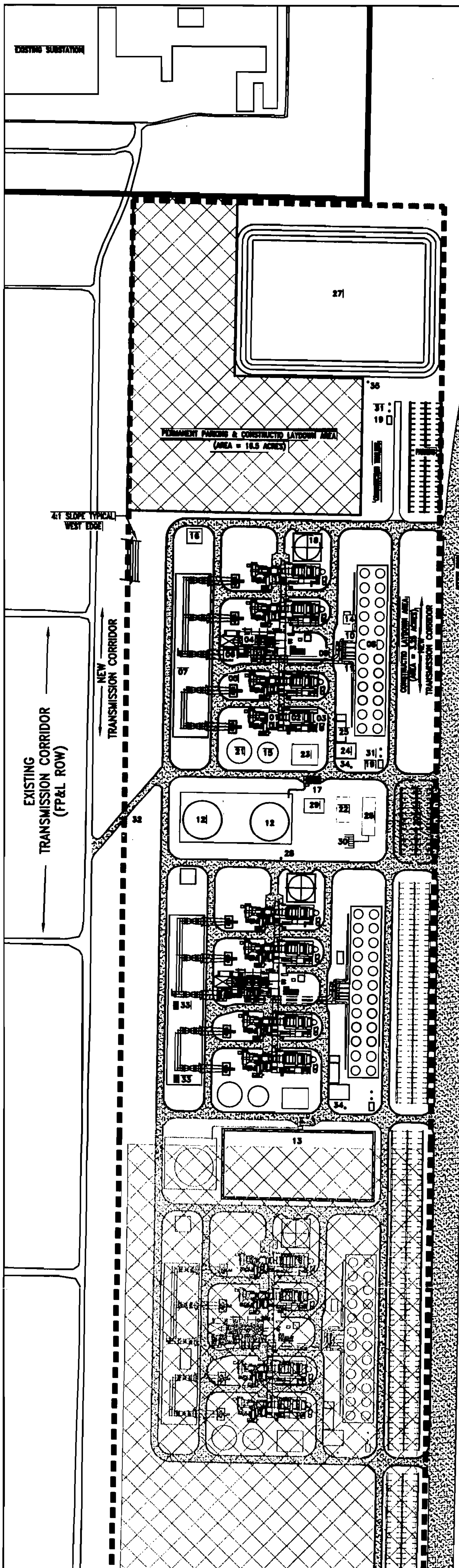

FACILITIES LEGEND

I.D	FACILITY	REMARKS
01	COMBUSTION TURBINE	–
02	HEAT RECOVERY STEAM GENERATOR (HRSG)	–
03	HRSG STACK (4-TOTAL)	–
04	STEAM TURBINE	–
05	CT GENERATOR STEP UP TRANSFORMER	–
06	ST GENERATOR STEP UP TRANSFORMER	–
07	COLLECTOR YARD	U1-230 KV U2-500 KV
08	COOLING TOWER	–
09	CIRCULATING WATER LINES	–
10	CIRCULATING WATER PUMPS	–
11	AUXILIARY WATER PUMPS	–
12	FUEL OIL TANK	100,000 BBL
13	GAS REGULATING STATION	WITH HEATERS
14	CIRC. WATER CHEMICAL FEED AREA	–
15	DEMIN TANK	2 MIL. GAL.
16	STORMWATER SUMP	–
17	OIL TRUCK UNLOADING STATION	–
18	AMONIA TANK AND UNLOADING STATION	–
19	UNDERGROUND INJECTION WELLS	1-UNIT CAPACITY
20	PARKING	104 SPACES
21	RAW/FIREWATER WATER TANK	3 MIL. GAL.
22	MAINTANENCE BUILDING	7,500 SQ. FT.
23	WATER & FIRE PUMPS	–
24	DEMIN TRAILER AREA	–
25	DEMIN PUMP & PRE-TREATMENT AREA	–
26	CONTROL ADMIN BUILDING	20,000 SQ. FT.
27	STORMWATER POND	–
28	POTABLE WELL	–
29	EMERGENCY STANDBY DIESEL GENERATOR	–
30	POTABLE WATER WASTE TREATMENT SYSTEM	–
31	GROUND WATER WELLS	BACKUP PRODUCTION WELLS
32	EMERGENCY ACCESS ROAD	–
33	AUX TRANSFORMER	U2 ONLY
34	MONITORING WELL	–
35	EXPLORATORY/DUAL ZONE MONITORING WELL	–

ASPHALT PAVING AGGREGATE SURFACING CONCRETE SURFACING

EXISTING FENCING NEW FENCING

FPL	SYSTEM N/A	DISCIPLINE CS	PLANT/UNIT	Figure 2-5
	SCALE 1"=400'	CAD FILE NAME SCA.DWG	TITLE	3-4X1 POWER BLOCKS PLOT PLAN
	DRAWING SIZE B (11X17)	FPL ARCHIVE NAME N/A		
DRAWING NUMBER	SCA-002		SHEET 1 OF 1	REV 3

REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG
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0437649/4/4.2/APP 10.1.5/FIG 2-6 Profile.dwg

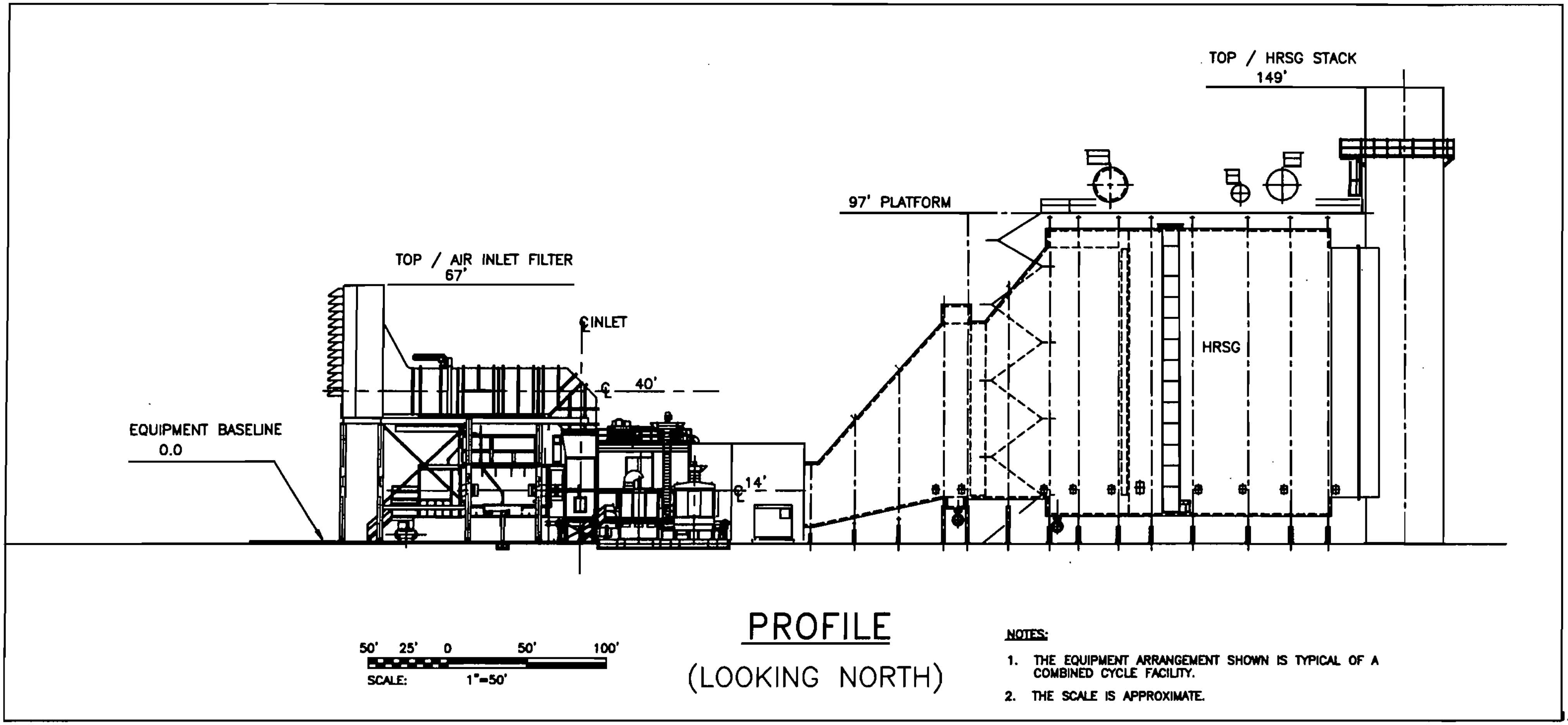

Figure 2-6. Profile of Combustion Turbine and Heat Recovery Steam Generator

Source: Black & Veatch, 2001; FPL, 2005; and Golder, 2005

FPL

3.0 AIR QUALITY REVIEW REQUIREMENTS AND APPLICABILITY

The following discussion pertains to the federal, State, and local air regulatory requirements and their applicability to the West County Energy Center. These requirements must be satisfied before the proposed facility can begin operation.

3.1 NATIONAL, STATE, AND LOCAL AAQS

The existing applicable national and State of Florida local AAQS are presented in Table 3-1. Primary national AAQS were promulgated to protect the public health with an adequate margin of safety, 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 compliance with AAQS are designated as attainment areas. 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 approval authority has been granted to FDEP.

A "major facility" is defined as any 1 of 28 named source categories that have the potential to emit 100 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.

EPA has promulgated regulations providing that 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.

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 51.166, *Prevention of Significant Deterioration of Air Quality*. The State of Florida's PSD regulations are found in Rule 62-212.400, F.A.C. Major new facilities are required to undergo the following analysis related to PSD for each pollutant emitted in significant amounts (see Table 3-2):

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. 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 62-212.400, 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 Rule 62-210.200(38), 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 requirements were promulgated within the framework of the PSD provisions 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 *Guidelines for Determining Best Available Control Technology (BACT)* (EPA, 1978) and in the *PSD Workshop Manual* (EPA, 1980). These guidelines were issued 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. However, 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 the PSD Workshop Manual was 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 emission limits 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 for using it. Rejection of control alternatives may be based on technical or economic infeasibility. Such decisions are made on the basis of physical differences (e.g., fuel type), locational 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, for which the control technique was applied previously, must be justified. EPA has issued a draft guidance document on the top-down approach entitled *Top-Down Best Available Control Technology Guidance Document* (EPA, 1990). FDEP utilizes the "top-down" BACT approach.

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 emissions exceed 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 source if the impacts as a result of the new source are below significance impact levels, as presented in Table 3-1.

The EPA has proposed significant impact levels for Class I areas, 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

[a] $\mu g/m^3$ = micrograms per cubic meter.

Although these levels have not been officially promulgated as part of the federal PSD regulations and may not be binding for states in performing PSD reviews, the levels serve as a guideline in assessing a source's impact in a Class I area. The EPA action to incorporate Class I significant impact levels in the PSD process is part of implementing NSR provisions of the 1990 CAA Amendments. Because the process of developing the regulations will be lengthy, EPA believes that the guidance concerning the significant impact levels is appropriate to assist states in implementing the PSD permit process. The FDEP has accepted the use of these significant impact levels.

Various lengths of meteorological data records 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 specify 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" 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 existed 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, will 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 [Rules 62-204.200(22); 204.360, F.A.C.]. The minor source baseline for NO_2 has been set as March 28, 1988 [Rule 62-204.200(22); 204.360, 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. For a new major facility, the affected pollutants are those that the facility potentially would emit in significant amounts.

Ambient air monitoring for a period of up to 1 year generally is appropriate to satisfy the PSD monitoring requirements. Data for a minimum of 4 months are 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 *Ambient Monitoring Guidelines for Prevention of Significant Deterioration* (EPA, 1987a).

The regulations include an exemption that excludes or limits the pollutants for which an air quality analysis must be conducted. This exemption states that a proposed major stationary facility is exempt from the monitoring requirements with respect to a particular pollutant, if the emissions of the pollutant from the facility 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.). If a facility's predicted impacts are less than the *de minimis* levels, then preconstruction monitoring is not required.

3.2.5 SOURCE INFORMATION/GEP STACK HEIGHT

Source information must be provided to adequately describe the proposed facility. The general information required for this facility is presented in Section 2.0.

The 1977 CAA Amendments require that the degree of emission limitation required for control of any pollutant can 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 5 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 [Rule 62-212.400(5)(e), F.A.C.]. 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 (see Table 3-2).

3.2.7 AIR QUALITY RELATED VALUES

An Air Quality Related Value (AQRV) analysis is required to assess the potential impact on AQRVs in PSD Class I areas. The Everglades National Park is the closest Class I area to the West County Energy Center, and is located about 105 km south of the Site.

The U.S. Department of the Interior in 1978 administratively defined AQRVs to be:

> All those values possessed by an area except those that are not affected by changes in air quality and include all those assets of an area whose vitality, significance, or integrity is dependent in some way upon the air environment. These values include visibility and

those scenic, cultural, biological, and recreational resources of an area that are affected by air quality.

Important attributes of an area are those values or assets that make an area significant as a national monument, preserve, or primitive area. They are the assets that are to be preserved if the area is to achieve the purposes for which it was set aside (Federal Register, 1978).

The AQRVs include visibility, freshwater and coastal wetlands, dominant plant communities, unique and rare plant communities, soils and associated periphyton, and the wildlife dependent on these communities for habitat. Rare, endemic, threatened, and endangered species of the national park and bioindicators of air pollution (e.g., lichens) must also be evaluated.

3.3 NONATTAINMENT RULES

FDEP has nonattainment provisions (Rule 62-212.500, F.A.C.) that apply to all major new facilities located in a nonattainment area. In addition, for major facilities that are located 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 West County Energy Center is located in Palm Beach County, which is classified as an attainment area for all criteria pollutants. Therefore, nonattainment new source requirements are not applicable.

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 1977 CAA Amendments, 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."

The West County Energy Center will be subject to one or more NSPS. NSPS have been established pursuant to 40 CFR Part 60, Subpart GG for combustion turbines, and 40 CFR Part 60, Subpart Da for duct burners. On February 18, 2005, EPA proposed new NSPS for Stationary Combustion

Turbines that will commence construction after February 18, 2005. These NSPS, Subpart KKKK, will replace Subpart GG and Da for combustion turbines in combined cycle mode.

On October 15, 2003, EPA promulgated changes to 40 CFR Part 60, Subpart Kb that would exempt light oil tanks containing No. 2 light oil by virtue of its vapor pressure (FR Vol. 68, No. 199, Pages 59328-59333).

Combustion Turbine

The NSPS in Subpart GG limit NO_x and SO_2 emissions from all stationary CTs 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. When finalized, the Subpart KKKK requirements will supersede the Subpart GG requirements and apply to units with a gross capacity of greater than 1 MW.

NO_x emissions are limited by Subpart GG to 75 ppmvd corrected to 15-percent O_2 and heat rate, while SO_2 emissions are limited to using a fuel with a sulfur content of 0.8 percent. The proposed Subpart KKKK requirements that would apply to the West County Energy Center are applicable to combustion turbines greater than 30 MW. NO_x emissions are limited to 0.39 lb/MW-hr for gas firing and 1.2 lb/MW-hr for light oil firing. These output-based NO_x emission rates are approximately equivalent to 10 ppmvd corrected to 15-percent O_2 when firing natural gas and 30 ppmvd corrected to 15-percent O_2 when firing light oil. For SO_2 emissions, the proposed Subpart KKKK requirements limit emissions to 0.58 lb/MW-hr or a fuel sulfur content of 0.05 percent.

In addition to emission limitations, there are requirements for performance testing and monitoring contained in the NSPS. There are also notification, reporting, and recordkeeping requirements in the general provisions of the NSPS. 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)(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 all start-ups, shutdowns, and malfunctions.

- (c) Excess emissions reports – semi-annually by the 30th day following six-month period (required even if no excess emissions occur).

(d) Maintain file of all measurements for 2 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.

Duct Burner

The NSPS in 40 CFR Part 60, Subpart Da, established Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978. This subpart applies to electric utility combined cycle combustion turbines that are capable of combusting more than 250-MMBtu/hr heat input of fossil fuel in the steam generator. Only emissions resulting from combustion of fuels in the steam-generating unit are subject to this regulation.

The NO_x and PM NSPS limits for Subpart Da are 1.6 lb/MW (gross) and 0.03 lb/MMBtu, respectively, and apply to the gas-fired duct burners being considered for the West County Energy Center. The Subpart KKKK requirements, when finalized, will replace the Subpart Da requirements and the proposed NO_x emissions are 0.39 lb/MW for gas-firing or about 4 times lower than the Subpart Da requirements.

3.4.2 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

As discussed in Section 2.3, EPA has promulgated MACT standards for combustion turbines. The MACT standard limits formaldehyde emissions to 91 parts per billion (ppb) by volume (dry) corrected to 15-percent oxygen, which is equivalent to about 220 lb/10^{12} Btu when firing natural gas and about 240 lb/10^{12} Btu when firing light oil (see Appendix A). The MACT standard could potentially apply to the project, if during any calendar year oil use exceeds an aggregate of 1,000 hours for all turbines on the site.

3.4.3 FLORIDA RULES

The FDEP has adopted the EPA NSPS by reference in Rule 62-204.800(7): subsection (b)39 for stationary gas turbines Substation (6)(2) for the duct burners, and subsection (b)16 for volatile organic liquid storage vessels. Therefore, the facility is required to meet the same emissions, performance testing, monitoring, reporting, and record keeping as those described in Section 3.4.1. FDEP has authority for implementing NSPS requirements in Florida.

3.4.4 FLORIDA AIR PERMITTING REQUIREMENTS

The FDEP regulations require any new source to obtain an air permit prior to construction. Major new sources 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, 62-4.210, 62-210.300(1), and 62-212.400, F.A.C. Specific emission standards are set forth in Chapter 62-296, F.A.C.

3.4.5 LOCAL AIR REGULATIONS

Palm Beach County Health Department is the air compliance authority for the County implementing FDEP regulations. As conditions of the land development approval for the Site, the County established a sulfur limit on light oil of 0.0015 percent, and limited PSD Class II Increment consumption to 50 percent of the available PSD Class II Increment.

3.5 SOURCE APPLICABILITY

3.5.1 AREA CLASSIFICATION

The Project is located in Palm Beach County, which has been designated by EPA and FDEP as an attainment area (includes unclassifiable) for all criteria pollutants. Palm Beach County and surrounding counties are designated as PSD Class II areas for SO_2, PM (TSP), and NO_2. The nearest Class I area is the Everglades National Park (NP) located about 107 km (64 miles) to the south of the Site.

3.5.2 PSD REVIEW

Pollutant Applicability

The West County Energy Center is considered to be a major facility because the emissions of several regulated pollutants are estimated to exceed 100 TPY and the emissions units are one of the 28 listed major source categories under the PSD rules. The West County Energy Center is defined as a new major facility under the PSD rules and PSD review is required for any pollutant for which the emissions exceed the PSD significant emission rates. As shown in Table 3-3, potential emissions from the proposed West County Energy Center will trigger PSD review for PM (TSP), PM_{10}, SO_2, NO_x, CO, VOC, and SAM. Impacts for these pollutants that are predicted to be above the significant impact levels require a modeling analysis incorporating the impacts from other sources. (Note: EPA no longer requires PSD review for HAPs from PSD review. The pollutants vinyl chloride, asbestos, and beryllium are no longer evaluated in PSD review because they are addressed through the NESHAP program.)

As part of the PSD review, a PSD Class I increment analysis is required if the proposed facility's impacts are greater than the proposed EPA Class I significant impact levels. The nearest Class I area to the Project (Everglades National Park) is about 105 km from the Site and a PSD Class I increment analysis and an evaluation of impacts to AQRVs is required.

Emission Standards

The applicable NSPS for the CTs is 40 CFR Part 60, Subpart GG and the applicable NSPS for the duct burners is 40 CFR Part 60, Subpart Da. These NSPS are being replaced by Subpart KKKK. The proposed emissions for the West County Energy Center will be well below the specified limits (see Section 4.0).

The NESHAPs Subpart YYYY may potentially apply to the project. Information available from the EPA indicate that the West County Energy Center will meet the proposed MACT of 91 ppbvd corrected to 15-percent oxygen for formaldehyde.

Ambient Monitoring

Based on the potential emissions from the West County Energy Center (see Table 3-4), a pre-construction ambient monitoring analysis is required for PM_{10}, SO_2, NO_2, CO, and O_3 (based on VOC emissions). If the net increase in impact of pollutants is less than the applicable *de minimis* monitoring concentration (100 TPY in the case of VOC), then an exemption from the pre-construction ambient monitoring requirement is available by Rule 62-212.400(3)(e), F.A.C. In addition, if an acceptable ambient monitoring method for the pollutant has not been established by EPA, monitoring is not required.

As shown in Table 3-4, the West County Energy Center's impacts are predicted to be below the applicable *de minimis* monitoring concentration levels for all pollutants. Therefore, pre-construction monitoring is not required to be submitted for this facility. For Ozone, the applicable pollutant is VOC and the *de minimis* monitoring threshold is based on 100 TPY. For the Project, potential VOC emissions are above 100 TPY and the monitoring analysis is presented in Section 5.0.

GEP Stack Height Impact Analysis

The GEP stack height regulations allow any stack to be at least 65 m [213 feet (ft)] high. The stacks for the West County Energy Center will be 149 ft. These stack heights do 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 CT emissions caused by nearby structures are included in the modeling analysis.

3.5.3 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 are applicable to the West County Energy Center 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 date on which the unit commences operation (e.g., first fire).

The permit would require the units to hold SO_2 emission allowances. Emission limitations established in the Acid Rain Program are presumed to be less stringent than BACT 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.

Continuous emission monitoring (CEM) for SO_2 and NO_x is 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 Appendix 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 acid rain 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.

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

Pollutant	Averaging Time	AAQS ($\mu g/m^3$)[a]			PSD Increments ($\mu g/m^3$)[a]		PSD Class II Significant Impact Levels ($\mu g/m^3$)[b]
		Primary Standard	Secondary Standard	Florida	Class I	Class II	
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	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 except for the PM_{10} and ozone AAQS. The 24-hour PM_{10} AAQS is attained when the expected number of days per year with a 24-hour concentration above 150 μ/m^3 is equal to or less than 1. For modeling purposes, compliance is based on the sixth highest 24-hour concentration over a 5-year period. For ozone, the daily maximum 1-hour concentration cannot be exceeded an average of more than one 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).
The ozone standard was modified to be 0.08 ppm; achieved when 3-year average of 99th percentile is 0.08 ppm 157 μ/m^3 or less. FDEP has not yet adopted these standards.

Sources: Federal Register, Vol. 43, No. 118, June 19, 1978.
40 CFR 50; 40 CFR 52.21.
Chapter 62-204, 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

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.
g/m^3 = micrograms per cubic meter.

[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.

Sources: 40 CFR 52.21; Rule 62-212.400.

Table 3-3. Maximum Emissions Due to the West County Energy Center Compared to the PSD Significant Emission Rates

Pollutant	Pollutant Emissions (TPY): Potential Emissions from Proposed Project[a]	Pollutant Emissions (TPY): Significant Emission Rate	PSD Review
Sulfur Dioxide	411	40	Yes
Particulate Matter [PM(TSP)]	843	25	Yes
Particulate Matter (PM_{10})	652	15	Yes
Nitrogen Dioxide	856	40	Yes
Carbon Monoxide	2,020	100	Yes
Volatile Organic Compounds	176	40	Yes
Lead	<0.1	0.6	No
Sulfuric Acid Mist	41	7	Yes
Total Fluorides	NEG	3	No
Total Reduced Sulfur	NEG	10	No
Reduced Sulfur Compounds	NEG	10	No
Hydrogen Sulfide	NEG	10	No
Mercury	5×10^{-3}	0.1	No

Note: NEG = Negligible.

[a] A. Based on emissions from operating at base load at 59°F for all pollutants except SO_2:

- 100-percent load, natural gas – 4,880 hours
- 100-percent load with duct burners, natural gas – 2,880 hours
- 100-percent load, oil firing – 500 hours

B. SO_2 emissions based on operations at baseload at 59°F:

- 100-percent load, natural gas – 5,880 hours
- 100-percent load with duct burners, natural gas – 2,880 hours

Includes cooling tower, emergency generators, auxiliary boilers, and gas heaters (see Table 2-7).

Table 3-4. Predicted Net Increase in Impacts Due to the Proposed West County Energy Center Compared to PSD *De Minimis* Monitoring Concentrations

Pollutant	Concentration ($\mu g/m^3$) Predicted Increase in Impacts[a]		*De Minimis* Monitoring Concentration
	"F" Class	"G" Class	
Sulfur Dioxide	3.7	3.6	13, 24-hour
Particulate Matter (PM_{10})	6.0	10.7	10, 24-hour
Nitrogen Dioxide[b]	0.55	0.39	14, annual
Carbon Monoxide	48	52	575, 8-hour
Volatile Organic Compounds	136 TPY	176 TPY	100 TPY

[a] See Section 6.0 for air dispersion modeling results.

[b] Based on combined cycle with natural gas firing for 8,260 hours and light oil firing for 500 hours.

4.0 CONTROL TECHNOLOGY REVIEW

4.1 APPLICABILITY

The PSD regulations require new major stationary sources to undergo a control technology review for each pollutant that may potentially be emitted above significant amounts. The control technology review requirements of the PSD regulations are applicable to the West County Energy Center for NO_x, SO_2, CO, PM/PM_{10}, and SAM (see Section 3.0).

This section presents the applicable NSPS and the proposed BACT for these pollutants. The approach to the BACT analysis is based on the regulatory definitions of BACT, as well as consideration of EPA's current policy guidelines requiring a top-down approach. A BACT determination requires an analysis of the economic, environmental, and energy impacts of the proposed and alternative control technologies [see 40 CFR 52.21(b)(12)]. The analysis must, by definition, be specific to the West County Energy Center (i.e., case by case).

4.2 NEW SOURCE PERFORMANCE STANDARDS

The Subpart GG NSPS for CTs have a NO_x emission limit of 75 ppmvd corrected for heat rate and 15-percent O_2. The Subpart Da NSPS for the duct burner has a NO_x emission limit is 1.6 lb/MW-hr.

On February 18, 2005, EPA proposed new NSPS for Stationary Combustion Turbines that will commence construction after February 18, 2005. These NSPS, Subpart KKKK, will replace Subpart GG and Da for combustion turbines in combined cycle mode. When finalized, the Subpart KKKK requirements will supersede the Subpart GG requirements and apply to combustion turbines with a gross capacity of greater than 1 MW. For the West County Energy Center, the proposed Subpart KKKK requirements that apply to the requirements for combustion turbines greater than 30 MW would be applicable. The NO_x emissions are limited to 0.39 lb/MW-hr for gas-firing and 1.2 lb/MW-hr for light oil firing. These NO_x emission rates are approximately equivalent to 10 ppmvd corrected to 15-percent O_2 when firing natural gas and 30 ppmvd corrected to 15-percent O_2 when firing light oil. For SO_2 emissions, the proposed Subpart KKKK requirements limit emissions to 0.58 lb/MW-hr or a fuel sulfur content of 0.05 percent.

The combined CT and duct burner emissions rate proposed for the West County Energy Center when firing natural gas with SCR, 2.5 ppmvd corrected to 15-percent O_2, is equivalent to about 0.08

lb/MW-hr or about 5 times lower than the proposed Subpart KKKK NSPS. When firing light oil, the proposed NO_x emission rate of 10 ppmvd corrected to 15-percent O_2 is equivalent to about 0.3 lb/MW-hr or about 4 times lower than the proposed Subpart KKKK NSPS.

4.3 BEST AVAILABLE CONTROL TECHNOLOGY

4.3.1 OVERVIEW OF PROPOSED BACT

BACT determinations for heavy-duty industrial gas turbines have been made in numerous recent permitting decisions. These decisions established emission rates that were achieved through the use of advanced DLN combustors and SCR for limiting emissions of NO_x, good combustion practices for minimizing CO and VOC emissions, and the use of clean fuels (natural gas) for control of other emissions, including PM_{10} and SO_2. The BACT proposed for the West County Energy Center is consistent with these permit actions. The results of the BACT analysis have concluded that the following emission limits constitute BACT for the three CT options under consideration for the West County Energy Center.

1. GE 7FA Combustion Turbines
    a. The West County Energy Center will use state-of-the-art DLN combustion technology and SCR to achieve gas turbine exhaust NO_x levels of no greater than 2.5 ppmvd corrected to 15-percent O_2 when firing natural gas and 10 ppmvd corrected to 15-percent O_2 when firing light oil.
    b. CO emissions when firing natural gas will be limited through good combustion practices to 4.14 ppmvd corrected to 15-percent O_2 at base load to 50-percent load, 7.68 ppmvd corrected to 15-percent O_2 with duct firing, and 14.15 ppmvd corrected to 15-percent O_2 with HPM and duct firing. When firing light oil, CO will be limited to 8 ppmvd corrected to 15-percent O_2.
    c. VOC emissions when firing natural gas will be limited through good combustion practices to 1.3 ppmvd corrected to 15-percent O_2 at baseload, 1.3 ppmvd corrected to 15-percent O_2 with duct firing. When firing light oil, CO will be limited to 2.8 ppmvd corrected to 15-percent O_2.
    d. Emission rates of PM_{10} and SO_2 will be limited using natural gas and light oil.
2. GE 7FB Combustion Turbines
    a. The West County Energy Center will use state-of-the-art DLN combustion technology and SCR to achieve gas turbine exhaust NO_x levels of no greater than

2.5 ppmvd corrected to 15-percent O_2 when firing natural gas and 10 ppmvd corrected to 15-percent O_2 when light oil.

b. CO emissions when firing natural gas will be limited through good combustion practices to 11.8 ppmvd corrected to 15-percent O_2 at base load to 60-percent load, 13.6 ppmvd corrected to 15-percent O_2 with duct firing. When firing light oil, CO will be limited to 12.7 ppmvd corrected to 15-percent O_2.

c. VOC emissions when firing natural gas will be limited through good combustion practices to 1.2 ppmvd corrected to 15-percent O_2 at baseload, 1.9 ppmvd corrected to 15-percent O_2 with duct firing. When firing light oil, CO will be limited to 2.6 ppmvd corrected to 15-percent O_2.

d. Emission rates of PM_{10} and SO_2 will be limited using natural gas and light oil.

3. Frame G Combustion Turbines (Siemens or Mitsubishi)

a. The West County Energy Center will use state-of-the-art DLN combustion technology and SCR to achieve gas turbine exhaust NO_x levels of no greater than 2.5 ppmvd corrected to 15-percent O_2 when firing natural gas and 10 ppmvd corrected to 15-percent O_2 when firing light oil.

b. CO emissions when firing natural gas will be limited through good combustion practices to 5.0 ppmvd corrected to 15-percent O_2 at base load to 60-percent load, 7.2 ppmvd corrected to 15-percent O_2 with duct firing. When firing light oil, CO will be limited to 7.0 ppmvd corrected to 15-percent O_2.

c. VOC emissions when firing natural gas will be limited through good combustion practices to 1.2 ppmvd corrected to 15-percent O_2 at baseload, 1.8 ppmvd corrected to 15-percent O_2 with duct firing. When firing light oil, CO will be limited to 10 ppmvd corrected to 15-percent O_2.

d. Emission rates of PM_{10} and SO_2 will be limited using natural gas and light oil.

A summary of the emission limits and compliance methods proposed as BACT is presented in Table 4-1. Excess emissions proposed for the West County Energy Center are addressed in Section 2.5.

4.3.2 NITROGEN OXIDES

Technology Description

The BACT analysis was performed based on those available and feasible control technologies that can provide the maximum degree of emission reduction for NO_x emissions. An evaluation of the available and feasible control technologies determined that DLN combustion along with SCR could provide the maximum degree of emission reduction. SCONO$_x$™ is commercially available but has not been demonstrated on "F" and "G" Class combustion turbines. Other available technologies such as NO$_x$Out, Thermal DeNO$_x$, NSCR, and XONON™ Combustion System were evaluated and determined to be technically infeasible or not commercially demonstrated for the West County Energy Center. Appendix B presents a discussion of these NO_x control technologies and their feasibility for the West County Energy Center.

DLN 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 rate of 35 ppmvd (corrected to 15-percent O_2) and lower have been offered by manufacturers for "F" and "G" Class turbines. This technology prevents pollution since NO_x emissions are inhibited from forming. When firing light oil, NO_x is limited using water injection to 42 ppmvd (corrected to 15-percent O_2).

SCR is a post-combustion process where NO_x in the gas stream is reacted with ammonia in the presence of a catalyst to form nitrogen and water. It is available from vendors for combined cycle applications. The reaction occurs typically between 600°F and 750°F, which occur in combined cycle units in the HRSG. SCR has been installed and operated on combined cycle facilities using catalysts with temperature ranges from 600 to 750°F, generally achieving 9 ppmvd (corrected to 15-percent O_2) or less while burning natural gas.

Ammonium salts (ammonium sulfate and ammonium bisulfate) are formed by the reaction of sulfur oxides in the gas stream and ammonia. These salts are highly acidic and special precautions in materials and ammonia injection rates must be implemented to minimize their formation.

Ammonia injected in the SCR system, which does not react with NO_x, is emitted directly and referred to as ammonia slip. In general, SCR manufacturers guarantee an ammonia slip to be no more than

9 ppmvd corrected to 15-percent oxygen (O_2). SCR is technically feasible for the West County Energy Center.

Although SCONO$_x$™ is potentially available, it has not been demonstrated on "F" Class or larger combustion turbines. The SCONO$_x$™ system has been only operated on a 32-MW facility in California since 1996 and a 5-MW unit in Massachusetts since 1999. The scale up of this complicated technology should not be underestimated. The SCONO$_x$™ technology installed on an "F" Class turbine would involve about a dozen or more different chambers of catalyst for absorption and regeneration. Every 15 to 30 minutes, dampers would be operated to isolate a particular catalyst chamber for regeneration. Each regeneration cycle must isolate the chamber so that O_2 is not introduced and regeneration gas (hydrogen) is introduced. Seal leaks could be significant as applied to the large volume flows associated with a "F" Class turbine. Although the amount of sulfur in natural gas is very low, the SCONO$_x$™ catalyst is poisoned by sulfur compounds, requiring the installation of the SCOSO$_x$™ to further remove sulfur compounds as part of the overall system. The ability of SCOSO$_x$™ to further remove compounds that will poison the catalyst as part of the overall SCONO$_x$™ system has not been demonstrated when firing light oil. Recent contacts (2005) with vendors of SCONO$_x$™ technology have indicated that application of SCONO$_x$ has not been applied on large (80 MW or larger) CTs.

Over the last several years, the permitting trend for advanced CTs, even in combined cycle configuration, is the use of DLN combustors with SCR. In EPA Region IV, the predominate emission rate established as BACT has been 3.5 ppmvd corrected to 15-percent O_2 when firing natural gas. Several projects in Florida have established case-by-case BACT of 3.5 and 2.5 ppmvd corrected to 15-percent O_2 when firing natural gas using DLN and SCR.

The proposed CTs will be fired with natural gas and light oil. The BACT evaluation was based on DLN combustors in combination with SCR and SCONO$_x$™. The BACT evaluation considered the following NO_x concentrations:

- GE-7FA: 2.5 ppmvd @ 15-percent O_2;
- GE-7FB: 2.5 ppmvd @ 15-percent O_2; and
- Frame G: 2.5 ppmvd @ 15-percent O_2.

The following sections present a summary of the economic, environmental, and energy impacts of the available, technically feasible, and demonstrated control technology and emission rate alternatives for the combined cycle units. Appendix B contains the detailed information on the costs, environmental, and energy impacts.

Impacts Analysis

Economic

The total estimated capital, annualized, and incremental costs of SCR are based on budgetary cost estimates provided by Foster Wheeler and Engelhard. The total estimated capital, annualized, and incremental costs on each CT/HRSG scenario are summarized in Table 4-2. Appendix B contains the detailed cost estimates for the capital and annualized costs.

The capital and annualized costs for $SCONO_x$™ are based on a budgetary cost estimate provided by ABB Alstom Environmental Systems. The budgetary estimate of capital cost for $SCONO_x$™ on each turbine/HRSG scenario is summarized in Table 4-2. As shown the capital costs for SCR is as much as 10 times less costly than $SCONO_x$™. The cost effectiveness of $SCONO_x$™ is several hundred percent higher than SCR with uncertainty in its demonstrated feasibility. It should be noted that the annualized costs for $SCONO_x$™ did not include provisions for required mechanical maintenance activities.

Environmental

The maximum predicted NO_x impact of the West County Energy Center is considerably below the NO_2 PSD Class II increment of 25 micrograms per meter cubed ($\mu g/m^3$) (annual average) and the AAQS of 100 $\mu g/m^3$ (annual average). The maximum annual impact for the West County Energy Center based on each CT/HRSG scenario firing natural gas is as follows:

CT/HRSG Scenarios	Annual Impact ($\mu g/m^3$)
GE-7FA (2.5 ppmvd @ 15% O_2)	0.7
GE-7FB (2.5 ppmvd @ 15% O_2)	0.7
Frame G (2.5 ppmvd @ 15% O_2)	0.5

The addition of SCR will reduce NO_x emissions by at least 296 TPY per CT/HRSG based on the GE-7FA option (about 76-percent reduction) from the combined cycle operation beyond those achieved through the use of DLN combustors.

The use of DLN combustor technology is "pollution prevention". The use of SCR has associated primary and secondary environmental impacts. Emissions of ammonia and ammonium salts (such as ammonium sulfate and bisulfate) will occur. Ammonia emissions with the use of SCR are a result of unreacted ammonia that may be emitted. Vendors typically provide ammonia slip guarantees of 9 ppmvd corrected to 15-percent O_2. However, this level of ammonia slip occurs only as the catalyst ages. Initial ammonia slip levels are less than 5 ppmvd. Potential emissions of ammonium sulfate and bisulfate will increase emissions of PM_{10} as follows (see Appendix B for additional information):

CT/HRSG Scenarios	Ammonia Sulfate/Bisulfate (PM_{10}) (TPY)
GE-7FA (2.5 ppmvd @ 15% O_2)	9.8
GE-7FB (2.5 ppmvd @ 15% O_2)	10.1
Frame G (2.5 ppmvd @ 15% O_2)	11.8

The electrical energy required to run the SCR system and the backpressure from the turbine will reduce the available power from the West County Energy Center. The backpressure is a result of the catalyst modules located in the exhaust gas stream in the HRSG. The backpressure to reduce NO_x to 2.5 ppmvd (corrected to 15-percent O_2) is at least 2.5 inches of water gauge. This backpressure reduces the power generated by the combustion turbine. This lost power, which would otherwise be available to the electrical system, will have to be replaced by other less efficient units. The replacement power will cause air pollutant emissions that would not have occurred without SCR. The net reduction in emissions with SCR (i.e., reduction in NO_x minus ammonia and secondary emissions), when all criteria pollutants are considered, will be about 290 TPY, 742 TPY, and 1,384 TPY, for each GE-7FA, GE-7FB, and Frame G turbine, respectively. In addition to criteria pollutants, additional secondary emissions of carbon dioxide would be emitted.

SCR will require the construction and maintenance of storage vessels for aqueous ammonia for use in the reaction. Ammonia storage and use triggers the application of at least three major standards: Clean Air Act (Section 112), Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1000, and OSHA 29 CFR 1910.119. The West County Energy Center would comply with the applicable requirements in 29 CFR 1910.

While ammonia is not used or emitted from a $SCONO_x$™ system, there are substantial natural gas, steam, and back pressure ramifications for the $SCONO_x$™ system that would directly result in environmental impacts. For a Frame FA CT, $SCONO_x$™ requires about 17,795 lb/hr of steam and 80 lb/hr of natural gas. In addition, the backpressure of the $SCONO_x$™ system is 200 percent over that of the SCR. This increased energy use would generate additional criteria pollutants of at lease 36 TPY per unit (GE-7FA) and about 20,066 TPY per unit of additional carbon dioxide emissions compared to the West County Energy Center using SCR. Application of this technology on the 7FB and G CTs would result in even greater energy usage.

Energy

Energy penalties occur with SCR. With SCR, the output of the CT will be reduced over that of advanced low-NO_x combustors due to the backpressure on the CT. The penalty due to backpressure from SCR per CT for each CT/HRSG scenario is as follows (see Appendix B for additional information):

CT/HRSG Scenarios	SCR Backpressure (inches)	Energy Penalty (kWh)
GE-7FA (2.5 ppmvd @ 15% O_2)	2.0	5,780,128
GE-7FB (2.5 ppmvd @ 15% O_2)	3.0	5,633,002
Frame G (2.5 ppmvd @ 15% O_2)	4.4	9,397,781

The energy required by the SCR equipment would be about 700,800 kWh per year per CT. Taken together, the total lost generation and energy requirements of SCR per year could supply the electrical needs of about 515, 528, and 842 residential customers for each GE-7FA, GE-7FB, and Frame G turbine, respectively. To replace this lost energy, the following natural gas would be required (see Appendix B for additional information):

CT/HRSG Scenarios	Million British Thermal Units per year (MMBtu/yr)	Million Cubic Feet Per Year ($MMft^3$/yr)
GE-7FA (2.5 ppmvd @ 15% O_2)	63,496	63
GE-7FB (2.5 ppmvd @ 15% O_2)	57,354	57
Frame G (2.5 ppmvd @ 15% O_2)	89,430	89

SCONO$_x$™, in contrast to SCR, is very energy intensive. The SCONO$_x$™ system has about 2 times more backpressure on the turbine requiring steam and natural gas for the regeneration process. The natural gas needed to generate the steam for the SCONO$_x$™ system is equivalent to 26.3 MMBtu per hour per unit or 230,000 MMBtu per year per unit. The overall energy equivalence usage and equivalent residential customers is as follows:

CT/HRSG Scenarios	Energy Penalty (kWh)	Residential Customers
GE-7FA (2.5 ppmvd @ 15% O_2)	26,045,082	3,134
GE-7FB (2.5 ppmvd @ 15% O_2)	26,568,584	3,153
Frame G (2.5 ppmvd @ 15% O_2)	32,259,312	4,255

The energy equivalence in terms of natural gas usage is as follows:

CT/HRSG Scenarios	Million British Thermal Units per year (MMBtu/yr)	Million Cubic Feet Per Year ($MMft^3$/yr)
GE-7FA (2.5 ppmvd @ 15% O_2)	380,324	380
GE-7FB (2.5 ppmvd @ 15% O_2)	342,603	343
Frame G (2.5 ppmvd @ 15% O_2)	452,124	452

When all the energy requirements for SCONO$_x$™ are considered, it is at least 2.26 percent of the combustion turbine heat input. In contrast, SCR results in a maximum additional energy requirement equivalent to 0.43 percent of the combustion turbine heat input.

Technology Comparison

The proposed West County Energy Center will use advanced heavy-duty industrial gas turbines with advanced DLN combustors. This type of machine reflects the state-of-the-art for CTs by being more efficient and less polluting than previous CTs. Integral to the machines' design are DLN combustors that prevent the formation of air pollutants within the combustion process, thereby minimizing the amount of add-on controls that can have an impact on the environment and energy requirements. An analogy to 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 proposed "F" and "G" class advanced machines is about 170 MW and 255 MW, respectively, compared to the 70- to 120-MW conventional machines. The higher initial firing temperature (i.e., 2,600°F or greater) results in about 20 percent or more electrical energy produced for the same amount of fossil fuel used in conventional machines. This has the added advantage of producing less 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 DLN combustors that will reduce NO_x emissions from at least 180 ppmvd to less than 35 ppmvd when firing natural gas. Thermal NO_x formation is inhibited by using staged combustion techniques where the natural gas and combustion air is premixed prior to ignition. This level of control will result in NO_x emissions of about 0.03, 0.09, and 0.13 lb/10^6 Btu for gas firing for GE-7FA, GE-7FB, and Frame G CTs, respectively, which are less than half of the emissions generated from conventional fossil fuel-fired steam generators.

The use of SCR on combined cycle projects has been a recent trend in Florida and Region IV. Its use can limit NO_x emissions, while retaining much of the benefit of the advanced CT technology in combined cycle configuration.

From a technology standpoint, SCR has been demonstrated as feasible on over 100 combined cycle projects. In contrast, $SCONO_x$™ has only been operating over a few years on small turbines that are over 10 times smaller than the "F" or "G" Class turbines under consideration for the West County Energy Center. As noted from the information in Appendix B, the $SCONO_x$™ system requires a considerable amount of mechanical equipment that must be operated in a high volume flow field. SCR has no moving parts to complicate operation. There is considerable uncertainty regarding the maintenance and replacement requirements over time of the mechanical components of the $SCONO_x$™ system on a large turbine.

<u>Proposed BACT and Rationale</u>

The proposed BACT for NO_x emissions from the West County Energy Center is based on advanced DLN combustion technology and SCR. The proposed BACT emissions levels using this technology are summarized in Table 4-1. This combination of the technology can achieve the maximum amount of emission reduction available, technically feasible and demonstrated for the West County Energy

Center. SCR cannot be rejected based on the economic, environmental, and energy impacts given the recent BACT decisions on other similar projects.

SCONO$_x$™ is rejected as BACT based on significant energy, environmental and economic impacts. The costs are significantly different between SCR and SCONO$_x$™, yet both technologies can achieve the same level of NO_x reduction. Moreover, SCONO$_x$™ has never been demonstrated on CTs as large as "F" or "G" Class proposed for the West County Energy Center. From an environmental perspective, the only advantage of SCONO$_x$™ is the lack of ammonia slip and control of CO emissions. Ammonia is an unregulated air pollutant and ammonia slip can be minimized through design and operation of the SCR system. SCONO$_x$™ requires steam and natural gas that SCR does not require. These have direct environmental consequences in the form of additional air pollutant emissions including at least 20,000 TPY per unit of additional CO_2. Thus, the energy and other environmental disadvantages of SCONO$_x$™ outweigh any advantages in the reduction of ammonia and CO emissions. In addition, the use of light fuel oil further limits the ability of SCONO$_x$™ to be used for the West County Energy Center. Taking together the energy, economic and environmental impacts and other costs, SCONO$_x$™ is rejected as BACT.

4.3.3 CARBON MONOXIDE

Technology Description

Emissions of CO are dependent on the combustor 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 during oil firing. Each of the CTs proposed for the West County Energy Center have designs to optimize combustion efficiency and minimize NO_x emissions to the lowest achievable using DLN combustion technology while maintaining low CO emission levels.

For the West County Energy Center, the following alternatives were evaluated as BACT:

1. Combustion controls; and
2. Oxidation catalyst at 2 ppmvd emission rate.

There are two alternatives for installing an oxidation catalyst. The first would be to install a catalyst prior to the HRSG to reduce CO emissions from the turbine. This would result in the CO emissions from the duct burners being uncontrolled. The second alternative is to install an oxidation catalyst or SCONO$_x$™ within the HRSG. This would control all the CO emissions, including CO from the duct burners. The capital cost for an oxidation catalyst and its technical feasibility is not different when considering simple or combined cycle operation.

Impact Analysis

Economic

The estimated capital cost, annualized cost, and total cost effectiveness for an oxidation catalyst installed on each CT/HRSG scenario are summarized in Table 4-3. No costs are associated with combustion techniques, since they are inherent in the design.

$SCONO_x$™ also reduces CO emissions. The incremental cost effectiveness for CO removal for this system is at least $21,000 per ton based on the GE-7FB CT. This is based on the differential between the annualized cost of $SCONO_x$™ ($5.8 million) and SCR ($1.518 million) and the tons of CO potentially removed in the $SCONO_x$™ system.

Environmental

The air quality impacts of CO emissions from the West County Energy Center with combustion design control techniques are below the significant impact levels for CO. Therefore, no significant environmental benefit would be realized by the installation of a CO catalyst. The maximum CO impacts are less than 0.1 percent of the applicable AAQS. There would also be no secondary benefits, such as reductions in O_3 precursors and acidic deposition, to reducing CO by catalyst. In contrast, the installation of an oxidation catalyst would create additional back pressure on the turbine resulting in lost electric generation that would otherwise be available and thus have to be replaced by older, less efficient technology. The end result would be the emission of an additional 2,000 TPY of carbon dioxide (CO_2). The ultimate end product of CO is CO_2, regardless of whether the process results from an oxidation catalyst or in the atmosphere. The lost energy caused by the back pressure from the oxidation catalyst would result in the generation of 10 times more greenhouse gases than the amount of CO converted to CO_2 in the oxidation catalyst.

Energy

An energy penalty would result from the pressure drop across the catalyst bed. A pressure drop of about 1.5 to 2 inches of water gauge would be expected. A catalyst back pressure of 2 inches would result in an energy penalty of about 3 million kWh/yr. The energy penalties are sufficient to supply the following electrical needs (see Appendix B for additional information):

CT/HRSG Scenarios	Energy Penalty (kWh)	Residential Customers
GE-7FA	3,042,173	254
GE-7FB	3,352,978	279
Frame G	4,475,134	373

To replace this lost energy the following natural gas would be required:

CT/HRSG Scenarios	Million British Thermal Units per Year (MMBtu/yr)	Million Cubic Feet per Year ($MMft^3/yr$)
GE-7FA	31,273	31
GE-7FB	30,362	30
Frame G	39,630	40

In contrast, the total energy requirements of $SCONO_x$™ for the reduction of CO are ten times more or, at least, $37x10^{10}$ Btu/yr (370 million ft^3/yr of natural gas).

Proposed BACT and Rationale

Combustion design is proposed as BACT, as there are adverse technical and economic consequences of using catalytic oxidation on CTs. The proposed BACT emission rates for CO are summarized in Table 4-1. Catalytic oxidation is considered unreasonable for the following reasons:

1. Catalytic oxidation will not produce measurable reduction in the air quality impacts;
2. The economic impacts are significant; and
3. Recent projects in Florida and Region IV have been authorized with BACT emission limits of similar magnitude.

$SCONO_x$™ is rejected as BACT based on the high differential costs of the technology. Also, the as described in the BACT evaluation for NO_x, the use of $SCONO_x$™ on a “F” or “G” Class turbine has associated technical uncertainty, as well as significant energy and environmental impacts. Moreover, this technology has never been installed on large frame CTs.

Combustion design is proposed as BACT as a result of the technical and economic consequences of using catalytic oxidation on CTs. Catalytic oxidation is considered unreasonable, since it will not produce a measurable reduction in the air quality impacts. Indeed, recent BACT decisions for similar advanced CTs have set limits in the 5- to 25-ppmvd range when firing natural gas and light oil. The cost of an oxidation catalyst would be significant and not be cost effective given the maximum proposed emission limits.

The cost-effectiveness calculations are significantly understated if the actual emission performance is considered. The actual CO emissions performance of the GE Frame 7FA turbines is much less than the guaranteed rates. This is a direct result of turbine manufacturers and duct burner vendors including significant margins on emissions of CO and VOCs to assure that NO_x emission guarantees can be achieved in the combustion systems. For example, CO test data for the GE Frame 7FA turbine indicated that emissions range from 0.0 to 1.01 ppmvd (corrected to 15-percent O_2) with and average of 0.25 ppmvd (corrected to 15-percent O_2) when firing natural gas over loads from 50 percent to 100 percent. These data were from 67 tests. The GE guarantee is equivalent to 7.4 ppmvd corrected to 15-percent O_2 (i.e., 9 ppmvd) when firing natural gas. The actual CO emissions over 10 times less than the guarantee emission level. Similar performance has been observed for other "F" and "G" Class designs.

4.3.4 PM/PM_{10}, SO_2, AND SULFURIC ACID MIST

The PM/PM_{10} emissions from the CTs are a result of incomplete combustion and trace elements in the fuel. The design of the CTs ensures that particulate emissions will be minimized by combustion controls and the use of clean fuels. A review of EPA's BACT/LAER Clearinghouse Documents reveals no post-combustion particulate control technologies required or used on gas-fired or distillate oil-fired CTs.

The maximum particulate emissions from the CT will be lower in concentration than that normally specified for fabric filter designs. The grain loading associated with the maximum particulate emissions (less than 20 lb/hr when firing natural gas) is less than 0.01 grain per standard cubic foot (gr/scf), which is a typical design specification for a baghouse. This demonstrates that no further particulate controls are necessary or appropriate for the proposed West County Energy Center.

There are no technically feasible methods for controlling the emissions of SO_2 and sulfuric acid mist from CTs, other than the inherent quality of the fuel. The use of flue gas desulfurization (FGD) systems is not available, technically feasible, demonstrated or cost-effective on CTs using natural gas.

The use of natural gas, a clean fuel, represents BACT and will limit emissions of PM, PM_{10}, and SO_2.

4.3.5 VOLATILE ORGANIC COMPOUNDS

VOCs will be emitted by the CTs as a result of incomplete combustion. The proposed BACT emission rates for VOC emissions are based on the use of combustion technology and the use of clean fuels. A summary of the VOC emission rates proposed as BACT is presented in Table 4-1 for each proposed scenario. The proposed VOC emission levels are similar to the BACT emission levels established for other similar sources. Combustion controls and the use of clean fuels have been overwhelmingly approved as BACT for VOC emissions from CTs. The environmental effect of further reducing VOC emissions would not be significant.

A review of the BACT/LAER Information System (BLIS) did not indicate any oxidation catalysts on natural gas-fired combustion turbines to limit emissions of VOCs for BACT. A vendor of oxidation catalysts was contacted to determine the removal efficiency of VOCs in an oxidation catalyst typically used (i.e., primarily used for CO in nonattainment areas as LAER). The vendor stated that the typical VOC removal efficiency in a turbine application is from 30 to 40 percent. The cost-effectiveness calculation is presented below:

CT/HRSG Scenarios	VOC (TPY)	Annualized CO Catalyst Cost ($/year)	VOC Removal (%)	Cost Effectiveness ($/ton VOC)
GE-7FA	17.63	628,657	40	89,128
GE-7FB	17.06	604,417	40	88,554
Frame G	29.33	887,647	40	75,655

At 40-percent VOC removal the cost effectiveness of an oxidation catalyst is over $75,000 per ton of VOC removed. Assuming that a 90-percent reduction was available at the same cost, the cost effectiveness is still over $33,000 per ton of VOC removed.

Similar to the results for CO, the actual VOC emission rates have been extremely low when compared with the emission guarantees. For example, test data for the GE Frame 7FA turbine indicate that VOC emissions range from 0.0 to 1.65 ppmvd (corrected to 15-percent O_2) with an average of 0.23 ppmvd (corrected to 15-percent O_2) when firing natural gas over loads from 50 to 100 percent. These data were from 34 tests. The GE guarantee for the Frame 7FA turbine is 1.4 ppmvw (corrected to 15-percent O_2). The actual VOC emissions are 5 times lower than the guarantee emission level. Test results for duct firing with natural gas suggest that VOC emission rates remain unchanged. Similar performance has been observed for other "F" and "G" Class designs.

4.3.6 COOLING TOWER

For the cooling tower, the installation of drift eliminators is the only feasible technology for controlling PM emissions. Drift eliminators use inertial separation caused by airflow direction changes to remove water droplets from the air stream exhausting from the cooling tower. These water droplets generally contain the same concentration of dissolved solids and chemical impurities as the water circulating through the tower and can be converted to airborne emissions.

Drift eliminator configurations include cellular (or honeycomb), wave-form, and herringbone (blade-type) designs. Drift eliminators may include various materials such as wood installed or formed into closely spaced slats, sheets, honeycomb assemblies, or tiles; ceramics, fiberglass, metal, and plastic.

Particulate emissions from each combined cycle unit's cooling tower will be controlled utilizing high-efficiency drift eliminators designed for a drift loss rate of 0.0005 percent of the cooling tower recirculating water flow.

4.3.7 EMERGENCY GENERATORS

The emergency generators proposed for the West County Energy Center will utilize clean fuel (i.e., ultra low sulfur light oil) and good combustion techniques to minimize emissions. Each emergency generator proposed for the West County Energy Center will have potential emissions for each regulated pollutant of less than 5 TPY. As a result, each generator is classified as an insignificant activity under FDEP Rule 62-213.430(6)(b), F.A.C.

4.3.8 AUXILIARY BOILER AND GAS HEATERS

The proposed BACT for the auxiliary boiler and gas heaters is the use of natural gas to limit emissions of PM and SO_2, and good combustion practices to limit emissions of NO_x, CO and VOC. Natural gas is the cleanest fossil fuel and will minimize the emissions of PM and SO_2 to emission levels recognized as BACT (see Tables 2-5 and 2-6). The auxiliary boiler will limit emissions using low-NO_x burners to an emission level of 0.1 lb/MMBtu or less. The emission of CO will also be minimized through the use of good combustion practices to meet the requirements of 40 CFR Subpart DDDDD. Emissions from the gas heaters will be minimized to an expected NO_x emission rate of 0.1 lb/MMBtu.

The use of alternate controls such as SCR or SNCR is neither cost effective nor practicable on these emission units. The auxiliary boiler will only be used for startup of the G-Class CTs and will be limited to 500 hours per year. Alternative controls would not be cost effective and the installation of additional control equipment unnecessary. For the gas heaters, there are no alternative controls for these small combustion units (i.e., 10 MMBtu/hr of less). These units are also have potential emissions meeting the Department's criteria for a generic exemption and would otherwise be considered an insignificant emission activity (i.e., less than 5 tons/year of a regulated pollutant).

Table 4-1. Proposed BACT Emission Rates for the West County Energy Project.

Pollutant	CT(s)	Fuel	Operating Mode	Proposed BACT	Compliance Methods
NO_x	FA, FB and G	Natural Gas	All	2.5 ppmvd at 15% O_2	Initial: EPA Methods- 7e or 20, Continuous: CEM 24-hour Block
	FA, FB and G	Light Oil	All	10 ppmvd at 15% O_2	Initial: EPA Methods- 7e or 20, Continuous: CEM 24-hour Block
CO	FA	Natural Gas	CT Only	4.14 ppmvd at 15% O_2	Initial: EPA Method 10
		Natural Gas	CT & DB	7.6 ppmvd at 15% O_2	Initial: EPA Methods 10
		Natural Gas	All	8 ppmvd at 15% O_2	Continuous: 24-hour Block
		Light Oil	CT Only	8 ppmvd at 15% O_2	Initial: EPA Method 10, Continuous: CEM 24-hour Block
	FB	Natural Gas	CT Only	11.8 ppmvd at 15% O_2	Initial: EPA Method 10
		Natural Gas	CT & DB	13.6 ppmvd at 15% O_2	Initial: EPA Methods 10
		Natural Gas	All	12.4 ppmvd at 15% O_2	Continuous: 24-hour Block
		Light Oil	CT Only	12.7 ppmvd at 15% O_2	Initial: EPA Method 10, Continuous: CEM 24-hour Block
	G	Natural Gas	CT Only	5 ppmvd at 15% O_2	Initial: EPA Method 10
		Natural Gas	CT & DB	7.2 ppmvd at 15% O_2	Initial: EPA Methods 10
		Natural Gas	All	8 ppmvd at 15% O_2	Continuous: 24-hour Block
		Light Oil	CT Only	7 ppmvd at 15% O_2	Initial: EPA Method 10, Continuous: CEM 24-hour Block
VOC	FA	Natural Gas	CT Only	1.3 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload)
		Natural Gas	CT & DB	1.9 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload and duct firing)
		Light Oil	CT Only	2.8 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload)
	FB	Natural Gas	CT Only	1.2 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload)
		Natural Gas	CT & DB	1.9 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload and duct firing)
		Light Oil	CT Only	2.6 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload)
	G	Natural Gas	CT Only	1.2 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload)
		Natural Gas	CT & DB	1.8 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload and duct firing)
		Light Oil	CT Only	10 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload)
PM/PM_{10}	FA, FB and G	Natural Gas	CT, CT & DB	10% Opacity	Initial/Annual: EPA Method 9
	FA, FB and G	Light Oil	CT	10% Opacity	Initial/Annual: EPA Method 9
SO_2 and SAM	FA, FB and G	Natural Gas	CT, CT & DB	2 grains S/100 scf	Initial/Annual: 40 CFR Part 75 Fuel Sampling
	FA, FB and G	Light Oil	CT	0.0015% S	Initial/Annual: 40 CFR Part 75 Fuel Sampling

Legend: CT = combustion turbine; FA = GE Frame 7FA CT; FB = GE Frame 7FB CT; G = Siemens/Westinghouse or MHI Frame G CT; DB = duct burners

Table 4-2. Capital and Annualized SCR and $SCONO_x$™ Costs for One Combustion Turbine

	SCR Capital Cost ($)			$SCONO_x$™ Capital Cost ($)		
NO_x ppm @10%O_2	GE-7FA	GE-7FB	Frame G	GE-7FA	GE-7FB	Frame G
Total Capital Cost						
2.5	2,545,089	3,303,760	7,066,750	26,572,482	30,078,773	37,226,636
2	2,737,771	NA	NA	26,572,482	NA	NA
Total Annual Cost						
2.5	1,133,618	1,518,147	2,859,082	5,183,072	5,803,991	7,809,935
2	1,221,691	NA	NA	5,259,691	NA	NA
Total Cost Effectiveness						
9 to 2.5	3,828	NA	NA	17,500	NA	NA
25 to 2.5	NA	1,985	NA	NA	7,589	NA
35 to 2.5	NA	NA	2,022	NA	NA	5,524

Note: Refer to Appendix B.

Source: Engelhard; Foster Wheeler; ABB Alstom Environmental Systems; Golder 2005.

Table 4-3. Capital and Annualized CO Oxidation Catalyst Costs for One Combustion Turbine

	GE-7FA	GE-7FB	Frame G
Total Capital Cost ($)	1,397,037	1,503,611	2,017,274
Total Annual Cost ($)	628,657	662,415	887,647
Total Cost Effectiveness ($)	6,457	3,234	6,097

Source: Engelhard; Golder 2005.

5.0 AMBIENT MONITORING ANALYSIS

The PSD rules require that an air quality analysis be conducted for each criteria and non-criteria pollutant subject to regulation under the act before a major stationary source is constructed. Criteria pollutants are those pollutants for which AAQS have been established. Non-criteria pollutants are those pollutants that may be regulated by emission standards, for which AAQS have not been established. This analysis may be performed by the use of modeling and/or by monitoring the air quality. In addition, if EPA has not established an acceptable ambient monitoring method for the pollutant, monitoring is not required.

Based on the potential emissions from the Project (see Table 3-3), pre-construction ambient monitoring analyses for SO_2, PM_{10}, NO_2, CO, ozone (based on VOC emissions), and SAM may be required as part of the application. Ambient monitoring analyses are not required if it can be demonstrated that the proposed source's maximum air quality impacts will not exceed the PSD *de minimis* concentration levels and, for ozone (based on VOC emissions), VOC emissions of 100 TPY.

For SAM, which is a non-criteria pollutant, although the Project's emissions are greater than the significant emission rate, EPA has established no acceptable monitoring method for this pollutant.

As shown in Section 6.10, the Project's maximum impacts are predicted to be below the PSD *de minimis* concentration levels for all pollutants except PM_{10}. As a result, pre-construction ambient monitoring analysis for PM_{10} is required as part of the application.

For ozone, EPA has established a PSD *de minimis* monitoring level for a project based on an increase in VOC emissions of 100 TPY or more which would require a preconstruction ambient monitoring analysis. Because the Project's VOC emissions are greater than 100 TPY, pre-construction ambient monitoring analysis for ozone (based on VOC emissions) is required as part of the application.

Since the Project's maximum 24-hour average PM_{10} impacts are predicted to be greater than the significant impact levels (see Section 6.10), more detailed analyses are required to address compliance with the AAQS. For these analyses, total air quality impacts are predicted for the modeled sources which are added to a non-modeled background concentration. The non-modeled background concentrations are estimated from representative ambient air quality monitoring data obtained from air monitoring stations. The background concentrations developed for this project are discussed in the following sections.

5.1 OZONE AMBIENT MONITORING ANALYSIS

Ambient ozone monitoring data from existing monitoring stations are included in this application to satisfy the pre-construction monitoring requirement. Palm Beach County and adjacent counties are classified as attainment or maintenance areas for ozone. The nearest monitor to the Site that measures ozone concentrations is located at Royal Palm Beach (AIRS No. 12-099-0009) in Palm Beach County, approximately 13 km (8 miles) to the east of the project site.

In 2000, the ozone monitor at Royal Palm Beach was moved to another location but remained near the original site in Royal Palm Beach. Since ozone is a regional pollutant, ozone monitoring data collected in Palm Beach County are considered to be representative of ozone concentrations for the region and are used to satisfy this requirement for the project. This station is operated by the Palm Beach County Health Department and measures concentrations according to EPA procedures.

As shown in Table 5-1, from 2002 through 2004, the second-highest 1-hour average ozone concentration measured at Royal Palm Beach (the nearest site to the project) was 0.080 ppm. This maximum concentration is less than the existing 1-hour average ozone AAQS of 0.12 ppm. In addition, the 3-year average of the fourth highest 8-hour average ozone concentration was 0.072 ppm, and is below the revised 8-hour average ozone AAQS of 0.08 ppm. These O_3 monitoring data are included as part of this permit application to satisfy the preconstruction monitoring requirement for the Project.

5.2 PM_{10} AMBIENT MONITORING ANALYSIS

Ambient PM_{10} monitoring data from existing monitoring stations are included in this application to satisfy the preconstruction monitoring requirement. Palm Beach County and adjacent counties are classified as attainment for PM_{10}. The nearest PM_{10} monitoring station to the Site is located in Belle Glade in Palm Beach County (AIRS number 12-099-0008), approximately 28 km (17 miles) to the west of the project site. This station is operated by the Palm Beach County Health Department and measures concentrations according to EPA procedures. The monitor is located in an area that has similar or more commercial and industrial activities than are present near the Site. The PM_{10} monitoring data collected at that station are considered to be representative of air quality near the

Site. As a result, these PM_{10} monitoring data are proposed as part of this construction permit application to satisfy the preconstruction monitoring requirement for the Project.

As shown in Table 5-2, from 2002 through 2004, the highest annual and second highest 24-hour average PM_{10} concentrations of 17 and 30 $\mu g/m^3$, respectively, were well below the AAQS of 180 $\mu g/m^3$ and 50 $\mu g/m^3$. The second highest 24-hour average PM_{10} concentration of 30 $\mu g/m^3$ was used to represent background concentrations and added to model-predicted concentrations to estimate total air quality levels for comparison to AAQS.

Table 5-1. Summary of Maximum Ozone Concentrations Measured near the Proposed West County Energy Center

County	AIRS No.	Location	Year	Concentration (ppm) 1-Hour Highest	1-Hour 2nd Highest	8-Hour 3-year Average 4th Highest
Florida AAQS [a]				**NA**	**0.12**	**0.08**
Palm Beach	12-099-0009	Royal Palm Beach	2004	0.138	0.080	0.064
		980 Crestwood Blvd. North	2003	0.081	0.078	0.072
		(Waste Water Plant)	2002	0.082	0.075	0.067

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

[a] On July 18, 1997, EPA promulgated revised AAQS for ozone. The O_3 standard was modified to be 0.08 ppm for the 8-hour average; achieved when the 3-year average of 99th percentile values is 0.08 ppm or less. Until recently, the courts had stayed these standards but they will now be implemented by the states in the next several years. Florida DEP has not yet adopted the revised standards.

Source: EPA, 2005 (Quick Look Report, Air Quality Subsystem).

Table 5-2. Summary of Maximum PM_{10} Concentrations Measured near the Proposed West County Energy Center

					Concentration ($\mu g/m^3$)		
					24-Hour		Annual
County	AIRS No.	Location	Year	No. of Observations	Highest	2nd Highest	Average
Florida AAQS [a]					**NA**	**150**	**50**
Palm Beach	12-099-0008	Belle Glade-	2004	38	31	30	17
		38754 State Road 80	2003	60	30	28	16
			2002	61	34	28	15

Note: NA = not available
AAQS = ambient air quality standard.

[a] The national and Florida ambient air quality standards for PM_{10} are 50 $\mu g/m^3$, annual arithmetic mean; 150 $\mu g/m^3$, 24-hour average; and the expected average exceedance not to be exceeded more than once over a three-year period.

Source: EPA, 2005 (EPA AirData Monitor Values Report - Criteria Air Pollutants)

6.0 AIR QUALITY IMPACT ANALYSIS

6.1 SIGNIFICANT IMPACT ANALYSIS APPROACH

6.1.1 SITE VICINITY

The general air quality modeling approach for the West County Energy Center followed EPA and FDEP modeling guidelines for determining compliance with AAQS and PSD increments. For all criteria pollutants that will be emitted in excess of the PSD significant emission rate, a significant impact analysis is performed to determine whether the emissions from the project alone will result in predicted impacts that are in excess of the EPA significant impact levels at any location beyond the plant's restricted boundaries.

If the project-only impacts are above the significant impact levels, then two additional and more detailed air modeling analyses are required. The first analysis demonstrates compliance with federal and Florida ambient air quality standards (AAQS), and the second analysis demonstrates compliance with allowable PSD Class II increments.

6.1.2 PSD CLASS I AREAS

Generally, if the proposed facility is within 200 kilometers of a PSD Class I area, then a significant impact analysis is also performed to evaluate the impact due to the project alone at the PSD Class I area. The PSD Class I area of Everglades National Park is located approximately 105 km from the proposed West County Energy Center. Because Everglades National Park is located within 200 km of the Site, the maximum predicted impacts at the Everglades National Park are compared to EPA's proposed significant impact levels for PSD Class I areas. These recommended levels have not been promulgated as rules but are the currently accepted criteria to determine whether a proposed project may cause a significant impact on a PSD Class I area.

If the project-only impacts at the PSD Class I area are above the proposed EPA PSD Class I significant impact levels, then an analysis is performed to demonstrate compliance with allowable PSD Class I impacts in the PSD Class I area.

In addition, the project's maximum concentrations are evaluated at the PSD Class I area for pollutants whose emissions are greater than the significant emission rate, to address potential impacts on air quality related values (AQRV). This analysis includes evaluations of potential regional haze degradation and acid deposition.

6.2 PRE-CONSTRUCTION MONITORING ANALYSIS APPROACH

The modeling approach for the West County Energy Center followed EPA and FDEP modeling guidelines for evaluating a project's impacts relative to the *de minimis* monitoring levels to determine the need to submit ambient monitoring data prior to construction. Current FDEP policies stipulate that the predicted highest annual average and highest short-term concentrations are to be compared to the applicable *de minimis* monitoring levels.

6.3 AIR MODELING ANALYSIS APPROACH

6.3.1 GENERAL PROCEDURES

As stated in the previous sections, for each pollutant which is emitted above the significant emission rate, air modeling analyses are required to determine if the proposed West County Energy Center's impacts are predicted to be greater than the significant impact levels and *de minimis* monitoring levels. These analyses consider the project's impacts alone. Air quality impacts are predicted using 5 years of meteorological data and selecting the highest predicted ground-level concentrations for comparison to the significant impact levels and *de minimis* monitoring levels.

To predict the maximum annual and short-term concentrations for the proposed West County Energy Center, the modeling approach was divided into screening and refined phases. Concentrations are predicted for the screening phase using a coarse receptor grid and a 5-year meteorological data record. If the highest concentration is predicted at a receptor that lies in an area where the receptor spacing is more than 100 m, then a refined analysis is performed in that area using a receptor grid of greater resolution. Modeling refinements are performed using a receptor spacing of 100 m with a receptor grid centered on the screening receptor at which the maximum concentration was predicted. The air dispersion model is then executed with the refined grid for the entire year of meteorology during which the screening concentration occurred.

If the project's impacts are greater than the significant impact levels, the air modeling analyses must consider other nearby sources and background concentrations to predict a total concentration for comparison to AAQS. Because the Project's maximum 24-hour PM_{10} impacts are predicted to be greater than the significant impact level, additional AAQS and PSD Class II Increment analyses were performed for this pollutant and averaging time.

Generally, when using 5-years of meteorological data for the analysis, the highest annual and the highest, second-highest (HSH) short-term (i.e., 24 hours or less) concentrations are compared to the applicable AAQS and allowable PSD increments. The HSH concentration is calculated each year 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.

The HSH approach is consistent with AAQS and allowable PSD increments, which permit a short-term average concentration to be exceeded once per year at each receptor.

It should be noted that for determining compliance with the 24-hour AAQS for PM_{10}, the highest of the sixth-highest concentration predicted in 5 years (i.e., H6H), instead of the HSH concentration predicted for each year, is used to compare to the applicable 24-hour AAQS.

The AAQS analysis is a cumulative source analysis that evaluates whether the concentrations from all sources will comply with the AAQS. These concentrations include the modeled impacts from sources at the project site and from other nearby facility sources added to a background concentration. The background concentration accounts for sources not included in the modeling analysis.

The PSD Class II analysis is a cumulative source analysis that evaluates whether the concentrations for increment-affecting sources will comply with the allowable PSD Class II increments. These concentrations include the modeled impacts from PSD increment-affecting sources at the project site, plus nearby PSD increment-affecting sources at other facilities.

6.3.2 PSD CLASS I ANALYSIS

For each pollutant for which a significant impact is predicted at the PSD Class I area, a PSD Class I analysis is required. The PSD Class I analysis is a cumulative source analysis that evaluates whether the concentrations for increment-affecting sources located within 200 km of the PSD Class I area will comply with the allowable PSD Class I increments. These concentrations include the impacts from PSD increment-affecting sources at the project site, plus the impacts from PSD increment-affecting sources at other facilities.

6.4 MODEL SELECTION

The selection of air quality models to calculate air quality impacts for the proposed West County Energy Center was based on its applicability to simulate impacts in areas surrounding the Site as well as at the Everglades National Park PSD Class I area. Two air quality dispersion models were selected and used in these analyses to address air quality impacts for the Project. These models were:

- The Industrial Source Complex Short Term (ISCST3) dispersion model; and
- The California Puff model (CALPUFF).

The ISCST3 (Version 02035) dispersion model (EPA, 2002) was used to evaluate the pollutant impacts due to the West County Energy Center in nearby areas surrounding the Site. This model is maintained by the 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.

In this analysis, the EPA regulatory default options were used to predict maximum impacts. The ISCST3 model can be executed in the rural or urban land use mode that 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 West County Energy Center, the rural dispersion coefficients were used in the modeling analysis. Also, since the terrain around the facility is flat to gently rolling, the simple terrain feature of the model was selected. The ISCST3 model was used to provide maximum concentrations for the annual and 24-, 8-, 3-, and 1-hour averaging times.

At distances beyond 50 km from a source, the CALPUFF model, Version 5.711a (EPA, 2004), is recommended for use by the EPA and the Federal Land Manager (FLM). The CALPUFF model is a long-range transport model applicable for estimating the air quality impacts in areas that are more than 50 km from a source. The CALPUFF model is maintained by the EPA on the SCRAM internet website. The methods and assumptions used in the CALPUFF model are based on the latest recommendations for modeling analysis as presented in the following reports:

- The Interagency Workgroup on Air Quality Models (IWAQM), *Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts* (EPA, 1998); and
- The *Federal Land Manager's Air Quality Relative Values Workgroup (FLAG) Phase I Report* (December, 2000).

In addition, updates to the modeling methods and assumptions were followed based on information available from the National Park Service's air quality group.

The CALPUFF model was used to assess the Project's impact on regional haze and total nitrogen and sulfur deposition levels. A more detailed description of the assumptions and methods used for the CALPUFF model is presented in Table 6-2 and in Appendix C.

As discussed in Section 6-10, the proposed West County Energy Center's impacts were predicted to be greater than the PSD Class II significant impact levels for the 24-hour averaging period for PM_{10}. As a result,. cumulative source impact analyses are required to demonstrate compliance with the 24-hour average PM_{10} AAQS and PSD Class II Increments. In addition, the Project's impacts were predicted to be greater than the PSD Class I significant impact levels for the 24-hour averaging period for PM_{10}. As a result, cumulative source impact analyses are required to demonstrate compliance with the 24-hour average PM_{10} PSD Class I Increments.

6.5 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) office located at the at the Palm Beach International (PBI) Airport. The 5-year period of meteorological data was from 1987 through 1991. The NWS office at PBI is located approximately 30 kilometers (km) (18 miles) east of the site and is the closest primary weather station to the study area considered to have meteorological data representative of the project site. The PBI station meteorological data have been approved by the FDEP and used for numerous air modeling studies submitted as part of air construction permits approved for sources located in Palm Beach County.

CALMET, the meteorological preprocessor to CALPUFF, was used to develop a 3-dimensional wind field necessary to perform the air modeling analysis to evaluate pollutant impacts at each PSD Class I area. The modeling domain consisted of a rectangular 3-dimensional grid that extended from approximately 79.0 to 83.5 degrees longitude and from 23.75 to 28.0 degrees latitude. The modeling domain includes the following meteorological and land use parameters:

- Surface weather data;
- Upper air data;
- A 1-degree land use data;
- A 1-degree Digital Elevation Model (DEM) terrain data;
- Mesoscale Model – Generations 4 and 5 (MM4 and MM5) data (for initializing the wind field); and
- Hourly precipitation data.

These data were obtained and processed for 1990, 1992, and 1996, the years for which MM4 and MM5 data are available on CD. It should be noted that MM4 data are available for 1990 while MM5 data are available for 1992 and 1996. The CALMET wind field and the CALPUFF model options used were consistent with the suggestions of the FLMs. Meteorological data used with the CALPUFF model consist of a CALMET-developed wind field covering south Florida. More detailed descriptions of the assumptions and methods used for processing the meteorological data and establishing the model domain are presented in Appendix C.

6.6 EMISSION INVENTORY

6.6.1 SIGNIFICANT IMPACT ANALYSIS

A summary of the criteria pollutant emission rates, physical stack and stack operating parameters for the proposed West County Energy Center that were used in the air modeling analysis are presented in Tables 2-1 and 2-2, as well as Appendix A. A review of the design information for the GE CTs (see Appendix A) show that the stack exit flow for the GE Frame 7FB CTs are lower than those for the GE Frame 7FA CTs. In addition, the pollutant emission rates are similar or higher for the GE Frame 7FB CTs than those for the GE Frame 7FA CTs. As a result, the air impact analyses for the GE CTs were performed for the GE Frame 7FB CTs to estimate the maximum air impacts for both the GE

Frame 7FA CTs and the GE Frame 7FB CTs. Because the Frame G-Class CTs are uniquely different from the GE CTs, the air impact analyses for the G-Class CTs were performed as a separate modeling analysis from that for the GE 7FB CTs.

In an effort to obtain the maximum air quality impacts for a range of possible operating conditions, the air modeling used a range of emission rates and stack parameter data to predict air quality impacts.

For the 4-on-1 combined cycle project, the emission and stack operating parameters for the GE Frame 7FB CTs are presented for 3 operating loads and 35°F, 59°F, and 95°F ambient temperatures for the CTs firing natural gas and oil. A total of 18 modeling scenarios were considered for combined cycle configuration with the CTs operating for the following conditions:

- CTs firing natural gas for ambient temperatures of 35, 59, and 95°F at:
  - 100 percent operating load with duct firing
  - 75 percent operating load
  - 60 percent operation load
- CTs firing oil for ambient temperatures of 35, 59, and 95°F at:
  - 100 percent operating load
  - 75 percent operating load
  - 60 percent operation load

For the 3-on-1 combined cycle project, the emission and stack operating parameters for the Frame G CTs are presented for 2 operating loads and 35°F, 59°F, and 95°F ambient temperatures for the CTs firing natural gas and oil. A total of 12 modeling scenarios were considered for combined cycle configuration with the CTs operating for the following conditions:

- CTs firing natural gas for ambient temperatures of 35, 59, and 95°F at:
  - 100 percent operating load
  - 75 percent operating load
- CTs firing oil for ambient temperatures of 35, 59, and 95°F at:
  - 100 percent operating load
  - 75 percent operating load

For the GE Frame 7FA and GE Frame 7FB units, the proposed CTs will have a HRSG stack height of 149 ft and an inner stack diameter of 19 ft. For the Frame G units, the proposed CTs will have a HRSG stack height of 149 ft and an inner stack diameter of 22 ft. Because the proposed stack heights are less than GEP, building downwash effects were included in the modeling analysis (see following section on building downwash).

The air modeling origin was assumed to be located on the western boundary of the 220-acre Site. For PSD Class I modeling, the modeling origin was assumed to be located at UTM east and north coordinates of 562,200, and 2,953,000 m, respectively, in UTM Zone 17.

The ISCST3 model was used to predict maximum concentrations for the annual and 24-, 8-, 3-, and 1-hour averaging times. To estimate impacts due to emissions from the stacks, an emission rate of 79.365 pounds per hour (lb/hr) or 10 grams per second (g/s) was initially used for each power block of 1,100 MW. For the Project, the modeled emission rate was 20 g/s. The modeling results produced relative concentrations as a function of the modeled emission rate. These impacts are referred to as generic pollutant impacts.

Maximum air quality impacts for specific pollutants were then determined by multiplying the maximum pollutant-specific emission rate in lb/hr (g/s) by the maximum predicted generic impact divided by the modeled emission rate (e.g., 158.73 lb/hr (20 g/s) for 2,200 MW).

For the PSD Class I area of the Everglades National Park, regional haze and sulfur and nitrogen deposition analyses were performed for the Project for combined cycle operation with the CALPUFF model based on the operating scenario with the maximum hourly emissions. For both natural gas- and oil-firing, maximum emissions are based on the CTs operating for 100-percent load conditions. Appendix A contains a description of operating conditions and pollutant specifications.

Annual average concentrations predicted in the near-field of the plant are based on the operating scenarios with the maximum hourly emissions for the following annual hours:

- For SO_2: natural gas firing for 8,760 hours; and
- For PM_{10} and NO_2: natural gas- and light oil-firing for 8,260 and 500 hours, respectively.

For the PSD Class I area, the annual average concentrations are based on the following:

- For SO_2: natural gas firing for 8,760 hours; and
- For PM_{10} and NO_2: natural gas- and light oil-firing for 8,260 and 500 hours, respectively.

6.6.2 AAQS AND PSD CLASS II ANALYSES

The maximum pollutant impacts for the proposed West County Energy Center are predicted to be less than the significant impact levels for all pollutants and averaging periods except for PM_{10} for the 24-hour averaging period. As a result, cumulative source impact analyses are required to demonstrate compliance with the 24-hour average PM_{10} AAQS and PSD Class II Increments.

Air quality concentrations were predicted within the area of significant impact for individual pollutants due to the project. A significant impact area (SIA) and the radius of SIA were determined for each pollutant and averaging time combination for which the project's impact is predicted to be significant. The radius of impact is used as the basis for determining inventory of background sources to be included in the air impact analyses.

The SIA for PM_{10} concentrations is predicted to extend out to 6 km from the Site for the Project (see Section 6.10). To be conservative, the SIA was assumed to extend out to 10 km.

Facilities located within the SIA were modeled explicitly (considered to be the modeling area). Facilities within the SIA plus 50 km were considered to be in the screening area. All facilities in the screening area were evaluated using the "North Carolina screening technique". Based on this technique, facilities whose annual emissions (i.e., tons per year) are less than the threshold quantity, Q, are eliminated from the modeling analysis. Q is equal to 20 x (D-SIA), where D is the distance in km from the facility to the project site.

A listing of background PM_{10} sources that were used in the AAQS and PSD Class II analyses and their locations relative to the proposed West County Energy Center is provided in Table 6-3. Data for background sources were obtained from FDEP and were supplemented with current and available historical information. Detailed PM_{10} background source data used for these analyses are presented in Appendix D.

6.6.3 PSD CLASS I ANALYSIS

The maximum project impacts at the PSD Class I area of the Everglades National Park are predicted to be less than the proposed PSD Class I significant impact levels for the annual averaging periods for SO_2, PM_{10}, and NO_2 but greater for the 24-hour averaging period for PM_{10}. As a result, cumulative source impact analyses are required to demonstrate compliance with the 24-hour average PM_{10} PSD Class I increments.

A listing of background PM_{10} sources that were used in the PSD Class I analyses and their locations relative to the PSD Class I area of the Everglades National Park are provided in Table 6-4. PSD sources located within 200 km of the Everglades National Park were included in the PSD Class I modeling analysis. Detailed PM_{10} background source data that were used for the PSD Class I analyses are presented in Appendix D.

6.7 BUILDING DOWNWASH EFFECTS

All significant building structures were identified by the site plan (see Figures 2-4 and 2-5). The building structures were processed in the EPA Building Input Profile (BPIP, Version 95086) program to determine direction-specific building heights and widths for each 10-degree azimuth direction for each source that was included in the modeling analysis. A listing of dimensions for each structure is presented in Table 6-5. See Appendix E for plots of these building structures.

6.8 RECEPTOR LOCATIONS

6.8.1 SITE VICINITY

To determine the maximum impact for all pollutants and averaging times in the vicinity of the proposed West County Energy Center, concentrations were predicted at receptors located in a detailed receptor grids centered on the southwest corner of the 100-acre site, the modeling origin, and extended from the plant property out to 10 km.

Along the plant boundary, a Cartesian receptor grid was used to predict concentrations for the Project at 114 receptors spaced at 50-m intervals.

In addition, a general Cartesian grid was used to predict concentrations beyond the property out to 10 km. Receptors were located at the following intervals and distances from the origin:

- Every 100 m from the plant property to 2,000 m;

- Every 250 m from 2,250 m to 3,000 m; and
- Every 500 m from 3,500 m to 10,000 m.

More than 3,500 receptors were used in the analysis to determine the maximum impacts for the Project.

For the AAQS and PSD Class II increment analyses, the receptor grid extended out to 10 km for the Project.

6.8.2 CLASS I AREA

For determining the Project's impacts at the PSD Class I area, pollutant concentrations were predicted in an array of 251 discrete receptors located at the PSD Class I area of the Everglades National Park. These receptors are a subset of the 901 receptors provided by the National Park Service. The 251 receptors include all of the NPS boundary receptors and an array of interior receptors with less resolution than for the NPS set.

6.9 BACKGROUND CONCENTRATIONS

Background concentrations are necessary to determine total ambient air quality impacts to demonstrate compliance with the AAQS. "Background concentrations" are defined as concentrations due to sources other than those specifically included in the modeling analysis. For all pollutants, background would include other point sources not included in the modeling (i.e., distant sources or small sources), fugitive emission sources, and natural background sources. In general, monitoring data collected near the area in which the air quality impact is performed is used for this purpose.

A summary of existing continuous ambient PM_{10} concentrations measured in Palm Beach County is presented in Section 5. For purposes of determining an ambient background concentration for use in the modeling analysis, the second-highest 24-hour average PM_{10} concentration of 30 $\mu g/m^3$ was selected to represent background concentration.

6.10 MODEL RESULTS

6.10.1 PSD CLASS II SIGNIFICANT IMPACT ANALYSIS

The maximum pollutant concentrations predicted for the proposed West County Energy Center by operating load and air inlet temperature for the GE 7FB CTs and Frame G-Class CTs for the Project are given in Tables 6-6 and 6-7, respectively. A summary of the predicted maximum SO_2, NO_x, CO, and PM_{10} concentrations predicted for the project for the PSD Class II significant impact analysis is presented in Table 6-8.

The modeling results indicated that maximum concentrations due to the Project are predicted to be less than the significant impact levels for all pollutants, except PM_{10} for the 24-hour averaging period for the GE 7FB CTs and for oil-firing for the G-Class CTs. As a result, additional modeling analyses were required for those configurations to demonstrate compliance with 24-hour average PM_{10} AAQS and PSD Class II increments.

Details of the maximum pollutant impacts for the GE 7FB CTs and G-Class CTs for the Project (nominal 2,200 MW) are presented in Appendix F.

6.10.2 PSD CLASS I SIGNIFICANT IMPACT ANALYSIS

The maximum SO_2, NO_x, and PM_{10} concentrations predicted for the Project by operating load and air inlet temperature for the GE 7FB CTs and Frame G-Class CTs for the Project (i.e., nominal 2,200 MW) at the PSD Class I area of the Everglades National Park are given in Table 6-9.

As shown in Table 6-9, the maximum project impacts for the Project at the PSD Class I area of the Everglades National Park are predicted to be less than the proposed PSD Class I significant impact levels for SO_2, PM_{10}, and NO_2, except for PM_{10} for the 24-hour averaging period when firing oil for the G-Class CTs.

As a result, cumulative source impact analyses are not required to demonstrate compliance with the PSD Class I increments for these pollutants, except for PM_{10} for the 24-hour averaging period for those configurations.

As a result, cumulative source impact analyses are not required to demonstrate compliance with the PSD Class I increments for these pollutants, except for PM_{10} for the 24-hour averaging period for those configurations.

6.10.3 CUMULATIVE PM_{10} AAQS ANALYSIS

A summary of the results of the cumulative PM_{10} AAQS analysis for the 24-hour average PM_{10} concentrations for the Project (i.e., nominal 2,200 MW) are presented in Table 6-10. The cumulative PM_{10} impacts are the total air quality impacts due to the project and other modeled sources added to a non-modeled background concentration.

As shown in these tables, the highest, sixth-highest total 24-hour average PM_{10} concentrations for the Project are predicted to be 51.4 $\mu g/m^3$, which is below the 24-hour average AAQS of 150 $\mu g/m^3$. This maximum concentration was predicted at about 10 km from the project Site due to background sources. It should be noted that this maximum concentration was predicted at that distance for the G-Class CTs since the receptor grid for those CTs extended out to 10 km.

6.10.4 CUMULATIVE PM_{10} PSD CLASS II INCREMENT ANALYSIS

A summary of the results of the cumulative PSD Class II increment analyses (i.e., impacts due to PSD increment affecting sources) for the 24-hour average PM_{10} concentrations for the Project (i.e., nominal 2,200 MW) are presented in Table 6-11.

The highest, second-highest 24-hour average PM_{10} concentrations due to the project and other PSD increment-affecting sources are less than 10 $\mu g/m^3$, which is below the allowable 24-hour PSD Class II increment of 30 $\mu g/m^3$.

6.10.5 CUMULATIVE PM_{10} PSD CLASS I INCREMENT ANALYSIS

A summary of the results of the cumulative PSD Class I increment analyses (i.e., impacts due to PSD increment consuming sources) for the 24-hour average PM_{10} concentrations for the Project (i.e., nominal 2,200 MW) is presented in Table 6-12.

The highest, second-highest 24-hour average PM_{10} concentration of PSD increment consuming sources for the Project is less than 2 $\mu g/m^3$, which is below the allowable 24-hour PSD Class I increment 8 $\mu g/m^3$.

6.10.6 CONCLUSIONS

Based on these air quality modeling analyses, the maximum pollutant concentrations due to the West County Energy Center's emissions (i.e., two nominal 1,100-MW units) are predicted to be less than the PSD Class II and I significant impact levels for all pollutants except the 24-hour average PM_{10} PSD Class II and I significant impact levels. As a result, more detailed PM_{10} modeling analyses were performed with other sources and background concentrations to address compliance with the 24-hour average AAQS, PSD Class II increments, and PSD Class I increments. The results of the modeling analysis demonstrate the Project will not have a significant affect on air quality and will comply with all applicable AAQS and PSD increments.

6.10.7 ULTIMATE SITE CAPACITY (NOMINAL 3,300 MW)

An air quality modeling analysis was conducted to determine the air quality impacts of the ultimate site capacity for the West County Energy Center of a nominal 3,300 MW consisting of three nominal 1,100-MW combined cycle units. The air modeling analysis was conducted to supply some information in the Site Certification Application regarding the air quality impacts for the ultimate site capacity and meet the requirements of Palm Beach County for the Site. Palm Beach County in the development order for the Site (Petition DOA1989-052F) required that an air quality impact analysis be conducted for the ultimate site capacity of the West County Energy Center (i.e., nominal 3,300 MW). Approval of the project by Palm Beach County was contingent upon the predicted impacts for the ultimate site capacity being no more than 50 percent of the available increment. To meet this requirement, an air quality analysis was conducted for three nominal 1,100-MW combined cycle units using the same procedures as for the Project (i.e., two nominal 1,100-MW units). The air quality analysis focused on determining the impacts of the ultimate site capacity on the AAQS and PSD Class II impacts as required by the Palm Beach County development order.

The maximum pollutant concentrations predicted for the project by operating load and air inlet temperature for the GE 7FB CTs and Frame G-Class CTs for 3,300 MW are given in Tables 6-13 and 6-14, respectively. A summary of the predicted maximum SO_2, NO_x, CO, and PM_{10} concentrations predicted for the project for the PSD Class II significant impact analysis is presented in Table 6-15.

The modeling results indicate that the maximum concentrations due to three nominal 1,100-MW combined cycle units are predicted to be less than the significant impact levels for all pollutants, except PM_{10} for light oil-firing. The modeling analysis determined that the SIA for PM_{10} extended out to 10 km. As a result, additional modeling analyses were required for those configurations to demonstrate compliance with 24-hour average PM_{10} AAQS and PSD Class II increments.

A summary of the results of the cumulative PM_{10} AAQS analysis for the 24-hour average PM_{10} concentrations for the ultimate site capacity (i.e., nominal 3,300-MW) is presented in Table 6-16. The cumulative PM_{10} impacts are the total air quality impacts due to the project and other modeled sources added to non-modeled background concentrations derived from monitoring data.

As shown in this table, the highest, sixth-highest total 24-hour average PM_{10} concentration is predicted to be 51.4 $\mu g/m^3$, which is below the 24-hour average AAQS of 150 $\mu g/m^3$. This maximum concentration was predicted at about 10 km from the Site and was a result of impacts from another source and not the West County Energy Center.

A summary of the results of the cumulative PSD Class II increment analyses (i.e., impacts due to PSD increment affecting sources) for the 24-hour average PM_{10} concentrations for the ultimate site capacity (i.e., nominal 3,300-MW) is presented in Table 6-17.

The highest, second-highest 24-hour average PM_{10} concentration due to three combined cycle units and other PSD increment-affecting sources is less than 10 $\mu g/m^3$, which is below the allowable 24-hour PSD Class II increment of 30 $\mu g/m^3$. The maximum PSD Class II increment consumption is predicted to be about 33 percent of the allowable increment, thereby meeting the Palm Beach County land development approval requirement that the available PSD Class II increment consumption be limited to 50 percent including impacts for all sources.

Table 6-1. Major Features of the ISCST3 Model, Version 02035

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

References:

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Table 6-2. Major Features of the CALPUFF Model, Version 5.5

CALPUFF Model Features
• Source types: Point, line (including buoyancy effects), volume, area (buoyant, non-buoyant)
• Non-steady-state emissions and meteorological conditions (time-dependent source and emission data; gridded 3-dimensional wind and temperature fields; spatially-variable fields of mixing heights, friction velocity, precipitation, Monin-Obukhov length; vertically and horizontally-varying turbulence and dispersion rates; time-dependent source and emission data for point, area, and volume sources; temporal or wind-dependent scaling factors for emission rates)
• Efficient sampling function (integrated puff formulation; elongated puff (slug) formation)
• Dispersion coefficient options (Pasquill-Gifford (PG) values for rural areas; McElroy-Pooler values (MP) for urban areas; CTDM values for neutral/stable; direct measurements or estimated values)
• Vertical wind shear (puff splitting; differential advection and dispersion)
• Plume rise (buoyant and momentum rise; stack-tip effects; building downwash effects; partial plume penetration above mixing layer)
• Building downwash effects (Huber-Snyder method; Schulman-Scire method)
• Complex terrain effects (steering effects in CALMET wind field; puff height adjustments using ISC model method or plume path coefficient; enhanced vertical dispersion used in CTDMPLUS)
• Subgrid scale complex terrain (CTSG option) (CTDM flow module; dividing streamline as in CTDMPLUS)
• Dry deposition (gases and particles; options for diurnal cycle per pollutant, space and time variations with a resistance model, or none)
• Overwater and coastal interaction effects (overwater boundary layer parameters; abrupt change in meteorological conditions, plume dispersion at coastal boundary; fumigation; option to use Thermal Internal Boundary Layers (TIBL) into coastal grid cells)
• Chemical transformation options (Pseudo-first-order chemical mechanisms for SO_2, SO_4, HNO_3, and NO_3; Pseudo-first-order chemical mechanisms for SO_2, SO_4, NO, NO_2, HNO_3, and NO_3 (RIVAD/ARM3 method); user-specified diurnal cycles of transformation rates; no chemical conversions)
• Wet removal (scavenging coefficient approach; removal rate as a function of precipitation intensity and type)
• Graphical user interface
• Interface utilities (scan ISCST3 and AUSPLUME meteorological data files for problems; translate ISCST3 and AUSPLUME input files to CALPUFF input files

Note: CALPUFF = California Puff Model
Source: EPA, 2000.

Table 6-3. Summary of the PM Facilities Considered for Inclusion in the AAQS and PSD Class II Air Modeling Analyses

AIRS Number	Facility	County	UTM Coordinates East (km)	UTM Coordinates North (km)	Relative to FPL WCEC X (km)	Relative to FPL WCEC Y (km)	Relative to FPL WCEC Distance (km)	Relative to FPL WCEC Direction (deg)	Maximum PM Emissions (TPY)	Q, (TPY) Emission Threshold [a, b] (Dist - SID) x 20	Include in Modeling Analysis ?
Modeling Area [c]											
	FPL West County Energy Center	Palm Beach	562.2	2953.0	0.0	0.0	0.0	NA		SIA	YES
Screening Area [c]											
990016	Atlantic Sugar Association	Palm Beach	552.9	2945.2	-9.3	-7.8	12.1	230	684	43	YES
990021	Pratt & Whitney (United Technologies)	Palm Beach	562.0	2976.0	-0.2	23.0	23.0	360	121	260	NO
990019	Osceola Farms	Palm Beach	544.2	2968.0	-18.0	15.0	23.4	0	700	269	YES
500234	Palm Beach Resource Recovery	Palm Beach	585.8	2960.2	23.6	7.2	24.7	73	26	293	NO
990026	Sugar Cane Growers	Palm Beach	534.9	2953.3	-27.3	0.3	27.3	271	1,032	346	YES
990061	U.S. Sugar -Bryant	Palm Beach	537.8	2969.1	-24.4	16.1	29.2	303	979	385	YES
990350	South Florida Water Mgmt. District	Palm Beach	556.2	2927.8	-6.0	-25.2	25.9	193	17	318	NO
0990594	El Paso Belle Glade Generating Station	Palm Beach	533.5	2954.1	-28.7	1.1	28.7	272	181	374	NO
500042	FPL -Riviera Beach	Palm Beach	594.2	2960.6	32.0	7.6	32.9	77	1,670	458	YES
990568	Lake Worth Generating Station	Palm Beach	592.8	2943.7	30.6	-9.3	32.0	107	42	440	NO
500045	Lake Worth Utilities	Palm Beach	592.8	2943.7	30.6	-9.3	32.0	107	326	440	NO
990086	Glades Correctional Institute	Palm Beach	523.4	2955.2	-38.8	2.2	38.9	273	30	577	NO
850102	Bechtel Indiantown	Martin	545.6	2991.5	-16.6	38.5	41.9	337	270	639	NO
990332	New Hope Power Partnership (Okeelanta)	Palm Beach	524.1	2940.0	-38.1	-13.0	40.3	251	285	605	NO
990005	Okeelanta	Palm Beach	525.0	2937.4	-37.2	-15.6	40.3	247	22	607	NO
850001	FPL -Martin	Martin	543.1	2992.9	-19.1	39.9	44.2	334	7,985	685	YES
0112545	El Paso Broward Energy Center	Broward	583.3	2908.0	21.1	-45.0	49.7	155	227	794	NO
0112534	Enron/Deerfield Beach Energy Center	Broward	583.1	2907.9	20.9	-45.1	49.7	155	55	794	NO
112120	North Broward Resource Recovery	Broward	583.6	2907.6	21.4	-45.4	50.2	155	100	804	NO
510001	Everglades Sugar	Hendry	509.6	2954.2	-52.6	1.2	52.6	271	41	852	NO
850021	Stuart Contracting	Martin	575.2	3006.8	13.0	53.8	55.3	14	ND	907	NO
0112515	Enron/Pompano Energy Center	Broward	583.7	2905.5	21.5	-47.5	52.1	156	41	843	NO
Beyond Screening Area out to 100 km [c]											
510003	US Sugar Clewiston	Hendry	506.1	2956.9	-56.1	3.90	56.2	NA	2,190	925	YES
1110103	CPV Cana, LTD.	St. Lucie	550.9	3018.1	-11.3	65.1	66.1	350	48	1,121	NO
62119	South Broward Resource Recovery	Broward	579.6	2883.3	17.4	-69.7	71.8	166	106	1,237	NO
60037	FPL -Lauderdale	Broward	580.1	2883.3	17.9	-69.7	72.0	166	100	1,239	NO
60036	FPL -Port Everglades	Broward	587.4	2885.3	25.2	-67.7	72.2	160	3,794	1,245	YES
510015	Southern Gardens Citrus	Hendry	487.6	2957.6	-74.6	4.6	74.7	274	97	1,295	NO
560003	Fort Pierce Utilities	St. Lucie	566.8	3036.3	4.6	83.3	83.4	3	16	1,469	NO
130020	Tarmac	Dade	562.9	2861.7	0.7	-91.3	91.3	180	910	1,626	NO
0250348	Miami-Dade RRF/Montenay	Dade	563.8	2857.6	1.6	-95.4	95.4	179	116	1,708	NO

Note: NA = Not applicable, ND = No data, SID = Significant impact distance for the project

[a] The significant impact distance for the project is estimated to be 10 km.

[b] Based on the North Carolina Screening Threshold method, a background facility is included in the modeling analysis if the facility is beyond the modeling area and its emission rate is greater than the product of (Distance-SID) x 20.

[c] "Modeling Area" is the area in which the Project is predicted to have a significant impact. EPA recommends that all sources within this area be modeled.
"Screening Area" is the area that is 50 km beyond the modeling area. EPA recommends that sources be modeled that are expected to have a significant impact in the modeling area.
"Beyond Screening Area out to 120 km" is the area beyond the screening area and out to 120 km in which only large sources are included in the modeling.

Table 6-4. Summary of Facilities with PM_{10} Emissions Included in the PSD Class I Increment Analysis at the Everglades National Park

AIRS Number	Facility	County	UTM Coordinates East (km)	UTM Coordinates North (km)	Relative to Everglades National Park x (km)	y (km)	Distance [a] (km)		Direction (deg)
0250348	Miami-Dade RRF/Montenay	Dade	564.8	2857.6	14.5	9	17.1		58
0250020	Tarmac	Dade	562.9	2861.7	12.6	13	18.2		44
0250003	FPL Turket Point	Dade	567.0	2813.5	24.3	-3	24.4	c	96
0112119	South Broward Resource Recovery	Broward	579.6	2883.3	29.3	35	45.4		40
0110037	FPL -Lauderdale	Broward	580.1	2883.3	29.8	35	45.7		41
0110120	North Broward Resource Recovery	Broward	583.6	2907.6	33.3	59	67.7		29
0112545	El Paso Broward Energy Center	Broward	583.3	2908.0	33.0	59	68.0		29
0710019	Lee County Resource Recovery	Lee	424.0	2946.0	-30.0	83	88.1	b	340
0990005	Okeelanta	Palm Beach	525.0	2937.4	-25.3	89	92.3		344
0990332	New Hope Power Partnership (Okeelanta)	Palm Beach	524.1	2940.0	-26.2	91	95.1		344
0710000	FPL - Fort Myers	Lee	422.1	2952.9	-31.9	90	95.2	b	340
0990016	Atlantic Sugar Association	Palm Beach	552.9	2945.2	2.6	97	96.6		2
0510015	Southern Gardens Citrus	Hendry	487.6	2957.6	33.6	94	100.2	b	20
0990568	Lake Worth Utilities	Palm Beach	592.8	2943.7	42.5	95	104.2		24
	FPL West County Energy Center	Palm Beach	562.2	2953.0	11.9	104	105.1		7
0990026	Sugar Cane Growers	Palm Beach	534.9	2953.3	-15.4	105	105.8		352
0990594	El Paso Belle Glade Generating Station	Palm Beach	533.5	2954.1	-16.8	106	106.8		351
0510003	U.S. Sugar Clewiston	Hendry	506.1	2956.9	52.1	94	107.2	b	29
0990234	Palm Beach Resource Recovery	Palm Beach	585.8	2960.2	35.5	112	117.1		18
0990019	Osceola Farms	Palm Beach	544.2	2968.0	-6.1	119	119.6		357
0990061	U.S. Sugar -Bryant	Palm Beach	537.8	2969.1	-12.5	121	121.1		354
0990021	Pratt & Whitney (United Technologies)	Palm Beach	567.3	2974.4	17.0	126	126.9		8
0850102	Bechtel Indiantown	Martin	545.6	2991.5	-4.7	143	143.0		358
0850001	FPL -Martin	Martin	543.1	2992.9	-7.2	144	144.5		357

Note: NA= not available

[a] Distance from the northeastern corner of the Everglades National Park, UTM East and North coordinates (km) of 550.3 and 2848.6 , respectively, unless noted.
[b] Distance from the northwestern corner of the Everglades National Park, UTM East and North coordinates (km) of 454.0 and 2863.2 , respectively.
[c] Distance from the mid-eastern border of the Everglades National Park, UTM East and North coordinates (km) of 542.7 and 2816.0 , respectively.

Table 6-5. Project Building Dimensions Used in the Modeling Analysis

Stucture	Height		Length		Width	
	ft	m	ft	m	ft	m
CT Inlet Sructure- each	66.9	20.4	45.4	13.8	17.4	5.3
HRSG Structure- each	97.0	29.6	101.7	31.0	38.0	11.6
Cooling Tower- each	51	15.5	661	201.5	114.0	34.8

Note: CT= combustion turbine; HRSG= heat recovery steam generator

Table 6-6. Maximum Pollutant Concentrations Predicted for the Project by Operating Load and Air Inlet Temperature for Combined Cycle Operation, GE 7FB CTs- 2,200 MW (2 Power Blocks- Each 4 CT/HRSG x1 STG)

Pollutant	Averaging Time	Maximum Predicted Concentration (ug/m^3) 100% Load 35°F	100% Load 59°F	100% Load 95°F	75% Load 35°F	75% Load 59°F	75% Load 95°F	60% Load 35°F	60% Load 59°F	60% Load 95°F
Natural Gas Operation [b]										
SO_2	Annual	0.239	0.249	0.279	0.224	0.219	0.210	0.239	0.229	0.213
	24-Hour	3.65	3.70	3.72	2.85	2.80	2.71	2.99	2.87	2.68
	3-Hour	14.75	14.92	14.72	10.69	10.37	9.81	9.90	9.49	9.18
PM_{10}	Annual	0.249	0.265	0.316	0.286	0.290	0.297	0.358	0.358	0.329
	24-Hour	3.81	3.94	4.22	3.64	3.70	3.84	4.48	4.48	4.13
NO_2	Annual	0.446	0.455	0.519	0.391	0.382	0.362	0.439	0.424	0.394
CO	8-Hour	46.8	47.6	47.7	33.2	32.9	32.2	34.5	33.6	33.2
	1-Hour	127.1	127.5	124.9	84.6	83.4	80.8	85.4	83.1	82.7
Fuel Oil Operation										
SO_2	Annual	0.0235	0.0267	0.0306	0.0370	0.0365	0.0376	0.0374	0.0368	0.0261
	24-Hour	0.458	0.476	0.491	0.552	0.547	0.543	0.528	0.522	0.395
	3-Hour	2.16	2.22	2.25	2.40	2.35	2.27	2.15	2.10	1.47
PM_{10}	Annual	0.133	0.157	0.199	0.255	0.262	0.295	0.330	0.336	0.261
	24-Hour	2.60	2.80	3.20	3.81	3.92	4.27	4.65	4.76	3.95
NO_2	Annual	0.641	0.720	0.791	0.995	0.962	0.939	1.110	1.066	0.800
CO	8-Hour	26.4	26.8	27.3	29.6	29.2	28.8	28.9	28.7	22.3
	1-Hour	75.5	76.1	75.8	80.0	78.2	75.7	75.1	74.1	50.9

Note: NA = not applicable

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, respectively.

[b] Duct firing included for 100 % operating load. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 550 mmBtu/hr (HHV).

Table 6-7. Maximum Pollutant Concentrations Predicted for the Project by Operating Load and Air Inlet Temperature for Combined Cycle Operation, G-Class CTs- 2,200 MW (2 Power Blocks- Each 3 CT/HRSG x1 STG)

		Maximum Predicted Concentration (ug/m^3)					
		100% Load			75% Load		
Pollutant	Averaging Time	35°F	59°F	95°F	35°F	59°F	95°F
Natural Gas Operation [b]							
SO_2	Annual	0.168	0.170	0.190	0.203	0.215	0.220
	24-Hour	3.38	3.46	3.64	3.38	3.44	3.48
	3-Hour	13.3	13.3	13.8	11.8	11.8	11.7
PM_{10}	Annual	0.111	0.115	0.125	0.139	0.152	0.163
	24-Hour	2.23	2.33	2.40	2.31	2.44	2.58
NO_2	Annual	0.306	0.312	0.352	0.348	0.361	0.367
CO	8-Hour	22.5	24.3	25.3	31.2	31.1	30.5
	1-Hour	53.2	56.6	57.8	68.0	66.9	64.1
Fuel Oil Operation							
SO_2	Annual	0.0167	0.0167	0.0209	0.0244	0.0263	0.0262
	24-Hour	0.433	0.433	0.467	0.503	0.509	0.511
	3-Hour	1.96	1.96	2.07	2.05	2.05	2.02
PM_{10} [c]	Annual	0.239	0.239	0.284	0.500	0.540	0.527
	24-Hour	6.19	6.20	6.34	10.33	10.47	10.29
NO_2	Annual	0.445	0.444	0.558	0.650	0.704	0.704
CO	8-Hour	13.8	13.8	14.8	52.2	52.2	51.9
	1-Hour	34.3	34.2	36.0	121.3	120.1	117.6

Note: NA = not applicable

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, respectively.

[b] Duct firing included for 100 % operating load. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 475 MMBtu/hr (HHV).

[c] Based on filerable PM10 emission rate assuming 80% of total PM10 emissions is filterable.

Table 6-8. Summary of Maximum Pollutant Concentrations Predicted for the Project, Compared to the EPA Class II Significant Impact Levels
GE 7FB CTs and G-Class CTs- 2,200 MW

Pollutant	Averaging Time	Maximum Predicted Concentration (ug/m^3)			EPA Class II Significant Impact Levels (ug/m^3)
		Combined Cycle Natural Gas	Combined Cycle Fuel Oil	Maximum[a]	
GE 7FB CTs					
CTs Only					
SO_2	Annual	0.28	0.038	0.28	1
	24-Hour	3.72	0.55	3.72	5
	3-Hour	14.92	2.40	14.92	25
PM_{10}	Annual	0.36	0.34	0.36	1
	24-Hour	4.48	4.76	4.76	5
NO_2	Annual	0.52	1.11	0.55	1
CO	8-Hour	47.7	29.6	47.7	500
	1-Hour	127.5	80.0	127.5	2,000
CTs and Cooling Tower					
PM_{10}	Annual	0.43	0.47	0.44	1
	24-Hour	5.26	5.97	5.97	5
G-Class CTs					
CTs Only					
SO_2	Annual	0.22	0.026	0.22	1
	24-Hour	3.64	0.511	3.64	5
	3-Hour	13.8	2.07	13.8	25
PM_{10}	Annual	0.16	0.54	0.18	1
	24-Hour	2.58	10.5	10.5	5
NO_2	Annual	0.37	0.70	0.39	1
CO	8-Hour	31.2	52.2	52.2	500
	1-Hour	68.0	121.3	121.3	2,000
CTs and Cooling Tower					
PM_{10}	Annual	0.24	0.61	0.26	1
	24-Hour	3.17	10.7	10.7	5

[a] Maximum annual average concentration are based on prorating the maximum impacts for each operation by the following maximum number of hours requested for that operation:

Pollutant	Hours for Each Operation		
	Combined Cycle Natural Gas	Combined Cycle Fuel Oil	Total
SO_2	8,760	0	8,760
PM_{10}	8,260	500	8,760
NO_2	8,260	500	8,760

Table 6-9. Summary of Maximum Pollutant Concentrations Predicted for the Project, Compared to the EPA Class I Significant Impact Levels at the PSD Class I Area of the Everglades National Park, GE 7FB and G-Class CTs- 2,200 MW

Pollutant	Averaging Time	Maximum Predicted Concentration (μg/m³) [a] Natural Gas [b] 1990	1992	1996	Fuel Oil [c] 1990	1992	1996	Maximum [d]	EPA Class I Significant Impact Levels (μg/m³)
GE 7FB CTs									
CTs Only									
SO_2	Annual	0.0033	0.0041	0.0046	0.0006	0.0008	0.0009	0.0046	0.1
	24-Hour	0.09	0.09	0.13	0.018	0.019	0.024	0.13	0.2
	3-Hour	0.36	0.32	0.41	0.058	0.063	0.084	0.41	1.0
PM_{10}	Annual	0.0056	0.0072	0.0080	0.0056	0.0068	0.0077	0.0080	0.2
	24-Hour	0.15	0.16	0.21	0.14	0.14	0.20	0.21	0.3
NO_2	Annual	0.0031	0.0038	0.0052	0.0086	0.0101	0.0141	0.0052	0.1
G-Class CTs									
CTs Only									
SO_2	Annual	0.0029	0.0036	0.0041	0.0006	0.0007	0.0008	0.0041	0.1
	24-Hour	0.083	0.083	0.113	0.016	0.018	0.022	0.11	0.2
	3-Hour	0.29	0.29	0.37	0.057	0.058	0.078	0.37	1.0
PM_{10}	Annual	0.0046	0.0057	0.0064	0.0106	0.0126	0.0140	0.0064	0.2
	24-Hour	0.12	0.12	0.17	0.25	0.26	0.37	0.37	0.3
NO_2	Annual	0.0027	0.0032	0.0044	0.0076	0.0088	0.0123	0.0044	0.1

[a] Based on the CALPUFF model using 1990, 1992, and 1996 surface and upper air meteorological data developed with the CALMET program. UTM coordinates relative to Zone 17.

[b] Based on 100 % operating load.with duct firing at 35 °F. Duct firing based on natural gas-fired duct burner with maximum heat input rate of
550 MMBtu/hr (HHV) for the GE 7FB CTs and
475 MMBtu/hr (HHV) for the G-Class CTs.

[c] Based on 100 % operating load at 35 °F.

[d] Maximum annual average concentration are based on prorating the maximum impacts for each operation by the following maximum number of hours requested for that operation:

Pollutant	Hours for Each Operation Natural Gas	Fuel Oil	Total
SO_2	8,760	0	8,760
PM_{10}	8,260	500	8,760
NO_2	8,260	500	8,760

Table 6-10. Maximum Predicted 24-hour Average PM_{10} Impacts for Comparison to the PM_{10} AAQS-Screening and Refined Analyses for 2,200 MW

Scenario, Averaging Time, and Rank	Analysis	Concentration (µg/m³) [a,b] Total	Modeled Sources	Background	Receptor Location [c] x (m)	y (m)	Time Period (YYMMDDHH)	AAQS (µg/m³)
GE 7FB CTs								
24-Hour, H6H	Screening	39.9	9.9	30	400	-1,800	87073024	150
	Refined	39.9	9.9	30	400	-1,800	87073024	
G-Class CTs								
24-Hour, H6H	Screening	51.4	21.4	30	-7,500	-6,000	91122424	150
	Refined	51.4	23.1	30	-7,800	-6,200	88100324	

Note: YYMMDDHH = Year, Month, Day, Hour Ending
H6H = Highest, sixth-highest

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, respectively.

[b] Based on oil-firing.

[c] Relative to the modeling origin on the west boundary of the 220-acre Site.
- For the GE 7FB CTs, the maximum impacts were predicted within 2 km of the project site and due to the project's emissions. Impacts were predicted out to only 2 km because the project's SIA extended out to that distance.
- For the G-Class CTs, the maximum impacts were predicted at about 10 km from the site due to background sources. Impacts were predicted out to 10 km because the project's SIA extended out to that distance.

Table 6-11. Maximum Predicted PM_{10} Impacts for Comparison to the PSD Class II Increments- Screening and Refined Analyses for 2,200 MW

Scenario, Averaging Time, and Rank	Analysis	Modeled Concentration [a, b] ($\mu g/m^3$)	Receptor Location [c] x (m)	y (m)	Time Period (YYMMDDHH)	PSD Class II Increment ($\mu g/m^3$)
GE 7FB CTs						
24-Hour, HSH	Screening	5.9	372	410	87021624	30
		6.4	366	17	88020624	
		6.6	365	-32	89030824	
		5.2	366	17	90111824	
		5.8	365	-32	91031024	
	Refined	6.6	365	-32	89030824	
G-Class CTs						
24-Hour, HSH	Screening	9.3	371	361	87101324	30
		7.7	364	-81	88020624	
		8.0	364	-81	89120324	
		5.4	364	-81	90111824	
		9.0	377	753	91021424	
	Refined	9.3	371	361	87101324	

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH = Highest, Second-Highest

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, respectively.

[b] Based on oil-firing.

[c] Relative to the modeling origin on the west boundary of the 220-acre Site.

Table 6-12. Maximum Predicted PM_{10} Impacts for Comparison to the PSD Class I Increments- 2,200 MW

Scenario, Averaging Time, and Rank	Modeled Concentration [a, b] (μg/m³)	Receptor Location x (km)	Receptor Location y (km)	Time Period (YYMMDDHH)	PSD Class I Increment (μg/m³)
GE 7FB CTs					
24-Hour, HSH	1.8	540.53	2,848.36	90092524	8
	1.9	548.05	2,848.39	92052324	
	1.8	548.08	2,842.85	96012124	
G-Class CTs					
24-Hour, HSH	1.8	540.53	2,848.36	90121424	8
	1.9	548.05	2,848.39	92052324	
	1.9	548.08	2,842.85	96012124	

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH = Highest, Second-Highest

[a] Based on the CALPUFF model using 1990, 1992, and 1996 surface and upper air meteorological data developed with the CALMET program. UTM coordinates relative to Zone 17.

[b] Based on oil-firing.

Table 6-13. Maximum Pollutant Concentrations Predicted for the Project by Operating Load and Air Inlet Temperature for Combined Cycle Operation, GE 7FB CTs- 3,300 MW (3 Power Blocks- Each 4 CT/HRSG x 1 STG)

		Maximum Predicted Concentration (ug/m^3)								
	Averaging	100% Load			75% Load			60% Load		
Pollutant	Time	35°F	59°F	95°F	35°F	59°F	95°F	35°F	59°F	95°F
Natural Gas Operation [b]										
SO_2	Annual	0.342	0.359	0.369	0.290	0.282	0.269	0.308	0.293	0.272
	24-Hour	3.94	4.02	4.01	2.99	2.91	2.81	3.11	2.99	2.78
	3-Hour	17.58	17.77	17.48	12.73	12.34	11.66	11.98	11.45	11.01
PM_{10}	Annual	0.356	0.382	0.418	0.370	0.374	0.380	0.463	0.458	0.420
	24-Hour	4.11	4.27	4.55	3.82	3.85	3.98	4.66	4.67	4.29
NO_2	Annual	0.637	0.656	0.686	0.506	0.493	0.464	0.568	0.542	0.502
CO	8-Hour	54.6	55.4	55.7	38.9	38.5	37.6	40.7	39.6	39.1
	1-Hour	152.6	153.2	150.4	102.2	100.8	97.7	103.7	100.9	100.2
Fuel Oil Operation										
SO_2	Annual	0.0340	0.0357	0.0377	0.0440	0.0434	0.0432	0.0438	0.0428	0.0445
	24-Hour	0.534	0.553	0.562	0.610	0.600	0.585	0.562	0.551	0.555
	3-Hour	2.41	2.47	2.49	2.68	2.62	2.53	2.43	2.37	2.31
PM_{10}	Annual	0.193	0.210	0.246	0.304	0.311	0.339	0.386	0.391	0.445
	24-Hour	3.03	3.26	3.66	4.21	4.30	4.60	4.95	5.02	5.55
NO_2	Annual	0.927	0.964	0.977	1.185	1.144	1.079	1.299	1.242	1.362
CO	8-Hour	30.4	30.9	31.4	34.1	33.6	33.1	33.3	33.0	34.2
	1-Hour	87.3	88.1	87.9	93.6	91.6	88.9	88.8	87.8	88.9

Note: NA = not applicable

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, respectively.

[b] Duct firing included for 100 % operating load. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 550 MMBtu/hr (HHV).

Table 6-14. Maximum Pollutant Concentrations Predicted for the Project by Operating Load and Air Inlet Temperature, for Combined Cycle Operation. G-Class CTs- 3,300 MW (3 Power Blocks- Each 3 CT/HRSG x1 STG)

Pollutant	Averaging Time	Maximum Predicted Concentration (ug/m^3)					
		100% Load			75% Load		
		35°F	59°F	95°F	35°F	59°F	95°F
Natural Gas Operation [b]							
SO_2	Annual	0.234	0.238	0.253	0.253	0.261	0.261
	24-Hour	3.60	3.62	3.75	3.47	3.54	3.58
	3-Hour	14.3	14.2	14.6	12.7	12.6	12.4
PM_{10}	Annual	0.154	0.160	0.167	0.173	0.184	0.193
	24-Hour	2.37	2.44	2.47	2.38	2.51	2.65
NO_2	Annual	0.427	0.436	0.469	0.433	0.438	0.435
CO	8-Hour	25.7	27.8	28.8	35.7	35.6	34.5
	1-Hour	63.1	67.2	68.8	81.8	80.6	77.2
Fuel Oil Operation							
SO_2	Annual	0.0245	0.0247	0.0260	0.0282	0.0295	0.0294
	24-Hour	0.497	0.497	0.527	0.535	0.535	0.529
	3-Hour	2.01	2.02	2.12	2.11	2.10	2.07
PM_{10}	Annual	0.351	0.354	0.352	0.579	0.607	0.591
	24-Hour	7.11	7.11	7.15	10.97	10.99	10.65
NO_2	Annual	0.653	0.658	0.692	0.753	0.792	0.789
CO	8-Hour	15.7	15.7	16.8	59.2	59.2	58.8
	1-Hour	39.6	39.5	41.6	140.3	139.0	136.3

Note: NA = not applicable

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, respectively.

[b] Duct firing included for 100 % operating load. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 475 MMBtu/hr (HHV).

Table 6-15. Summary of Maximum Pollutant Concentrations Predicted for the Project, Compared to the EPA Class II Significant Impact Levels
GE 7FB CTs and G-Class CTs- 3,300 MW

Pollutant	Averaging Time	Maximum Predicted Concentration (ug/m^3)			EPA Class II Significant Impact Levels (ug/m^3)
		Combined Cycle Natural Gas	Combined Cycle Fuel Oil	Maximum[a]	
GE 7FB CTs					
CTs Only					
SO_2	Annual	0.37	0.044	0.37	1
	24-Hour	4.02	0.61	4.02	5
	3-Hour	17.77	2.68	17.77	25
PM_{10}	Annual	0.46	0.45	0.46	1
	24-Hour	4.67	5.55	5.55	5
NO_2	Annual	0.69	1.36	0.72	1
CO	8-Hour	55.7	34.2	55.7	500
	1-Hour	153.2	93.6	153.2	2,000
CTs and Cooling Tower					
PM_{10}	Annual	0.51	0.55	0.51	1
	24-Hour	5.26	5.97	5.97	5
G-Class CTs					
CTs Only					
SO_2	Annual	0.26	0.030	0.26	1
	24-Hour	3.75	0.535	3.75	5
	3-Hour	14.6	2.12	14.6	25
PM_{10}	Annual	0.19	0.61	0.22	1
	24-Hour	2.65	11.0	11.0	5
NO_2	Annual	0.47	0.79	0.49	1
CO	8-Hour	35.7	59.2	59.2	500
	1-Hour	81.8	140.3	140.3	2,000
CTs and Cooling Tower					
PM_{10}	Annual	0.27	0.66	0.29	1
	24-Hour	3.22	11.3	11.3	5

[a] Maximum annual average concentration are based on prorating the maximum impacts for each operation by the following maximum number of hours requested for that operation:

Pollutant	Hours for Each Operation		
	Combined Cycle Natural Gas	Combined Cycle Fuel Oil	Total
SO_2	8,760	0	8,760
PM_{10}	8,260	500	8,760
NO_2	8,260	500	8,760

Table 6-16. Maximum Predicted 24-hour Average PM_{10} Impacts for Comparison to the PM_{10} AAQS- Screening and Refined Analyses for 3,300 MW

Scenario, Averaging Time, and Rank	Analysis	Concentration ($\mu g/m^3$) [a,b] Total	Modeled Sources	Background	Receptor Location [c] x (m)	y (m)	Time Period (YYMMDDHH)	AAQS ($\mu g/m^3$)
GE 7FB CTs								
24-Hour, H6H	Screening	39.9	9.9	30	400	-1,800	87073024	150
	Refined	39.9	9.9	30	400	-1,800	87073024	
G-Class CTs								
24-Hour, H6H	Screening	51.4	21.4	30	-7,500	-6,000	91122424	150
	Refined	51.4	23.1	30	-7,800	-6,200	88100324	

Note: YYMMDDHH = Year, Month, Day, Hour Ending
H6H = Highest, sixth-highest

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, respectively.

[b] Based on oil-firing.

[c] Relative to the modeling origin on the west boundary of the 220-acre Site.
- For the GE 7FB CTs, the maximum impacts were predicted within 2 km of the project site and due to the project's emissions. Impacts were predicted out to only 2 km because the project's SIA extended out to that distance.
- For the G-Class CTs, the maximum impacts were predicted at about 10 km from the site due to background sources. Impacts were predicted out to 10 km because the project's SIA extended out to that distance.

Table 6-17. Maximum Predicted PM_{10} Impacts for Comparison to the PSD Class II Increments-
Screening and Refined Analyses for 3,300 MW

Scenario, Averaging Time, and Rank	Analysis	Modeled Concentration [a, b] ($\mu g/m^3$)	Receptor Location [c] x (m)	Receptor Location [c] y (m)	Time Period (YYMMDDHH)	PSD Class II Increment ($\mu g/m^3$)
GE 7FB CTs						
24-Hour, HSH	Screening	6.3	372	410	87021624	30
		6.5	359	-424	88120224	
		6.7	359	-424	89030824	
		5.2	359	-424	90111824	
		6.1	359	-424	91031024	
	Refined	6.7	359	-424	89030824	
G-Class CTs						
24-Hour, HSH	Screening	9.3	371	361	87101324	30
		7.8	364	-81	88120224	
		8.1	359	-473	89120324	
		5.7	359	-473	90011324	
		9.7	376	704	91030324	
	Refined	9.7	376	704	91030324	

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH = Highest, Second-Highest

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, respectively.

[b] Based on oil-firing.

[c] Relative to the modeling origin on the west boundary of the 220-acre Site.

7.0 ADDITIONAL IMPACT ANALYSIS

This section presents the impacts the proposed Project will have on vegetation, soils, visibility, both in the vicinity of the West County Energy Center and at the PSD Class I area of the Everglades National Park, and addresses direct growth resulting from the West County Energy Center.

7.1 IMPACTS DUE TO ASSOCIATED DIRECT GROWTH

7.1.1 INTRODUCTION

Rule 62-212.400(3)(h)(5), F.A.C., states that an application must include information relating to the air quality impacts of, and the nature and extent of all general, residential, commercial, industrial and other growth which has occurred since August 7, 1977, in the area the facility or modification would affect. This growth analysis considers air quality impacts due to emissions resulting from the industrial, commercial, and residential growth associated with the proposed construction and operation of the Project. This information is consistent with the EPA Guidance related to this requirement in the *Draft New Source Review Workshop Manual* (EPA, 1990).

In general, there has been minimal growth in the general area since 1977. The site is located in about the geographic center of Palm Beach County, which is on Florida's Atlantic coast. Palm Beach County is bounded by Martin County to the north, Broward County to the south, and Hendry County to the west. Palm Beach County is the largest county in Florida in land area, comprising 1,974 square miles.

The West County Energy Center is being constructed to meet current and projected electric demands for FPL's customers. FPL has an obligation to meet this increase in electric demand. Additional growth as a direct result of the additional electric power provided by the West County Energy Center is not expected.

Construction of the West County Energy Center will occur over a 36-month period requiring an average of approximately 350 workers during that time. It is anticipated that many of these construction personnel will commute to the Site.

The West County Energy Center will employ a total of about 50 operational workers for the Project. The operational workforce will also include annual contracted maintenance workers to be hired for periodic routine services. The workforce needed to operate the proposed West County Energy

Center represents a small fraction of the population already present in the immediate area. Therefore, while there would be a small increase in vehicular traffic in the area, the effect on air quality levels would be minimal.

There are also expected to be no air quality impacts due to associated commercial and industrial growth given the location of the West County Energy Center. The existing commercial and industrial infrastructure should be adequate to provide any support services that the West County Energy Center might require, and would not increase with the operation of the West County Energy Center. The addition of two nominal 1,100-MW units will have little effect on the increase or growth in the area.

The following discussion presents general trends in residential, commercial, industrial, and other growth that has occurred since August 7, 1977, in Palm Beach County. Information is presented from a variety of available sources (i.e., Florida Statistical Abstract, FDEP, etc.) that characterize Palm Beach County as a whole.

7.1.2 RESIDENTIAL GROWTH

Population and Household Trends

As an indicator of residential growth, the trend in the population and number of household units in Palm Beach County since 1977 are shown in Figure 7-1. The county experienced a 128-percent increase in population for the years 1977 through 2000. During this period, there was an increase in population of about 635,000. Similarly, the number of households in the county increased by about 226,000, or 91 percent, since 1977.

Growth Associated with the Operation of the Project

Because there will be about 50 FPL employees needed to operate the West County Energy Center, residential growth due to the West County Energy Center will be minimal.

7.1.3 COMMERCIAL GROWTH

Retail Trade and Wholesale Trade

As an indicator of commercial growth in Palm Beach County, the trends in the number of commercial facilities and employees involved in retail and wholesale trade are presented in Figure 7-2. The retail trade sector comprises establishments engaged in retailing merchandise. The retailing process is the final step in the distribution of merchandise. Retailers are, therefore, organized to sell merchandise in small quantities to the general public. The wholesale trade sector comprises establishments engaged in wholesaling merchandise. This sector includes merchant wholesalers who buy and own the goods they sell; manufacturers' sales branches and offices that sell products manufactured domestically by their own company; and agents and brokers who collect a commission or fee for arranging the sale of merchandise owned by others.

Since 1977, retail trade in Palm Beach County has increased by 3,163 establishments and 92,023 employees or 114 and 157 percent, respectively. For the same period, wholesale trade has increased in the County by 2,052 establishments and 18,327 employees, or 356 and 389 percent, respectively.

Labor Force

The trend in the labor force in Palm Beach County since 1977 is shown in Figure 7-3. The sectors employing the largest number of persons in Palm Beach County have been in agriculture, services, and government. Between 1977 and 2000, approximately 318,644 persons were added to the available work force, for an increase of 181 percent.

Tourism

Another indicator of commercial growth in Palm Beach County is the tourism industry. As an indicator of tourism growth in the county, the trend in the number of hotels and motels and the number of units at the hotels and motels are presented in Figure 7-4.

This industry comprises establishments primarily engaged in marketing and promoting communities and facilities to businesses and leisure travelers through a range of activities, such as assisting organizations in locating meeting and convention sites; providing travel information on area attractions, lodging accommodations, restaurants; providing maps; and organizing group tours of local historical, recreational, and cultural attractions.

Between 1978 and 2000, there was a decrease in the number of hotels and motels in the county; however, there was a significant increase of 39 percent in the number of units at those facilities.

Transportation

As an indicator of transportation growth, the trend in the number of vehicle miles traveled (VMT) by motor vehicles on major roadways in Palm Beach County is presented in Figure 7-5.
The county's main arteries are Interstate 95 and the Florida Turnpike, which run north-south through the eastern section of the county. Other major highways in the county are U.S. Highways 441, 98, and 27. State and county highways in the county include S.R. A1A and 80 and County Roads 827 and 880.

Between 1977 and 2001, there was an increase of more than 10,000,000 VMT, or 69 percent, on major roadways in the county.

Growth Associated with the Operation of the Project

The existing commercial and transportation infrastructure should be adequate to provide any support services that might be required during construction and operation of the West County Energy Center. The workforce needed to operate the proposed West County Energy Center represents a small fraction of the labor force present in the immediate and surrounding areas.

7.1.4 INDUSTRIAL GROWTH

Manufacturing and Agricultural Industries

As an indicator of industrial growth, the trend in the number of employees in the manufacturing industry in Palm Beach County since 1977 is shown in Figure 7-6. As shown, the manufacturing industry experienced a significant increase in employment of 49 percent from 1977 through 2000.

As another indicator of industrial growth, the trend in the number of employees in the agricultural industry, including sugar, in Palm Beach County since 1977 is also shown in Figure 7-6. As shown, the agricultural industry experienced an increase in employment of 513 percent from 1977 through 2000. This growth is primarily in the western portion of the county.

Utilities

Existing power plants in Palm Beach County include the following:

- Florida Power & Light's Riviera Plant; and
- Lake Worth Utilities.

Together, these power plants have an electrical generating capacity of less than 1,000 megawatts (MW).

As an indicator of electrical utility growth, the electrical generation capacity in Palm Beach County since 1977 is shown in Figure 7-7.

Growth Associated with the Operation of the Project

Since the PSD baseline date of August 7, 1977, there have been only a few major facilities built within a 35-km radius of the Site. The nearest major source is the Atlantic Sugar Association Mill. There are a limited number of facilities located throughout the 50-km radius area surrounding the West County Energy Center site. Based on the locations of nearby air emission sources, as shown in Figure 7-8, there has not been a concentration of industrial and commercial growth in the vicinity of the West County Energy Center site.

7.1.5 AIR QUALITY DISCUSSION

Air Emissions and Spatial Distribution of Major Facilities

The spatial distribution of major air pollutant facilities in Palm Beach County is shown in Figure 7-8. Based on actual emissions reported for 1999 (latest year of available data) by EPA on its AIRSdata website, total emissions from stationary sources in the county are as follows:

- SO_2: 32,198 TPY
- PM_{10}: 2,112 TPY
- NO_x: 11,155 TPY
- CO: 6,515 TPY
- VOC: 2,557 TPY

Air Emissions from Mobile Sources

The trends in the air emissions of CO, VOC, and NO_x from mobile sources in Palm Beach County are presented in Figure 7-9. Between 1977 and 2002, there were significant decreases in these emissions. The decrease in CO, VOC, NO_x emissions were about 1,200, 60, and 29 tons per day (TPD), respectively, which represent decreases from 1977 emissions of 68, 68, and 27 percent, respectively.

Air Monitoring Data

Since 1977, Palm Beach County has been classified as attainment or maintenance for all criteria pollutants. Air quality monitoring data have been collected in Palm Beach County, primarily in the eastern portion of the county. For this evaluation, the air quality monitoring data collected at the monitoring station nearest to the West County Energy Center were used to assess air quality trends since 1977. Air quality monitoring data were based on the following monitoring stations:

- SO_2 concentrations – Riviera Beach, Belle Glade, and South Bay;
- PM_{10} concentrations – Belle Glade and Clewiston;
- NO_2 concentrations – West Palm Beach and Palm Beach;
- CO concentrations – West Palm Beach and Palm Beach; and
- O_3 concentrations – Royal Palm Beach.

Since 1988, PM in the form of PM_{10} has been collected at the air monitoring stations due to the promulgation of the PM_{10} AAQS. Prior to 1989, the AAQS for PM was in the form of total suspended particulates (TSP) concentrations, and this form was measured at the stations.

Data collected from these stations are considered to be generally representative of air quality in Palm Beach County. Because these monitoring stations are generally located in more urbanized areas than the West County Energy Center area, the reported concentrations are likely to be somewhat higher than that experienced at the site.

These data indicate that the maximum air quality concentrations currently measured in the region comply with and are well below the applicable AAQS. These monitoring stations are located in areas where the highest concentrations of a measured pollutant are expected due to the combined effect of emissions from stationary and mobile sources, as well as the effects of meteorology. Therefore, the ambient concentrations in areas not monitored should have pollutant concentrations less than the monitored concentrations from these sites.

SO_2 Concentrations

The trends in the annual, 24-hour, and 3-hour average SO_2 concentrations measured near the West County Energy Center site since 1977 are presented in Figures 7-10 through 7-12, respectively. SO_2 concentrations have been measured at three stations for various time periods throughout these years. As shown in these figures, concentrations have been and continue to be well below the AAQS.

PM_{10}/TSP Concentrations

The trends in the annual and 24-hour average PM_{10} and TSP concentrations since 1977 are presented in Figures 7-13 and 7-14, respectively. TSP concentrations are presented through 1988 since the AAQS was based on TSP concentrations through that year. In 1988, the TSP AAQS was revoked and the PM standard was revised to PM_{10}.

As shown in these figures, measured TSP concentrations were generally below the TSP AAQS. Since 1988, when PM_{10} concentrations have been measured, the PM_{10} concentrations have been and continue to be below the AAQS.

NO_2 Concentrations

The trends in the annual average NO_2 concentrations measured at the nearest monitors to the West County Energy Center site are presented in Figure 7-15. As shown in this figure, measured NO_2 concentrations have been well below the AAQS.

CO Concentrations

The trends in the 1-hr and 8-hr average CO concentrations since 1977 are presented in Figures 7-16 and 7-17, respectively. As shown in these figures, measured CO concentrations have been well below the AAQS.

Ozone Concentrations

The trends in the 1-hour average ozone concentrations since 1977 are presented in Figure 7-18. The 8-hour average ozone concentrations are presented in Figure 7-19. As shown in these figures, even in the more urbanized areas of Palm Beach County, the measured ozone concentrations have been below the AAQS.

Air Quality Associated with the Operation of the Project

The air quality data measured in the region of the West County Energy Center indicate that the maximum air quality concentrations are well below and comply with the AAQS. Based on the trends presented of these maximum concentrations, the air quality has generally improved in the region since the baseline date of August 7, 1977. Because the maximum air quality impacts resulting from the West County Energy Center are predicted to be low and, for most pollutants below the significant impact levels, the air quality concentrations in the region are expected to remain below and comply with the AAQS when the West County Energy Center becomes operational.

7.2 IMPACTS ON SOILS, VEGETATION, WILDLIFE AND VISIBILITY IN THE PROJECT'S VICINITY

7.2.1 IMPACTS ON VEGETATION AND SOILS

The primary vegetation, as well as agricultural crop, in the vicinity of the West County Energy Center is sugar cane. The site is surrounded by sugar cane fields for a large distance in all directions. Some rice fields, vegetable farming, nurseries, and sod farms are also located in the general area.

Soils in the area are primarily histosols, which are peat soils with high amounts of organic matter. The agricultural lands west of the Site are part of the Everglades Agricultural Area, which is noted for its "muck", i.e., rich, black soil that is very fertile.

The West County Energy Center's impacts on the local air quality, together with background sources, are predicted to be below the AAQS. In addition, as related to ozone concentrations, the Project's VOC emissions represent about an insignificant increase in regional VOC emissions. Since the AAQS are also designed to protect the public welfare, including effects on soils and vegetation, no detrimental effects on soils or vegetation should occur in this area due to the project's operation.

7.2.2 IMPACTS ON WILDLIFE

Although air pollution impacts to wildlife have been reported in the literature, many of the incidents involved acute exposures to pollutants, usually caused by unusual or highly concentrated releases or unique weather conditions. Generally, there are three ways pollutants may affect wildlife: through inhalation, through exposure with skin, and through ingestion (Newman, 1980). Ingestion is the most common means and can occur through eating or drinking of high concentrations of pollutants. Bioaccumulation is the process of animals collecting and accumulating pollutant levels in their bodies over time. Other animals that prey on these animals would then be ingesting concentrated pollutants levels.

It is highly unlikely that the West County Energy Center's emissions will cause injury or death to wildlife based on a review of the limited literature on air pollutant effects on wildlife. The Project's impacts are predicted to be very low and dispersed over a large area. Coupled with the mobility of wildlife, the potential for exposure of wildlife to the Project's impacts is extremely unlikely.

7.2.3 IMPACTS ON VISIBILITY

No visibility impairment in the vicinity of the West County Energy Center is expected due to the types and quantities of emissions proposed for the Project. The opacity of the proposed CTs emissions will be 10 percent or less under normal operation and the potential for fogging from the cooling towers is minimal.

7.3 IMPACTS TO PSD CLASS I AREAS

7.3.1 IDENTIFICATION OF AQRVS AND METHODOLOGY

An Air Quality Related Value (AQRV) analysis was conducted to assess the potential risk to AQRVs at the Everglades National Park due to the proposed emissions from the West County Energy Center. The Everglades National Park is the closest Class I area to the Site, and is located about 107 km west of the West County Energy Center Site.

The U.S. Department of the Interior in 1978 defined AQRVs to be:

> All those values possessed by an area except those that are not affected by changes in air quality and include all those assets of an area whose vitality, significance, or integrity is dependent in some way upon the air environment. These values include visibility and those scenic, cultural, biological, and recreational resources of an area that are affected by air quality.
>
> Important attributes of an area are those values or assets that make an area significant as a national monument, preserve, or primitive area. They are the assets that are to be preserved if the area is to achieve the purposes for which it was set aside (Federal Register 1978).

The AQRVs include visibility, freshwater and coastal wetlands, dominant plant communities, unique and rare plant communities, soils and associated periphyton, and the wildlife dependent on these communities for habitat. Rare, endemic, threatened, and endangered species of the national park and bioindicators of air pollution (e.g., lichens) are also evaluated.

The maximum predicted atmospheric concentrations due to the emissions from the proposed West County Energy Center are presented in Tables 7-1 and 7-4. As shown, the predicted impacts are very low for all pollutants considered.

7.3.2 IMPACTS TO SOILS

For soils, the potential and hypothesized effects of atmospheric deposition include:

- Increased soil acidification;
- Alteration in cation exchange;
- Loss of base cations; and
- Mobilization of trace metals.

The potential sensitivity of specific soils to atmospheric inputs is related to two factors. First, the physical ability of a soil to conduct water vertically through the soil profile is important in influencing the interaction with deposition. Second, the ability of the soil to resist chemical changes, as measured in terms of pH and soil cation exchange capacity (CEC), is important in determining how a soil responds to atmospheric inputs.

The soils of the Everglades National Park are generally classified as histosols or entisols. Histosols (peat soils) are organic and have extremely high buffering capacities based on their CEC, base saturation, and bulk density. Therefore, they would be relatively insensitive to atmospheric inputs. The entisols are shallow sandy soils overlying limestone, such as the soils found in the pinelands. The direct connection of these soils with subsurface limestone tends to neutralize any acidic inputs. Moreover, the groundwater table is highly buffered due to the interaction with subsurface limestone formations, which results in high alkalinity (as $CaCO_3$).

The relatively low sensitivity of the soils to acid inputs coupled with the extremely low ground-level concentrations of air pollutants projected for the Everglades National Park from the West County Energy Center emissions precludes any significant impact on soils.

7.3.3 IMPACTS TO VEGETATION

In general, the effects of air pollutants on vegetation occur primarily from SO_2, NO_2, O_3, and PM. Effects from minor air contaminants, such as fluoride, chlorine, hydrogen chloride, ethylene, ammonia, hydrogen sulfide, CO, and pesticides, have also been reported in the literature. The effects of air pollutants are dependent both on the concentration of the contaminant and the duration of the exposure. The term "injury," as opposed to damage, is commonly used to describe all plant responses to air contaminants and will be used in the context of this analysis. Air contaminants are thought to interact primarily with plant foliage, which is considered to be the major pathway of exposure. For purposes of this analysis, it was assumed that 100 percent of each air contaminant of concern is accessible to the plants.

Injury to vegetation from exposure to various levels or air contaminants can be termed acute, physiological, or chronic. Acute injury occurs as a result of a short-term exposure to a high contaminant concentration and is typically manifested by visible injury symptoms ranging from chlorosis (discoloration) to necrosis (dead areas). Physiological or latent injury occurs as the result of a long-term exposure to contaminant concentrations below that which results in acute injury symptoms. Chronic injury results from repeated exposure to low concentrations over extended periods of time, often without any visible symptoms, but with some effect on the overall growth and productivity of the plant. In this assessment, 100 percent of the particular air pollutant in the ambient air was assumed to interact with the vegetation, which is a very conservative approach.

The concentrations of the pollutants, duration of exposure and frequency of exposures influence the response of vegetation to atmospheric pollutants. The pattern of pollutant exposure expected from the facility is that of a few episodes of relatively high ground-level concentration, which occur during certain meteorological conditions interspersed with long periods of extremely low ground-level concentrations. If there are any effects of stack emissions on plants, they will be from the short-term, higher doses. A dose is the product of the concentration of the pollutant and duration of the exposure.

Sulfur Dioxide

Sulfur is an essential plant nutrient usually taken up as sulfate ions by the roots from the soil solution. When sulfur dioxide in the atmosphere enters the foliage through pores in the leaves, it reacts with water in the leaf interior to form sulfite ions. Sulfite ions are highly toxic. They interact with enzymes, compete with normal metabolites, and interfere with a variety of cellular functions (Horsman and Wellburn, 1976). However, within the leaf, sulfite is oxidized to sulfate ions, which can then be used by the plant as a nutrient. Small amounts of sulfite may be oxidized before they prove harmful.

Observed SO_2 effect levels for several plant species and plant sensitivity groupings are presented in Tables 7-5 and 7-6, respectively. SO_2 gas at elevated levels has long been known to cause injury to plants. Acute SO_2 injury usually develops within a few hours or days of exposure, and symptoms include marginal, flecked, and/or intercoastal necrotic areas that appear water-soaked and dullish green initially. This injury generally occurs to younger leaves. Chronic injury usually is evident by signs of chlorosis, bronzing, premature senescence, reduced growth, and possible tissue necrosis (EPA, 1982). Background levels of SO_2 range from 2.5 to 25 $\mu g/m^3$.

Many studies have been conducted to determine the effects of high-concentration, short-term SO_2 exposure on natural community vegetation. Sensitive plants include ragweed, legumes, blackberry, southern pine, and red and black oak. These species are injured by exposure to 3-hour SO_2 concentrations of 790 to 1,570 $\mu g/m^3$. Intermediate plants include locust and sweetgum. These species are injured by exposure to 3-hour SO_2 concentrations of 1,570 to 2,100 $\mu g/m^3$. Resistant species (injured at concentrations above 2,100 $\mu g/m^3$ for 3 hours) include white oak and dogwood (EPA, 1982).

A study of native Floridian species (Woltz and Howe, 1981) demonstrated that cypress, slash pine, live oak, and mangrove exposed to 1,300 $\mu g/m^3$ SO_2 for 8 hours were not visibly damaged. This finding support the levels cited by other researchers on the effects of SO_2 on vegetation. A corroborative study (McLaughlin and Lee, 1974) demonstrated that approximately 20 percent of a cross-section of plants ranging from sensitive to tolerant was visibly injured at 3-hour SO_2 concentrations of 920 $\mu g/m^3$.

Two lichen species indigenous to the park area exhibited signs of SO_2 damage in the form of decreased biomass gain and photosynthetic rate as well as membrane leakage when exposed to concentrations of 200 to 400 $\mu g/m^3$ for 6 hours/week for 10 weeks (Hart *et al.*, 1988).

Jack pine seedlings exposed to SO_2 concentrations of 470 to 520 $\mu g/m^3$ for 24 hours demonstrated inhibition of foliar lipid synthesis; however, this inhibition was reversible (Malhotra and Kahn, 1978). Black oak exposed to 1,310 $\mu g/m^3$ SO_2 for 24 hours a day for 1 week demonstrated a 48 percent reduction in photosynthesis (Carlson, 1979).

The maximum 3-, 8-, and 24-hour average SO_2 concentrations for the Project (i.e., nominal 2,200-MW) are predicted to be 0.41, 0.33, and 0.13 μg/m^3, respectively, at the Class I area. The maximum 3-hour average SO_2 concentration predicted for the project at the Class I area is 0.05 percent of those that caused damage to the most sensitive lichens (i.e., 790 μg/m^3). The modeled annual incremental increase in SO_2 adds only slightly to background levels of this gas and poses no threat to area vegetation.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) can injure plant tissue with symptoms usually appearing as irregular white to brown collapsed lesions between the leaf veins and near the margins. Conversely, non-injurious levels of NO_2 can be absorbed by plants, enzymatically transformed into ammonia, and incorporated into plant constituents such as amino acids (Matsumaru *et al.*, 1979).

Plant damage can occur through either acute (short-term, high concentration) or chronic (long-term, relatively low concentration) exposure. For plants that have been determined to be more sensitive to NO_2 exposure than others, acute (1, 4, and 8 hours) exposure caused 5 percent predicted foliar injury at concentrations ranging from 3,800 to 15,000 μg/m^3 (Heck and Tingey, 1979). Chronic exposure of selected plants (some considered NO_2-sensitive) to NO_2 concentrations of 2,000 to 4,000 μg/m^3 for 213 to 1,900 hours caused reductions in yield of up to 37 percent and some chlorosis (Zahn, 1975).

The maximum 1-, 3-, and 8-hour average NO_2 concentrations due to the Project are predicted to be 2.5, 2.0, and 0.56 μg/m^3, respectively, at the Class I area. These concentrations are approximately 0.004 to 0.06 percent of the levels that could potentially injure 5 percent of the plant foliage (i.e., 3,800 to 15,000 μg/m^3). For a chronic exposure, the maximum annual NO_2 concentration due to the project is predicted to be 0.005 μg/m^3 at the Class I area, which is less than 0.0003 percent of the levels that caused minimal yield loss and chlorosis in plant tissue (i.e., 2,000 μg/m^3).

Although it has been shown that simultaneous exposure to SO_2 and NO_2 results in synergistic plant injury (Ashenden and Williams, 1980), the magnitude of this response is generally only 3 to 4 times greater than either gas alone, and usually occurs at unnaturally high levels of each gas. Therefore, the concentrations within the park are still far below the levels that potentially cause plant injury for either acute or chronic exposure.

Particulate Matter

Although information pertaining to the effects of PM on plants is scarce, baseline concentrations are available (Mandoli and Dubey, 1988). Ten species of native Indian plants were exposed to levels of PM that ranged from 210 to 366 $\mu g/m^3$ for an 8-hour averaging period. Damage in the form of a higher leaf area/dry weight ratio was observed at varying degrees for most plants tested. Concentrations of PM lower than 163 $\mu g/m^3$ did not appear to be injurious to the tested plants.

The maximum 8-hour PM concentration due to the Project (i.e., nominal 2,200 MW) is predicted to be 0.8 $\mu g/m^3$ at the Class I area. This impact is less than 0.4 percent of the values that affected plant foliage (i.e., 210 $\mu g/m^3$). As a result, no significant effects to vegetative AQRVs are expected from the project's emissions.

Carbon Monoxide

Information pertaining to the effects of CO on plants is scarce. The main effect of high concentrations of CO is the inhibition of cytochrome *c* oxidase, the terminal oxidase in the mitochondrial electron transfer chain. Inhibition of cytochrome *c* oxidase depletes the supply of ATP, the principal donor of free energy required for cell functions. However, this inhibition only occurs at extremely high concentrations of CO. Pollok *et al.* (1989) reported that exposure to $CO:O_2$ ratio of 25 (equivalent to an ambient CO concentration of 6.85×10^6 $\mu g/m^3$) resulted in stomatal closure in the leaves of the sunflower (*Helianthus annuus*). Naik *et al.* (1992) reported cytochrome *c* oxidase inhibition in corn, sorghum, millet, and Guinea grass at $CO:O_2$ ratios of 2.5 (equivalent to an ambient CO concentration of 6.85×10^5 $\mu g/m^3$). These plants were considered the species most sensitive to CO-induced inhibition of cytochrome *c* oxidase.

The maximum 1-hour average concentration due to the Project is 3.6 $\mu g/m^3$ in the Class I area which is less than 0.0001 percent of the minimum value that caused inhibition in laboratory studies (i.e., 6.85×10^6 $\mu g/m^3$). The amount of damage sustained at this level, if any, for 1 hour would have negligible effects over an entire growing season. The maximum predicted annual concentration of 0.032 $\mu g/m^3$ reflects more realistic, yet conservative, CO impact level for the Class I areas. This maximum concentration is predicted to be less than 0.00001 percent of the value that caused cytochrome *c* oxidase inhibition (6.85×10^5 $\mu g/m^3$).

Sulfuric Acid Mist

Acidic precipitation or acid rain is coupled to SO_2 emissions mainly formed during the burning of fossil fuels. This pollutant is oxidized in the atmosphere and dissolves in rain forming sulfuric acid mist which falls as acidic precipitation (Ravera, 1989). Although concentration data are not available, sulfuric acid mist has been reported to yield necrotic spotting on the upper surfaces of leaves (Middleton *et al.*, 1950).

No significant adverse effects on vegetation are expected from the West County Energy Center's emissions because SO_2 concentrations, which lead directly to the formation of sulfuric acid mist concentrations, are predicted to be well below levels which have been documented as negatively affecting vegetation. During the last decade, much attention has been focused on acid rain. Acidic deposition is an ecosystem-level problem that affects vegetation because of some alterations of soil conditions such as increased leaching of essential base cations or elevated concentrations of aluminum in the soil water (Goldstein *et al.*, 1985). Although effects of acid rain in eastern North America have been well published and publicized, detrimental effects of acid rain on Florida vegetation are lacking documentation.

VOC Emissions and Impacts to Ozone

VOC and NO_x emissions are precursors to the formation of O_3. O_3 is not directly emitted from fuel combustion, but is formed down-wind from emission sources when VOC and NO_x emissions react in the presence of sunlight. Natural (i.e., without man-made sources) ambient concentrations of O_3 are normally in the range of 20 to 39 $\mu g/m^3$ (0.01 to 0.02 ppm) (Heath, 1975).

The nearest monitors to the West County Energy Center that measure O_3 concentrations are located in Palm County (see Table 5-1 and Figures 7-18 and 7-19). These stations measure concentrations according to EPA procedures. Based on the O_3 monitoring concentrations measured over the last several years, the region is in attainment of the existing 1-hour O_3 AAQS as well as the new 8-hour O_3 AAQS.

O_3 can cause various damage to broad-leaved plants including: tissue collapse, interveinal necrosis and markings on the upper surface leaves know as stippling (pigmented yellow, light tan, red brown, dark brown, red, or purple), flecking (silver or bleached straw white), mottling, chlorosis or bronzing, and bleaching. O_3 can also stunt plant growth and bud formation. On certain plants such as citrus, grape, and tobacco, it is common for leaves to wither and drop early.

Total VOC emissions in Palm Beach County are approximately 54,600 TPY for stationary and mobile sources [projected for 2005 from the Air Quality Maintenance Plan (2005-2015); Dade, Broward, and Palm Beach Counties, FDEP, 2002]. The maximum VOC emissions increase due to the Project is less than 200 TPY that represents less than a 0.5-percent increase in regional VOC emissions. Therefore, the effects of O_3, as a result of VOC emissions from the project, are expected to be insignificant.

Summary

In summary, the phytotoxic effects on the Everglades National Park from proposed West County Energy Center's emissions are expected to be minimal. It is important to note that the substances were evaluated with the assumption that 100 percent was available for plant uptake. This is rarely the case in a natural ecosystem.

7.3.4 IMPACTS TO WILDLIFE

A wide range of physiological and ecological effects to fauna has been reported for gaseous and particulate pollutants (Newman, 1981; Newman and Schreiber, 1988). The most severe of these effects have been observed at concentrations above the secondary ambient air quality standards. Physiological and behavioral effects have been observed in experimental animals at or below these standards. No observable effects to fauna are expected at concentrations below the values reported in Table 7-7.

The major air quality risk to wildlife in the United States is from continuous exposure to pollutants above the National Ambient Air Quality Standards. This occurs in non-attainment areas, e.g., the Los Angeles Basin. Risks to wildlife also may occur for wildlife living in the vicinity of an emission source that experiences frequent upsets or episodic conditions resulting from malfunctioning equipment, unique meteorological conditions, or startup operations (Newman and Schreiber, 1988). Under these conditions, chronic effects (e.g., particulate contamination) and acute effects (e.g., injury to health) have been observed (Newman, 1981).

For impacts on wildlife, the lowest threshold values of SO_2, NO_x, and particulates that are reported to cause physiological changes are shown in Table 7-7. These values are up to orders of magnitude larger than maximum predicted impacts of the West County Energy Center in the Class I area.

No significant effects on wildlife AQRVs from SO_2, NO_x, and particulates are expected.

7.4 IMPACTS ON VISIBILITY AND FROM DEPOSITION

7.4.1 VISIBILITY

The CAA Amendments of 1977 provide for implementation of guidelines to prevent visibility impairment in mandatory Class I areas. The guidelines are intended to protect the aesthetic quality of these pristine areas from reduction in visual range and atmospheric discoloration due to various air pollutants. Visibility can take the form of plume blight for nearby areas (i.e., distances within 50 km) or regional haze for long distances (i.e., distances beyond 50 km).

Visibility is an AQRV for the Everglades National Park. Because the nearest distance to the Everglades National Park from the Site is about 107 km, the potential changes in visibility resulting from the West County Energy Center were analyzed as regional haze.

Currently, there are several air quality modeling approaches recommended by the Interagency Workgroup on Air Quality Models (IWAQM) to perform these analyses. The IWAQM consists of EPA and FLM of Class I areas that are responsible for ensuring that AQRVs are not adversely impacted by new and existing sources. These recommendations have been summarized in guidelines required by the 1977 Clean Air Act Amendments and are contained in two documents:

- *Interagency Workgroup on Air Quality Models (IWAQM), Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts* (EPA, 1998), referred to as the IWAQM Phase 2 report; and
- *Federal Land Managers' Air Quality Related Values Workgroup (FLAG), Phase I Report,* USFS, NPS, USFWS (December, 2000), referred to as the FLAG document.

The methods and assumptions recommended in these documents were used to assess potential visibility impairment in the Everglades National Park PSD Class I area due to the West County Energy Center.

Based on the FLAG document, current regional haze guidelines characterize a change in visibility by the change in the light-extinction coefficient (b_{ext}). The b_{ext} is the attenuation of light per unit distance due to the scattering and absorption by gases and particles in the atmosphere. A change in the extinction coefficient produces a perceived visual change. An index that simply quantifies the percent change in visibility due to the operation of a source is calculated as:

$$\Delta\% = (b_{exts} / b_{extb}) \times 100$$

where: b_{exts} is the extinction coefficient calculated for the source; and
b_{extb} is the background extinction coefficient.

The purpose of the visibility analysis is to calculate the extinction at each receptor for each day (24-hour period) of the year due to the proposed West County Energy Center. The criteria to determine if the West County Energy Center's impacts are potentially significant are based on a change in extinction of 5 percent or greater for any day of the year.

Processing of visibility impairment for this study was performed with the CALPUFF model (see Appendix C) and the CALPUFF post-processing program CALPOST. The analysis was conducted in accordance with the most recent guidance from the FLAG report (December 2000). The CALPUFF postprocessor model CALPOST is used to calculate the combined visibility effects from the different pollutants that are emitted from the West County Energy Center. Daily background extinction coefficients are calculated on a hour-by-hour basis using hourly relative humidity data from CALMET and hygroscopic and non-hygroscopic extinction components specified in the FLAG document. For the Class I area evaluated, the hygroscopic and non-hygroscopic components are 0.9 and 8.5 inverse mega meter (Mm^{-1}). CALPOST then predicts the percent extinction change for each day of the year.

The results of the refined regional haze analysis for the Project at 2,200 MW are presented in Table 7-18 for natural firing. The maximum impacts on visibility at the Everglades National Park were initially predicted to be 5.5 and 4.1 percent for the GE 7FB CTs and G-Class CTs, respectively. However, when the meteorological data for those days that exceed the 5-percent criteria are reviewed, there were hours during those days when there were naturally occurring visibility-impaired conditions (e.g., fog, rain, etc.). If those hours are excluded from the analysis, the maximum visibility impacts from the project for natural gas- and fuel oil-firing are predicted to be less than the 5-percent criteria as shown in Table 7-8.

For light oil firing, the maximum impacts on visibility at the Everglades National Park were initially predicted to be 7.3 percent for the GE 7FB CTs and G-Class CTs, respectively (see Figure 7-9). Again, when the meteorological data are reviewed for hours of naturally occurring visibility-impaired conditions, the maximum visibility impacts and number of values greater than the 5-percent criteria for oil-firing are reduced. There are no days over the three-year period above the 5-percent threshold for the GE 7FB CTs and only two days that are over the three-year period for the G-Class CTs. Given that FPL is seeking approval to use light oil for less than 21 days per year, there is a very low probability that the 5-percent threshold will be exceeded when firing light oil in the G-Class CTs during the periods of worst-case meteorology. Therefore, the project is not expected to have an adverse impact on regional haze in the Everglades National Park.

7.4.2 SULFUR AND NITROGEN DEPOSITION

General Methods

As part of the AQRV analyses, total nitrogen (N) and sulfur (S) deposition rates were predicted at the Everglades National Park Class I area. The deposition analysis thresholds (DAT) are based on the annual averaging period. The total deposition is estimated in units of kilogram per hectare per year (kg/ha/yr) of nitrogen or sulfur. The CALPUFF model is used to predict wet and dry deposition fluxes of various oxides of these elements.

For N deposition, the species include:

- Particulate ammonium nitrate (from species NO_3), wet and dry deposition;
- Nitric acid (species HNO_3), wet and dry deposition;
- NO_x, dry deposition; and
- Ammonium sulfate (species SO_4), wet and dry deposition.

For S deposition, the species include:

- SO_2, wet and dry deposition; and
- SO_4, wet and dry deposition.

The CALPUFF model produces results in units of µg/m^2/s. The modeled deposition rates are then converted to N or S deposition in kg/ha respectively, by using a multiplier equal to the ratio of the molecular weights of the substances (IWAQM Phase II report Section 3.3).

Deposition analysis thresholds (DAT) for nitrogen and sulfur deposition of 0.01 kg/ha/yr were provided by the U.S. Fish and Wildlife Service (January 2002). A DAT is the additional amount of N or S deposition within a Class I area, below which estimated impacts from a proposed new or modified source are considered insignificant. The maximum N and S depositions predicted for the West County Energy Center are, therefore, compared to these DAT or significant impact levels.

Results

The maximum predicted N and S depositions predicted for the Project (i.e., nominal 2,200-MW) in the PSD Class I area of the Everglades National Park are summarized in Table 7-10. The maximum N and S deposition rates for the Project are predicted to be 0.0023 and 0.0034 kg/ha/yr, respectively. These maximum deposition rates are below the significant impact levels for N and S of 0.01 kg/ha/yr.

The dominant soils of the Everglades National Park include organic histosols with extremely high buffering capacities and sandy entisols overlying limestone, which provide a buffer to acidic inputs. These soils are resistant to acidic atmospheric inputs. The averaging buffering capacity of histosols is 765,000 equivalents/hectare (eq/ha) (FADS, 1986). As acid inputs (e.g., HNO_3^{-1} and $H_2SO_4^{-2}$), the maximum predicted deposition rates of 0.0035 kg/ha/yr for nitrogen and 0.0051 kg/ha/yr for sulfur, are 0.28 eq/ha/yr and 0.31 eq/ha/yr. These deposition rates are extremely small compared to the buffering capacity of the soils in the Everglades National Park. These deposition rates are also small compared to the observed sulfur and nitrogen deposition obtained from the Florida Acid Deposition Study (FADS). Measurements taken near the northern boundary of the Everglade National Park (near U.S Highway 41 and the boundary of Miami-Dade and Monroe Counties) found wet and dry deposition rates of 243 and 306 eq/ha/yr over a three year period (FADS, 1986). In addition, the groundwater table is highly buffered due to the interaction with subsurface limestone formations, which results in high alkalinity (as $CaCO_3$). The relatively low sensitivity of the soils to acid inputs coupled with the extremely low ground-level concentrations of contaminants projected for the Everglades National Park from the West County Energy Center emissions precludes any significant impact on soils. Similarly, the total annual sulfur and nitrogen deposition rates as a result of the West County Energy Center at the Everglades National Park are not expected to alter soil and/or groundwater pH so as to cause adverse effects on vegetation. As presented in Section 7.3.3, the phytotoxic effects on the Everglades National Park from the West County Energy Center's emissions are expected to be minimal.

Table 7-1. Maximum Pollutant Concentrations Predicted for the Proposed Project at the Everglades NP PSD Class I Area, GE 7FB CTs- 2,200 MW (2 Power Blocks- Each 4 CT/HRSG x1 STG)- Natural Gas- Firing

Pollutant	Averaging Time	Pollutant Maximum Concentrations ($\mu g/m^3$) [a, b] 1990	1992	1996
SO_2	Annual	0.0033	0.0041	0.0046
	24-Hour	0.094	0.094	0.129
	8-Hour	0.212	0.187	0.326
	3-Hour	0.359	0.317	0.412
	1-Hour	0.511	0.488	0.608
NO_2	Annual	0.0031	0.0038	0.0052
	24-Hour	0.138	0.118	0.203
	8-Hour	0.356	0.298	0.551
	3-Hour	0.574	0.448	0.689
	1-Hour	0.758	0.555	0.879
PM_{10}	Annual	0.0056	0.0072	0.0080
	24-Hour	0.150	0.158	0.206
	8-Hour	0.330	0.328	0.504
	3-Hour	0.573	0.570	0.638
	1-Hour	0.830	0.838	1.000
CO	Annual	0.025	0.029	0.032
	24-Hour	0.548	0.577	0.763
	8-Hour	1.207	1.203	1.843
	3-Hour	2.101	2.082	2.333
	1-Hour	3.045	3.076	3.654
SAM	Annual	0.0008	0.0010	0.0010
	24-Hour	0.0151	0.0190	0.0297
	8-Hour	0.0273	0.0435	0.0536
	3-Hour	0.0501	0.0943	0.0740
	1-Hour	0.0750	0.1230	0.1161

[a] Concentrations are highest predicted using CALPUFF model and CALMET domain for south Florida for 1990, 1992, and 1996.

[b] Based on 100 % operating load with duct firing at 35 °F. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 550 mmBtu/hr (HHV).

Table 7-2. Maximum Pollutant Concentrations Predicted for the Proposed Project at the Everglades NP PSD Class I Area
GE 7FB CTs- 2,200 MW (2 Power Blocks- Each 4 CT/HRSG x1 STG)- Natural Gas- and Distillate Oil- Firing

Pollutant	Averaging Time	Distillate Oil- Firing: Pollutant Maximum Concentrations (µg/m^3) [a] 1990	1992	1996	Distillate Oil/Gas- Firing: Pollutant Maximum Concentrations (µg/m^3) [b] 1990	1992	1996
SO_2	Annual	0.0006	0.0008	0.0009	0.0033	0.0041	0.0046
	24-Hour	0.018	0.019	0.024	0.094	0.094	0.129
	8-Hour	0.038	0.040	0.060	0.212	0.187	0.326
	3-Hour	0.058	0.063	0.084	0.359	0.317	0.412
	1-Hour	0.099	0.096	0.113	0.511	0.488	0.608
NO_2	Annual	0.0086	0.0101	0.0141	0.0031	0.0038	0.0052
	24-Hour	0.375	0.399	0.559	0.375	0.399	0.559
	8-Hour	0.932	0.962	1.475	0.932	0.962	1.475
	3-Hour	1.316	1.343	2.048	1.316	1.343	2.048
	1-Hour	2.194	1.677	2.480	2.194	1.677	2.480
PM_{10}	Annual	0.0056	0.0068	0.0077	0.0056	0.0072	0.0080
	24-Hour	0.140	0.143	0.202	0.150	0.158	0.206
	8-Hour	0.285	0.345	0.452	0.330	0.345	0.504
	3-Hour	0.446	0.539	0.634	0.573	0.570	0.638
	1-Hour	0.785	0.800	0.942	0.830	0.838	1.000
CO	Annual	0.021	0.022	0.025	0.025	0.029	0.032
	24-Hour	0.411	0.452	0.601	0.548	0.577	0.763
	8-Hour	0.834	1.016	1.325	1.207	1.203	1.843
	3-Hour	1.311	1.582	1.862	2.101	2.082	2.333
	1-Hour	2.313	2.356	2.767	3.045	3.076	3.654
SAM	Annual	0.00020	0.00030	0.00030	0.00080	0.00100	0.00100
	24-Hour	0.005	0.005	0.009	0.015	0.019	0.030
	8-Hour	0.009	0.014	0.018	0.027	0.044	0.054
	3-Hour	0.014	0.025	0.025	0.050	0.094	0.074
	1-Hour	0.025	0.031	0.037	0.075	0.123	0.116

[a] Concentrations are highest predicted using CALPUFF model and CALMET domain for south Florida for 1990, 1992, and 1996. Based on 100 % operating load at 35 °F.

[b] Maximum annual average concentration are based on prorating the maximum impacts for each operation by the following maximum number of hours requested for that operation:

Pollutant	Natural Gas	Fuel Oil	Total
SO_2	8,760	0	8,760
PM_{10}	8,260	500	8,760
NO_2	8,260	500	8,760
CO	8,760	0	8,760
SAM	8,760	0	8,760

Table 7-3. Maximum Pollutant Concentrations Predicted for the Proposed Project at the Everglades NP PSD Class I Area
G-Class CTs- 2,200 MW (2 Power Blocks- Each 3 CT/HRSG x1 STG)- Natural Gas- Firing

Pollutant	Averaging Time	Pollutant Maximum Concentrations ($\mu g/m^3$) [a, b] 1990	1992	1996
SO_2	Annual	0.0029	0.0036	0.0041
	24-Hour	0.083	0.083	0.113
	8-Hour	0.182	0.173	0.283
	3-Hour	0.295	0.288	0.374
	1-Hour	0.455	0.432	0.522
NO_2	Annual	0.0027	0.0032	0.0044
	24-Hour	0.117	0.111	0.174
	8-Hour	0.300	0.262	0.468
	3-Hour	0.454	0.403	0.613
	1-Hour	0.658	0.507	0.770
PM_{10}	Annual	0.0046	0.0057	0.0064
	24-Hour	0.120	0.122	0.170
	8-Hour	0.255	0.275	0.397
	3-Hour	0.425	0.450	0.526
	1-Hour	0.670	0.672	0.778
CO	Annual	0.012	0.013	0.014
	24-Hour	0.241	0.254	0.348
	8-Hour	0.514	0.557	0.801
	3-Hour	0.858	0.908	1.060
	1-Hour	1.357	1.361	1.568
SAM	Annual	0.0007	0.0009	0.0009
	24-Hour	0.0137	0.0174	0.0273
	8-Hour	0.0225	0.0378	0.0508
	3-Hour	0.0416	0.0816	0.0663
	1-Hour	0.0668	0.1047	0.1037

[a] Concentrations are highest predicted using CALPUFF model and CALMET domain for south Florida for 1990, 1992, and 1996.

[b] Based on 100 % operating load with duct firing at 35 °F. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 475 mmBtu/hr (HHV).

Table 7-4. Maximum Pollutant Concentrations Predicted for the Proposed Project at the Everglades NP PSD Class I Area
G-Class CTs- 2,200 MW (2 Power Blocks- Each 3 CT/HRSG x1 STG)- Natural Gas- and Distillate Oil- Firing

		Distillate Oil- Firing			Distillate Oil/Gas- Firing		
		Pollutant Maximum Concentrations ($\mu g/m^3$)[a]			Pollutant Maximum Concentrations ($\mu g/m^3$)[b]		
Pollutant	Averaging Time	1990	1992	1996	1990	1992	1996
SO_2	Annual	0.0006	0.0007	0.0008	0.0029	0.0036	0.0041
	24-Hour	0.016	0.018	0.022	0.083	0.083	0.113
	8-Hour	0.033	0.039	0.055	0.182	0.173	0.283
	3-Hour	0.057	0.058	0.078	0.295	0.288	0.374
	1-Hour	0.091	0.087	0.110	0.455	0.432	0.522
NO_2	Annual	0.0076	0.0088	0.0123	0.0027	0.0032	0.0044
	24-Hour	0.322	0.362	0.490	0.322	0.362	0.490
	8-Hour	0.792	0.896	1.298	0.792	0.896	1.298
	3-Hour	1.262	1.270	1.839	1.262	1.270	1.839
	1-Hour	1.974	1.476	2.148	1.974	1.476	2.148
PM_{10}[c]	Annual	0.0106	0.0126	0.0140	0.0046	0.0057	0.0064
	24-Hour	0.247	0.263	0.374	0.247	0.263	0.374
	8-Hour	0.491	0.658	0.814	0.491	0.658	0.814
	3-Hour	0.852	0.969	1.170	0.852	0.969	1.170
	1-Hour	1.418	1.415	1.801	1.418	1.415	1.801
CO	Annual	0.011	0.011	0.013	0.012	0.013	0.014
	24-Hour	0.197	0.233	0.302	0.241	0.254	0.348
	8-Hour	0.391	0.525	0.649	0.514	0.557	0.801
	3-Hour	0.679	0.772	0.932	0.858	0.908	1.060
	1-Hour	1.134	1.130	1.436	1.357	1.361	1.568
SAM	Annual	0.00020	0.00020	0.00020	0.00070	0.00090	0.00090
	24-Hour	0.004	0.004	0.007	0.014	0.017	0.027
	8-Hour	0.007	0.011	0.015	0.023	0.038	0.051
	3-Hour	0.011	0.020	0.020	0.042	0.082	0.066
	1-Hour	0.018	0.024	0.030	0.067	0.105	0.104

[a] Concentrations are highest predicted using CALPUFF model and CALMET domain for south Florida for 1990, 1992, and 1996. Based on 100 % operating load at 35 °F.

[b] Maximum annual average concentration are based on prorating the maximum impacts for each operation by the following maximum number of hours requested for that operation:

Pollutant	Natural Gas	Fuel Oil	Total
SO_2	8,760	0	8,760
PM_{10}	8,260	500	8,760
NO_2	8,260	500	8,760
CO	8,760	0	8,760
SAM	8,760	0	8,760

[c] Based on filerable PM_{10} emission rate assuming 80% of total PM_{10} emissions is filterable.

Table 7-5. SO_2 Effects Levels for Various Plant Species

Plant Species	Observed Effect Level ($\mu g/m^3$)	Exposure (Time)	Reference
Sensitive to tolerant	920 (20 percent displayed visible injury)	3 hours	McLaughlin and Lee, 1974
Lichens	200-400	6 hr/wk for 10 weeks	Hart *et al.*, 1988
Cypress, slash pine, live oak, mangrove	1,300	8 hours	Woltz and Howe, 1981
Jack pine seedlings	470-520	24 hours	Malhotra and Kahn, 1978
Black oak	1,310	Continuously for 1 week	Carlson, 1979

Table 7-6. Sensitivity Groupings of Vegetation Based on Visible Injury at Different SO_2 Exposures[a]

Sensitivity Grouping	SO_2 Concentration 1-Hour	SO_2 Concentration 3-Hour	Plants
Sensitive	1,310 - 2,620 μG/m^3 (0.5 - 1.0 ppm)	790 - 1,570 μG/m^3 (0.3 - 0.6 ppm)	Ragweeds Legumes Blackberry Southern pines Red and black oaks White ash Sumacs
Intermediate	2,620 - 5,240 μG/m^3 (1.0 - 2.0 ppm)	1,570 - 2,100 μG/m^3 (0.6 - 0.8 ppm)	Maples Locust Sweetgum Cherry Elms Tuliptree Many crop and garden species
Resistant	>5,240 μG/m^3 (>2.0 ppm)	>2,100 μG/m^3 (>0.8 ppm)	White oaks Potato Upland cotton Corn Dogwood Peach

[a] Based on observations over a 20-year period of visible injury occurring on over 120 species growing in the vicinities of coal-fired power plants in the southeastern United States.

Source: EPA, 1982a.

Table 7-7. Examples of Reported Effects of Air Pollutants at Concentrations below National Secondary Ambient Air Quality Standards

Pollutant	Reported Effect	Concentration ($\mu g/m^3$)	Exposure
Sulfur Dioxide[a]	Respiratory stress in guinea pigs	427 to 854	1 hour
	Respiratory stress in rats	267	7 hours/day; 5 day/week for 10 weeks
	Decreased abundance in deer mice	13 to 157	continually for 5 months
Nitrogen Dioxide[b,c]	Respiratory stress in mice	1,917	3 hours
	Respiratory stress in guinea pigs	96 to 958	8 hours/day for 122 days
Particulates[a]	Respiratory stress, reduced respiratory disease defenses	120 PbO_3	continually for 2 months
	Decreased respiratory disease defenses in rats, same with hamsters	100 $NiCl_2$	2 hours

Sources:
[a] Newman and Schreiber, 1988.
[b] Gardner and Graham, 1976.
[c] Trzeciak et al., 1977.

Table 7-8. Maximum 24-hour Average Visibility Impairment Predicted for the Project firing Natural Gas at the PSD Class I Area of the Everglades National Park- 2,200 MW

Operation		Visibility Impairment (%) [a] (Number of Days Greater than 5% / 10% Criteria)			Total Number of Days > Visibility Impairment Criteria	
		1990	1992	1996	5%	10%
GE 7FB CTs						
All meteorological data	Natural Gas- Firing	4.87 (0/0)	3.81 (0/0)	5.46 (1/0)	1	0
Exclude days with exisitng visibility impaired hours	Natural Gas- Firing	2.93 (0/0)	3.81 (0/0)	4.62 (0/0)	0	0
G-Class CTs						
All meteorological data	Natural Gas- Firing	3.75 (0/0)	3.04 (0/0)	4.14 (0/0)	0	0
Exclude days with exisitng visibility impaired hours	Natural Gas- Firing	2.08 (0/0)	3.04 (0/0)	4.13 (0/0)	0	0

[a] Based on the CALPUFF model using 1990, 1992, and 1996 surface and upper air meteorological data developed with the CALMET program. UTM coordinates relative to Zone 17.
Maximum relative humidity set to 95%.

Table 7-9. Maximum 24-hour Average Visibility Impairment Predicted for the Project for firing Distillate Oil at the PSD Class I Area of the Everglades National Park- 2,200 MW

Operation		Visibility Impairment (%) [a] (Number of Days Greater than 5% / 10% Criteria) 1990	1992	1996	Total Number of Days > Visibility Impairment Criteria 5%	10%
GE 7FB CTs						
All meteorological data	Fuel Oil- Firing	7.33 (1/0)	5.09 (1/0)	6.68 (2/0)	4	0
Exclude days with exisitng visibility impaired hours	Fuel Oil- Firing	3.48 (0/0)	4.96 (0/0)	4.70 (0/0)	0	0
G-Class CTs						
All meteorological data	Fuel Oil- Firing	7.31 (1/0)	5.24 (1/0)	7.36 (4/0)	6	0
Exclude days with exisitng visibility impaired hours	Fuel Oil- Firing	4.05 (0/0)	4.65 (0/0)	6.20 (2/0)	2	0

[a] Based on the CALPUFF model using 1990, 1992, and 1996 surface and upper air meteorological data developed with the CALMET program. UTM coordinates relative to Zone 17.

Maximum relative humidity set to 95%.

Table 7-10. Maximum Annual Sulfur and Nitrogen Deposition Predicted for the Project at the PSD Class I Area of the Everglades National Park- 2,200 MW

Species	Total Deposition (Wet & Dry) 1990 $(g/m^2/s)$	1990 (kg/ha/yr)[a]	1992 $(g/m^2/s)$	1992 (kg/ha/yr)[a]	1996 $(g/m^2/s)$	1996 (kg/ha/yr)[a]	Deposition Analysis Threshold[b] (kg/ha/yr)
GE 7FB CTs							
Sulfur (S) Deposition[c]	1.08E-11	0.0034	7.08E-12	0.0022	1.05E-11	0.0033	0.01
Nitrogen (N) Deposition[d]	7.40E-12	0.0023	5.22E-12	0.0016	6.07E-12	0.0019	0.01
G-Class CTs							
Sulfur (S) Deposition[c]	1.03E-11	0.0032	6.40E-12	0.0020	9.58E-12	0.0030	0.01
Nitrogen (N) Deposition[d]	6.94E-12	0.0022	4.58E-12	0.0014	5.54E-12	0.0017	0.01

[a] Conversion factor is used to convert $g/m^2/s$ to kg/hectare (ha)/yr with the following units:

$g/m^2/s$ x 0.001 kg/g
x 10,000 m^2/hectare
x 3,600 sec/hr
x 8,760 hr/yr = kg/ha/yr
or
$g/m^2/s$ x 3.154E+08 = kg/ha/yr

[b] Deposition analysis thresholds (DAT) for nitrogen and sulfur deposition provided by the U.S. Fish and Wildlife Service, January 2002. A DAT is the additional amount of N or S deposition within a Class I area, below which estimated impacts from a proposed new or modified source are considered insignificant.

[c] Based on each CTfiring natural gas for 8,760 hours (with duct firing for 2,880 hours).

[d] Based on each CTfiring natural gas for 8,260 hours (with duct firing for 2,880 hours) and firing fuel oil for 500 hours.

Figure 7-1. Population and Household Unit Trends in Palm Beach County

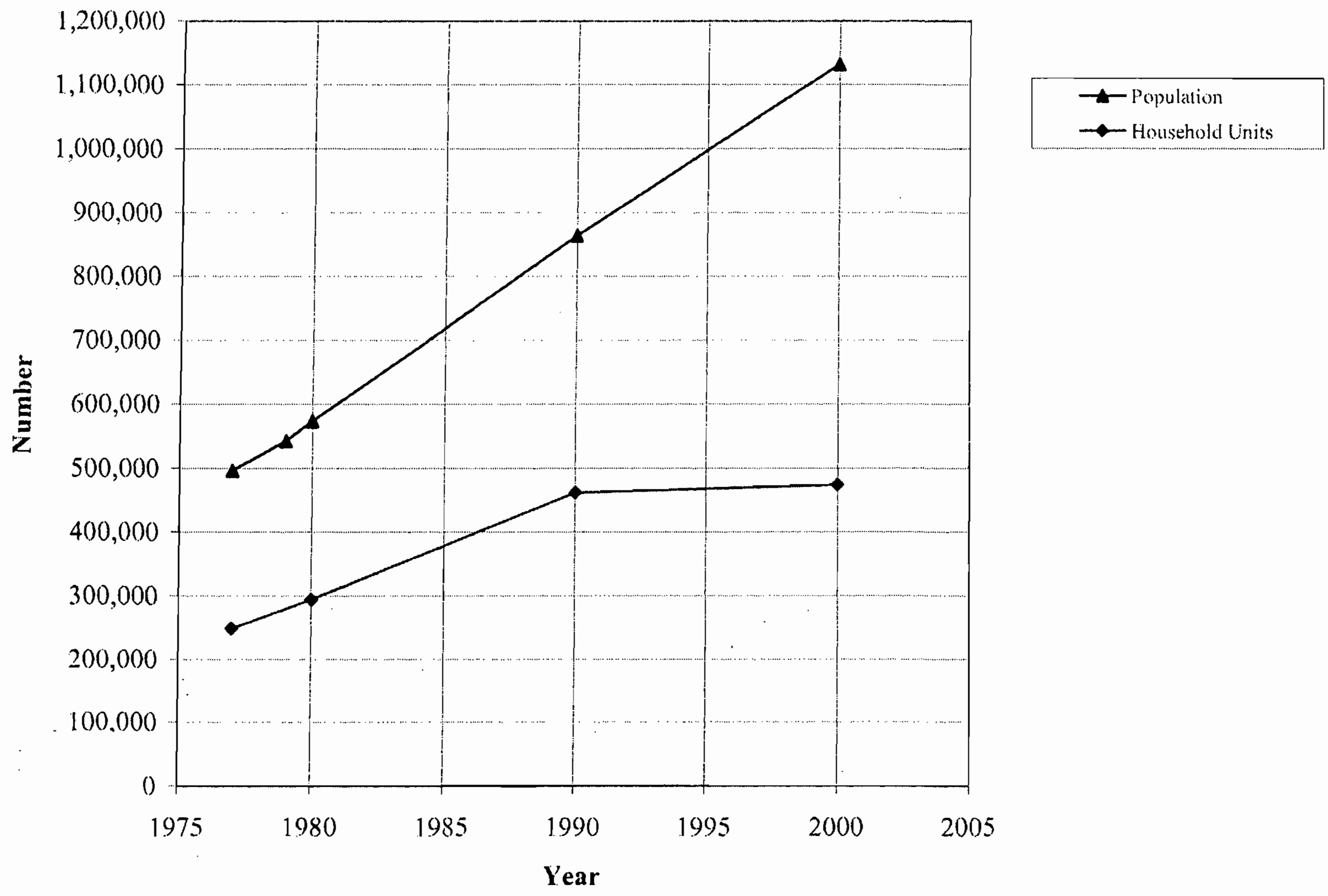


Figure 7-2. Retail and Wholesale Trade Trends in Palm Beach County

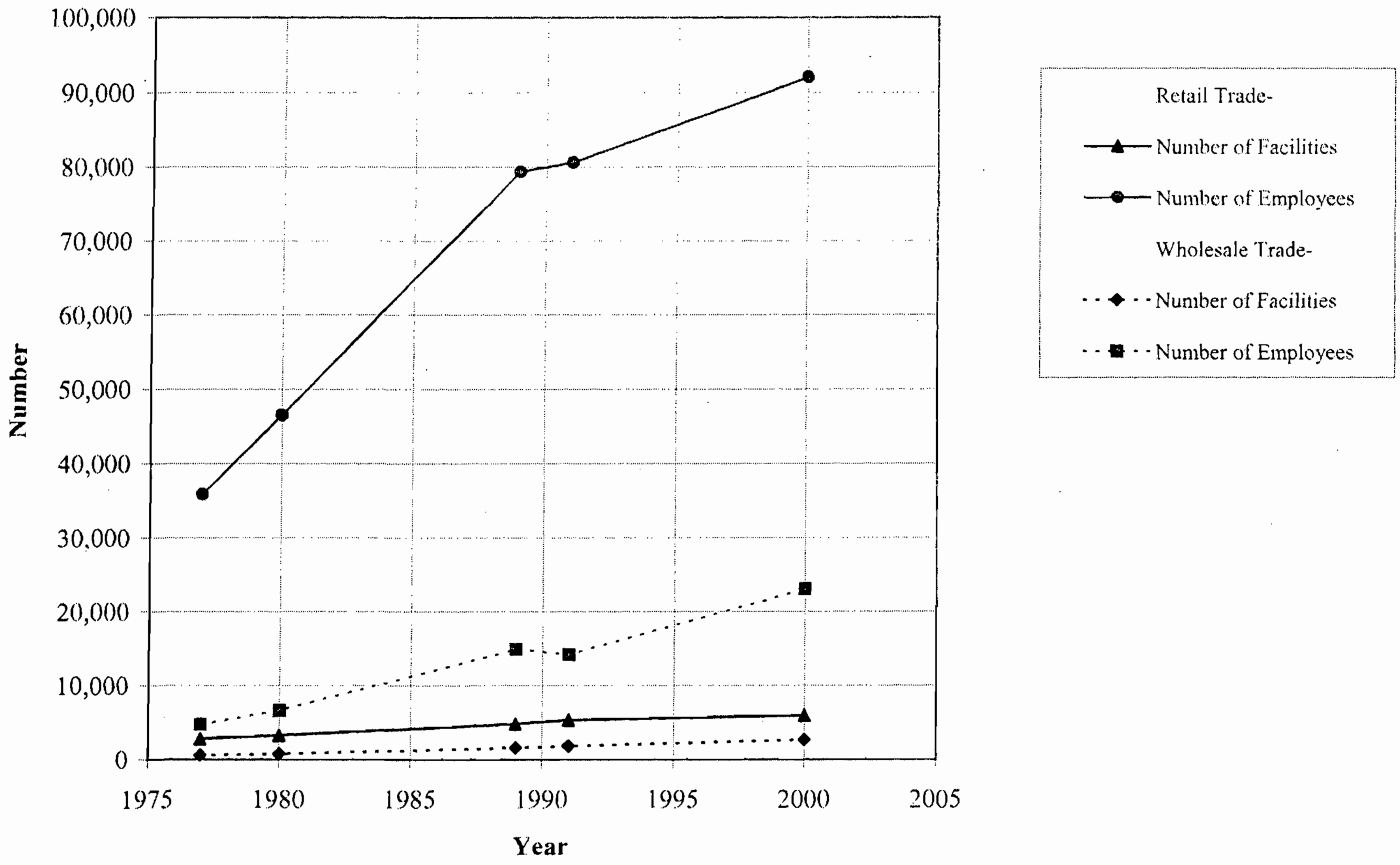


Figure 7-3. Labor Force Trend in Palm Beach County

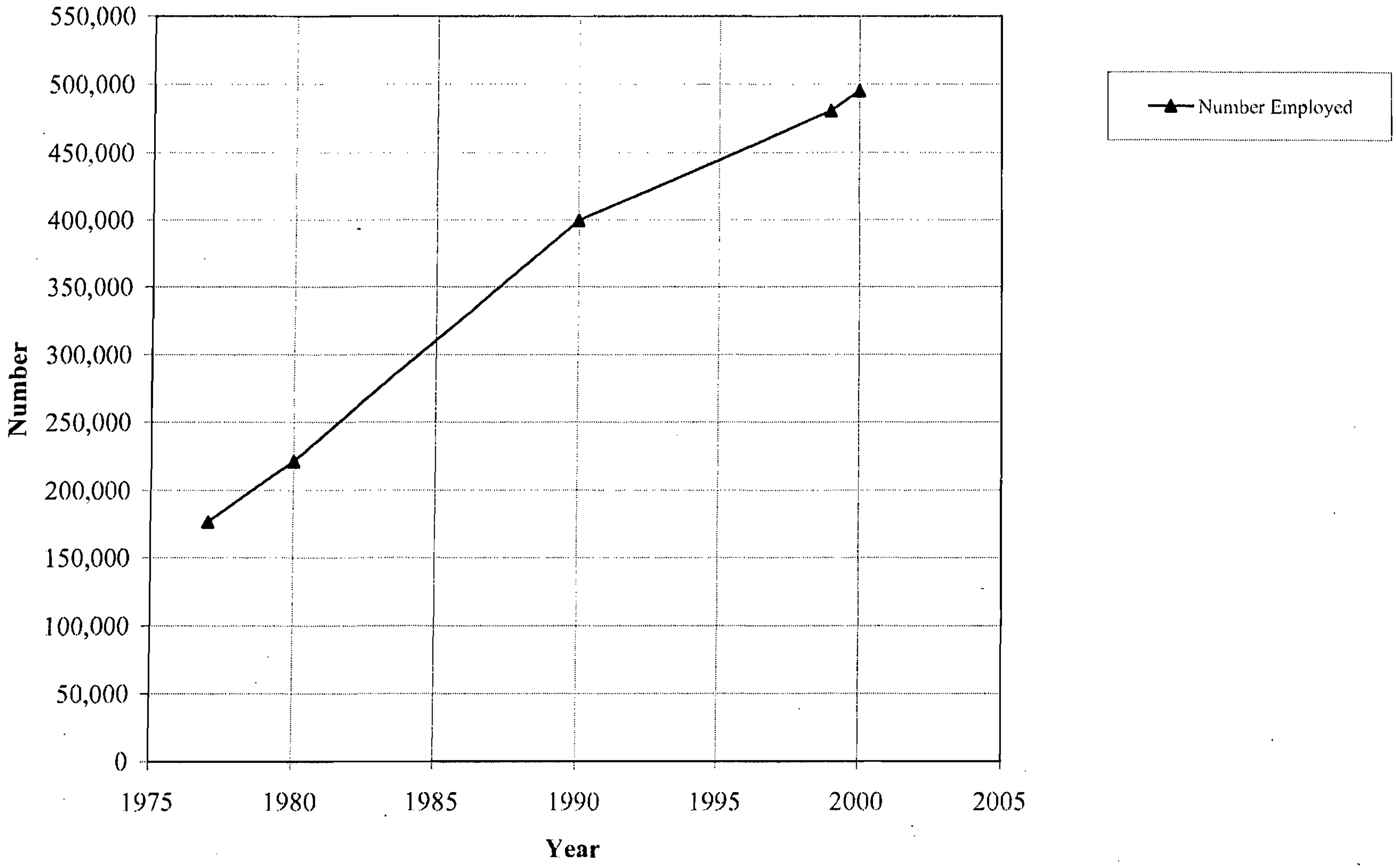


Figure 7-4. Hotel and Motel Trends in Palm Beach County

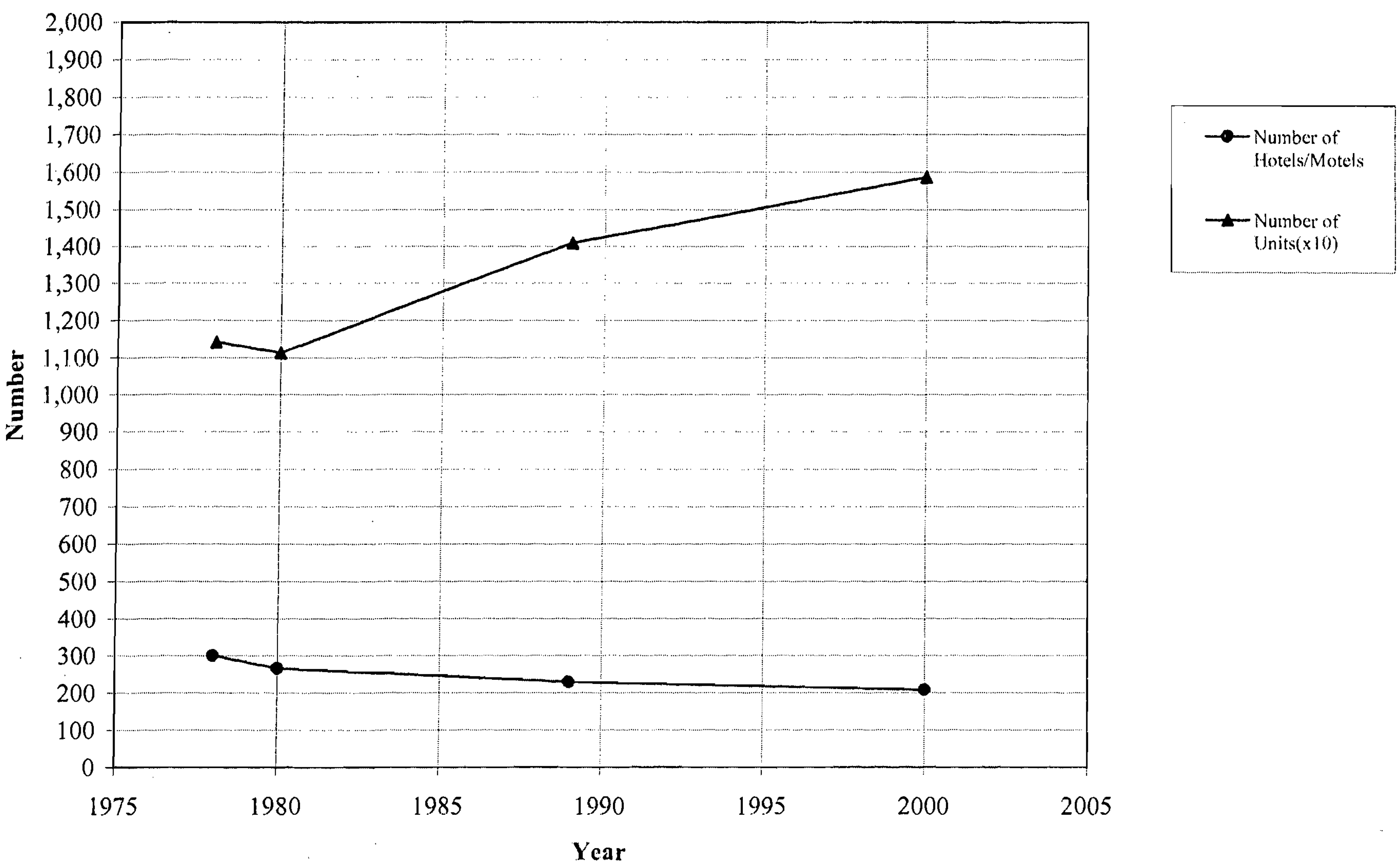


Figure 7-5. Vehicle Miles Traveled (VMT) Estimates for Motor Vehicles for Palm Beach County

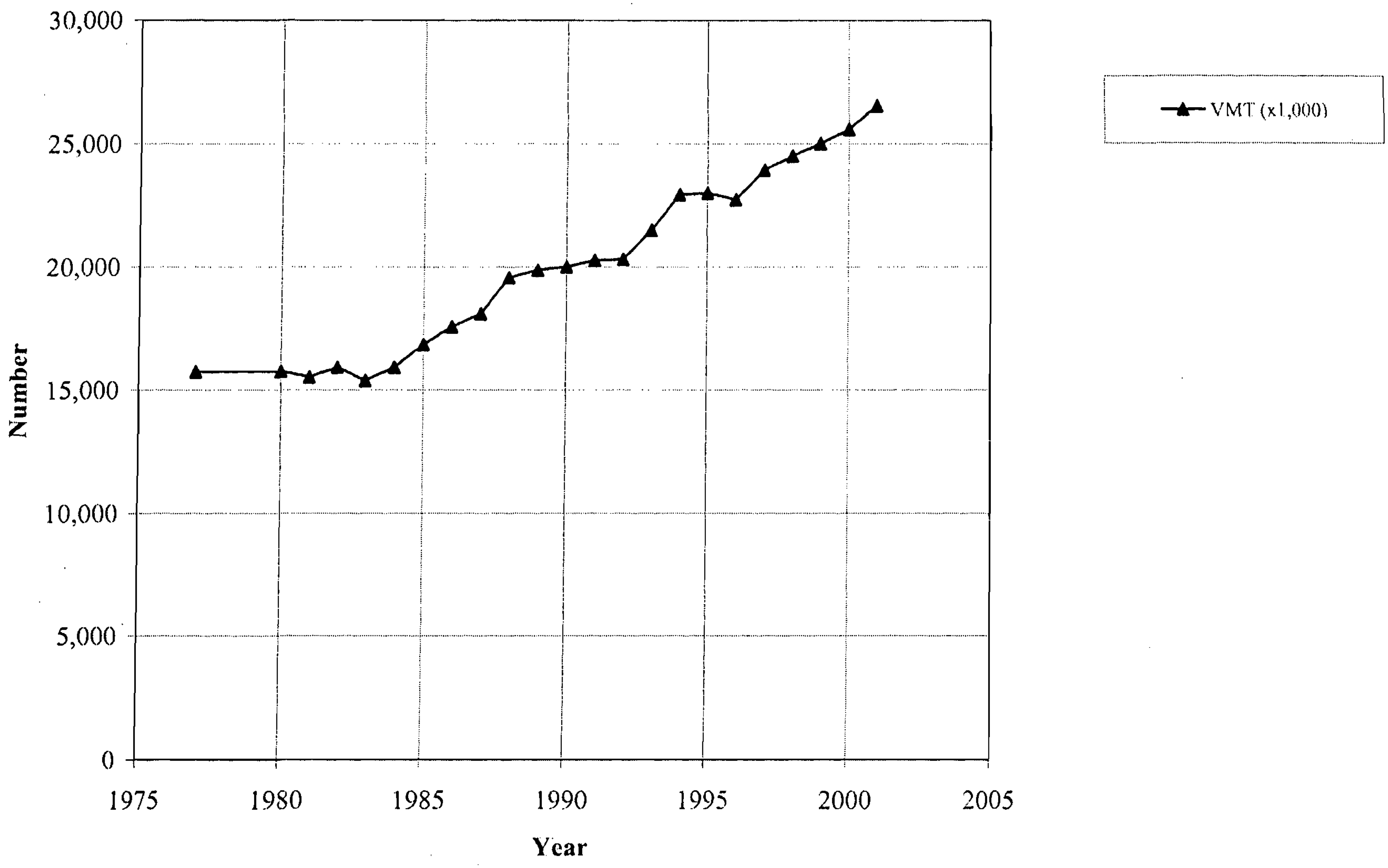
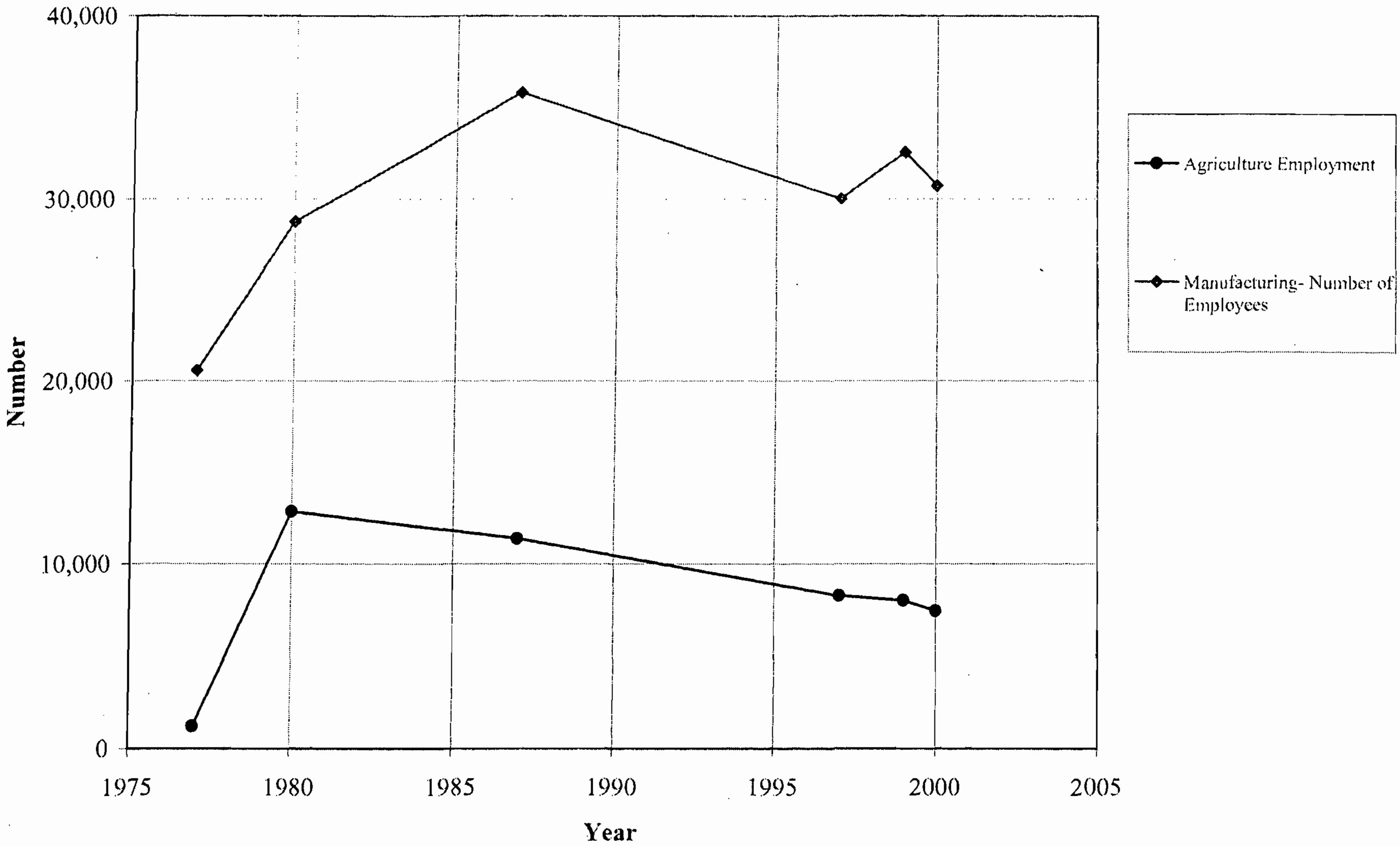


Figure 7-6. Manufacturing and Agriculture Trends in Palm Beach County



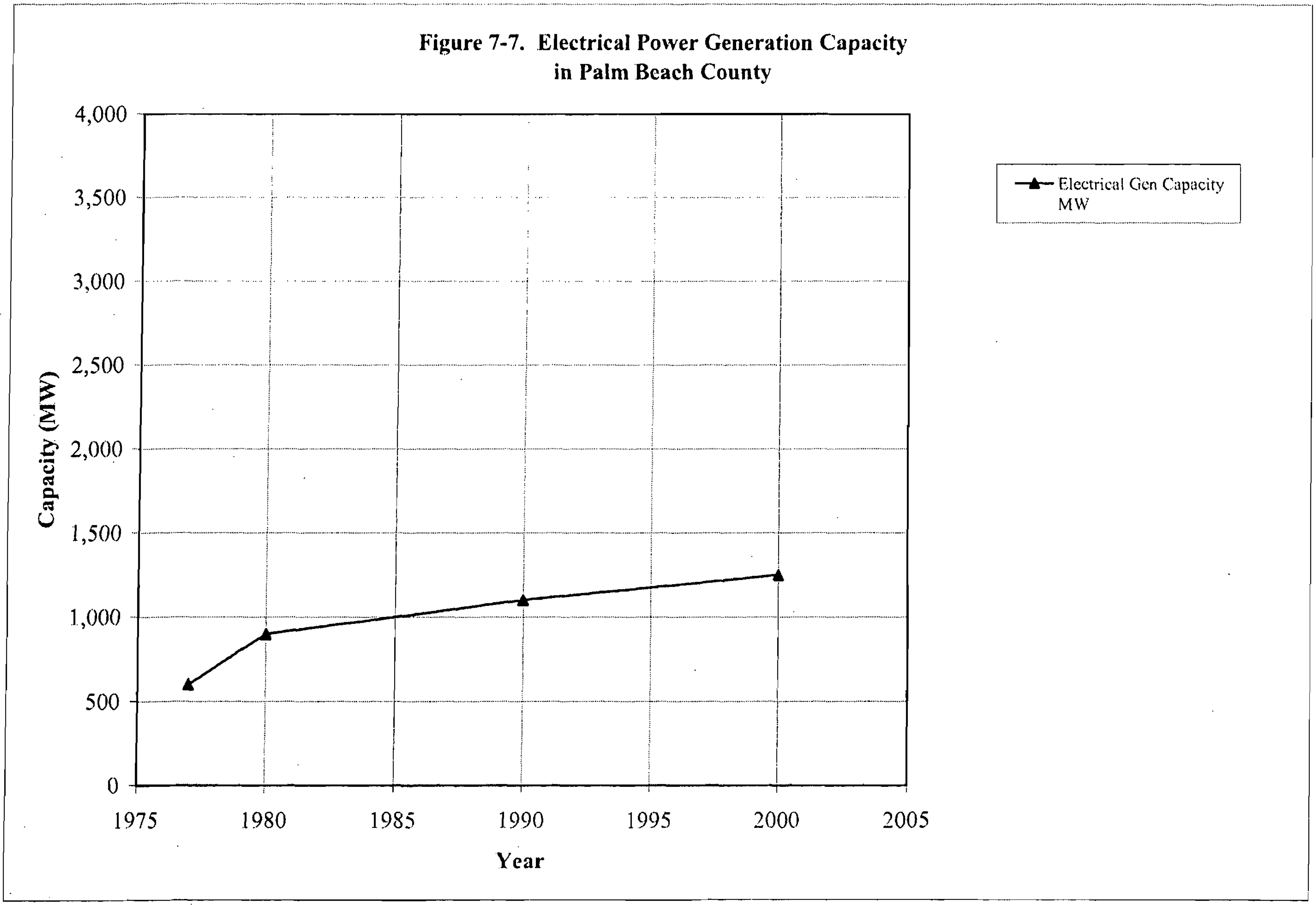


Figure 7-7. Electrical Power Generation Capacity
in Palm Beach County
Capacity (MW)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1975
1980
1985
1990
1995
2000
2005
Year
Electrical Gen Capacity MW

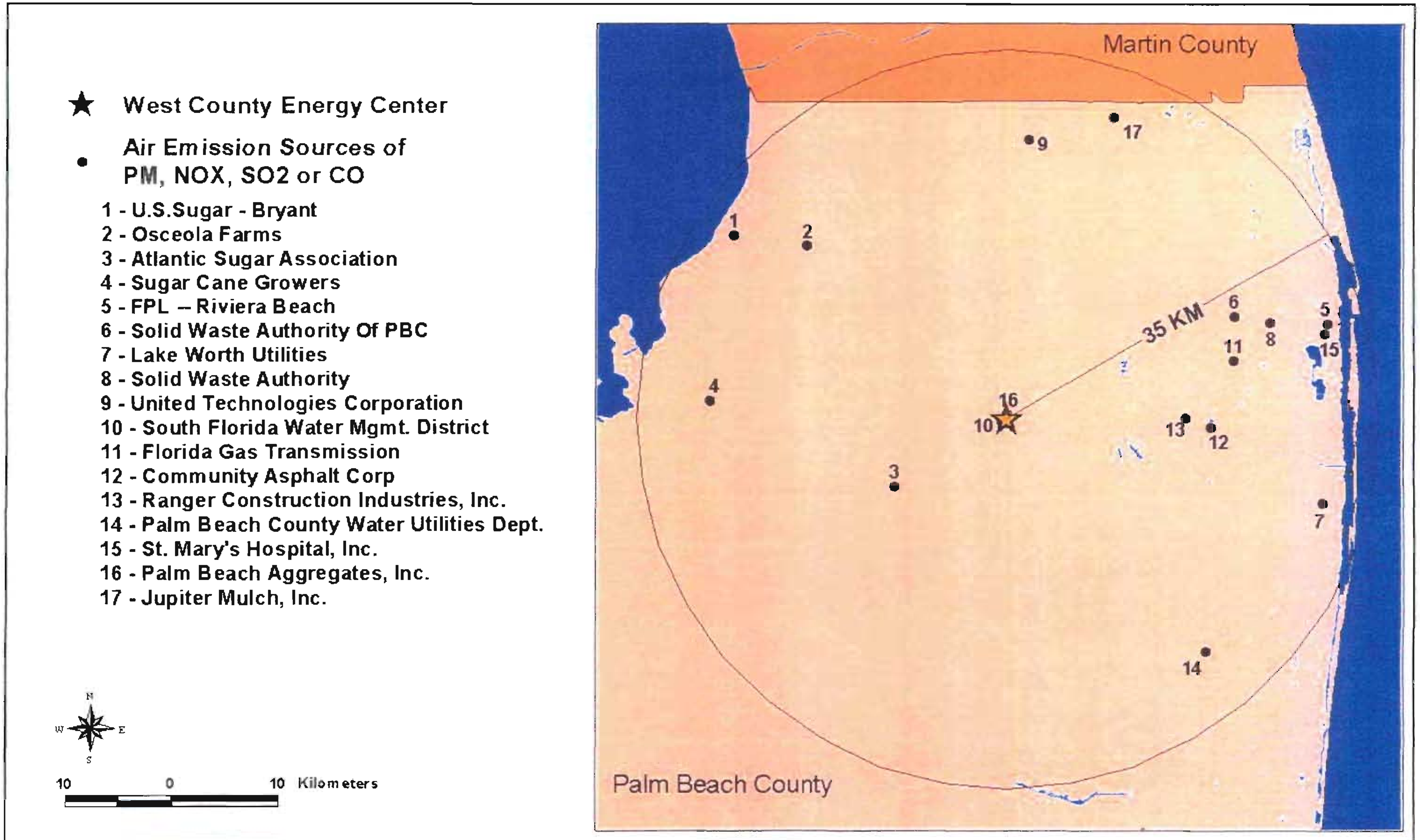


Figure 7-8
Air Emission Sources near the West County Energy Center

Golder Associates

Figure 7-9. Mobile Source Emissions (Tons per Day) of CO, VOC, and NO_x, in Palm Beach County

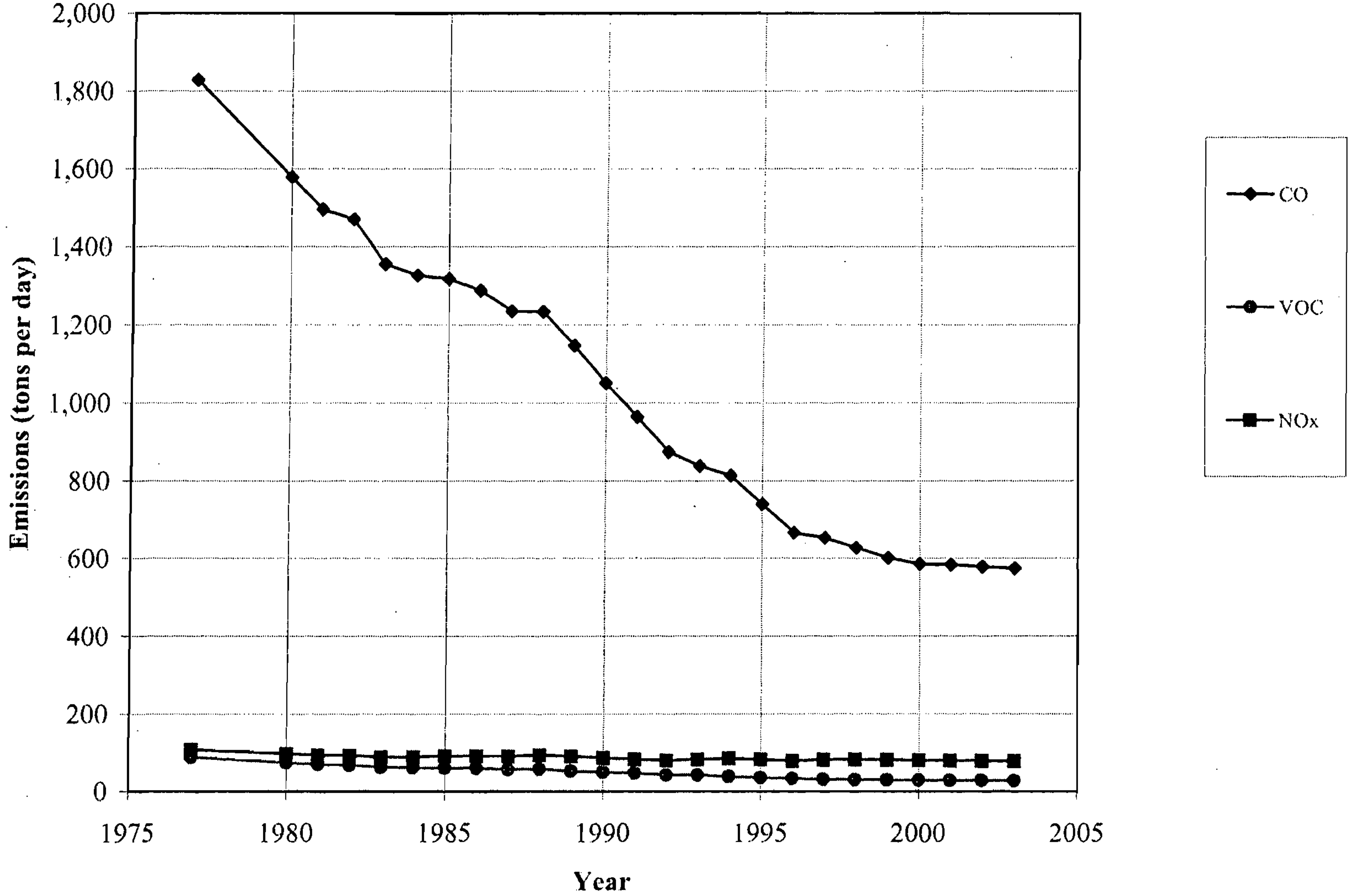


Figure 7-10. Annual Average Sulfur Dioxide Concentrations Measured from 1977 to 2004- Palm Beach County

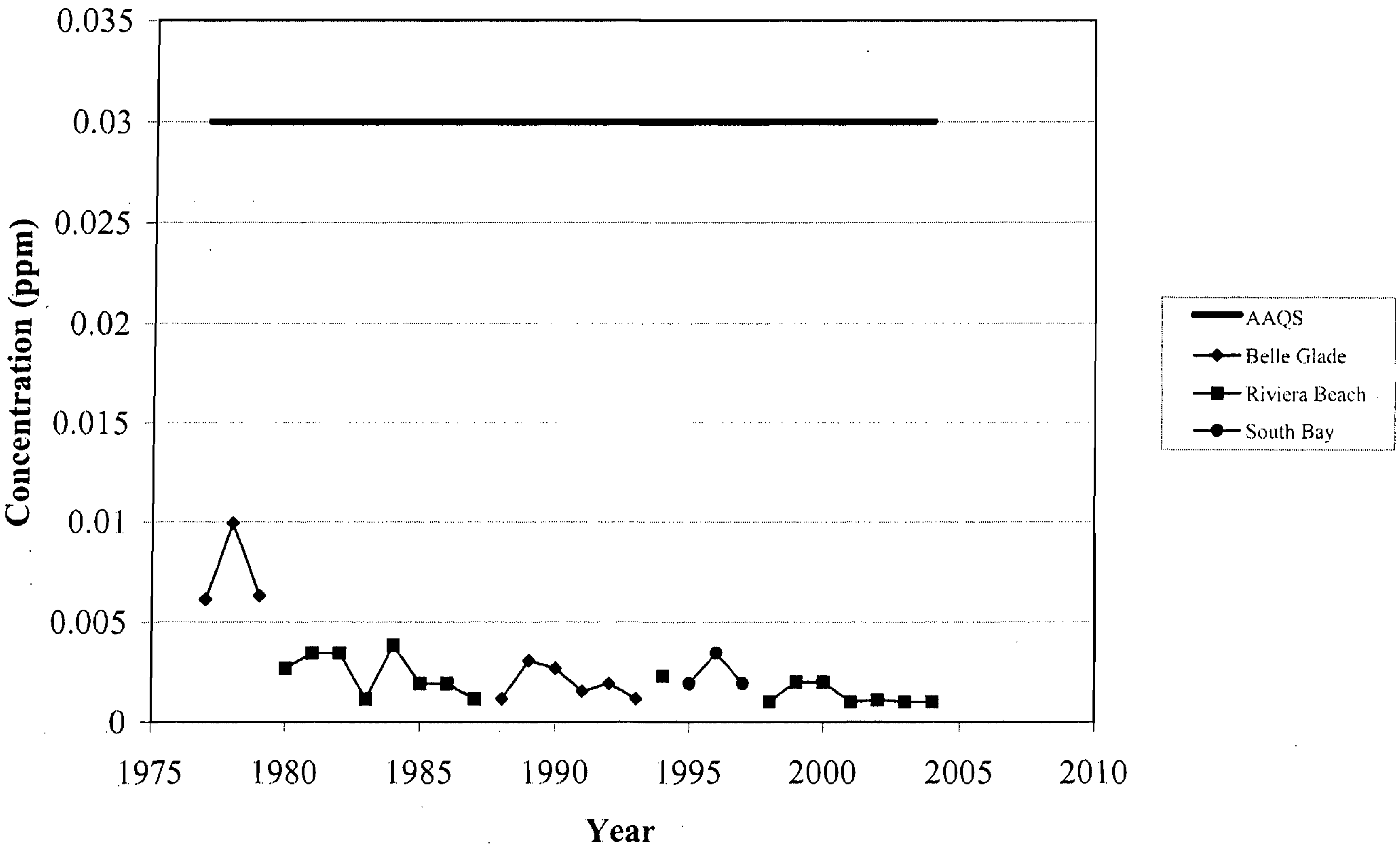


Figure 7-11. 24-hour Average Sulfur Dioxide Concentrations (2nd Highest Values) Measured from 1977 to 2004- Palm Beach County

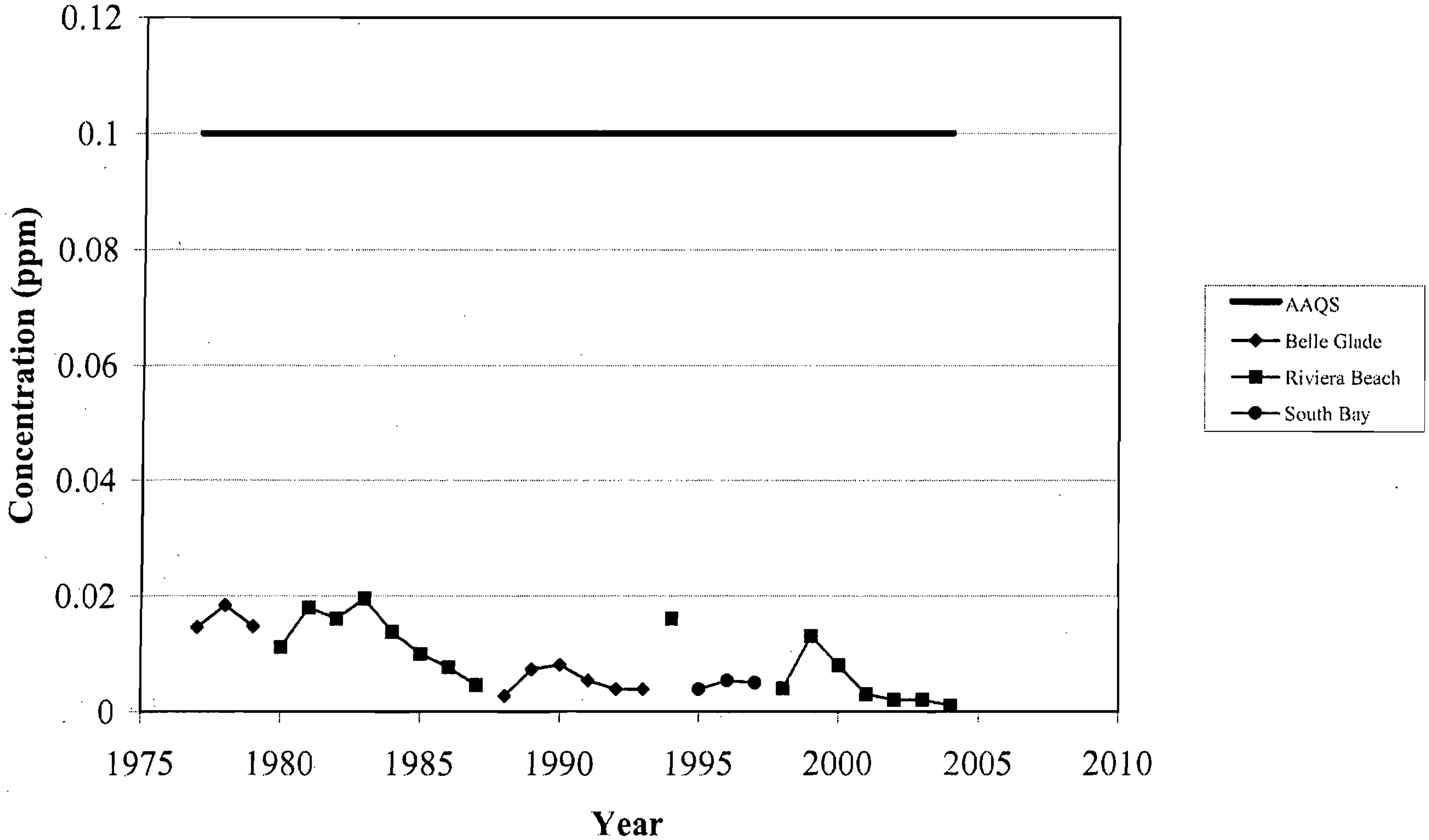


Figure 7-12. 3-Hour Average Sulfur Dioxide Concentrations (2nd Highest Values) Measured from 1977 to 2004- Palm Beach County

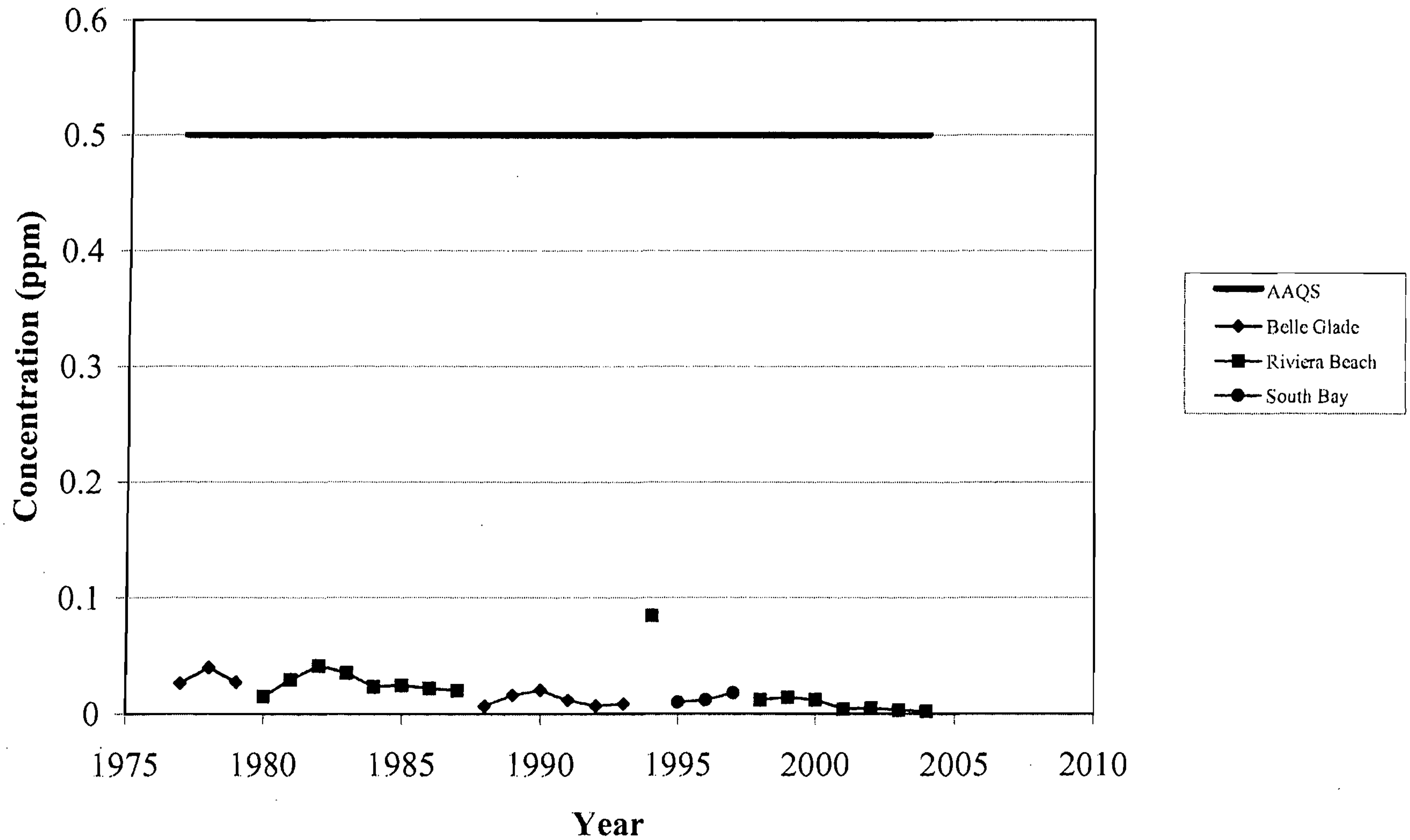


Figure 7-13. Annual Average PM_{10} Concentrations and TSP Concentrations Measured from 1977 to 2004- Hendry and Palm Beach County

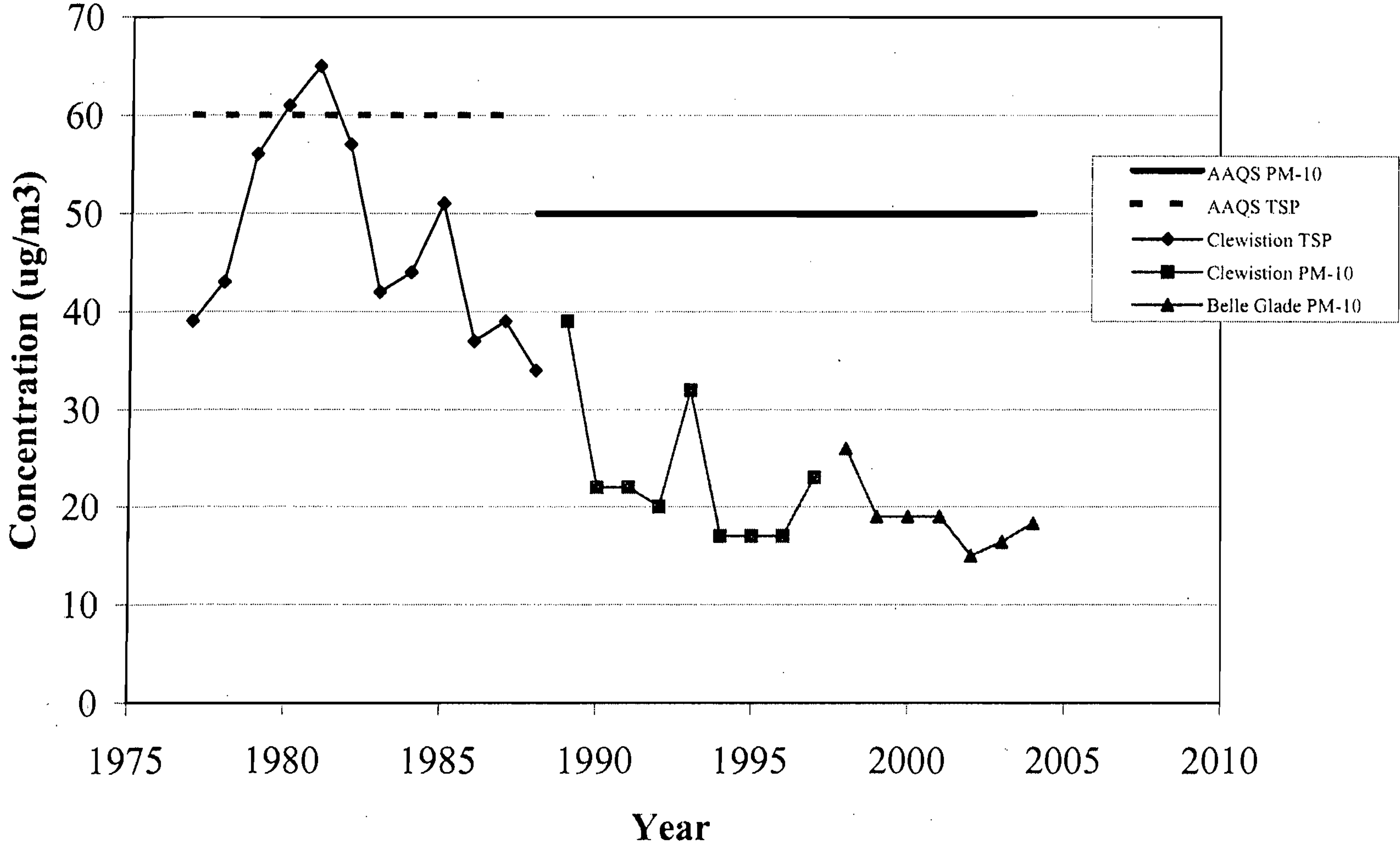


Figure 7-14. 24-hour Average PM_{10} Concentrations and TSP Concentrations (2^{nd} Highest Values) Measured from 1977 to 2004- Hendry and Palm Beach Counties

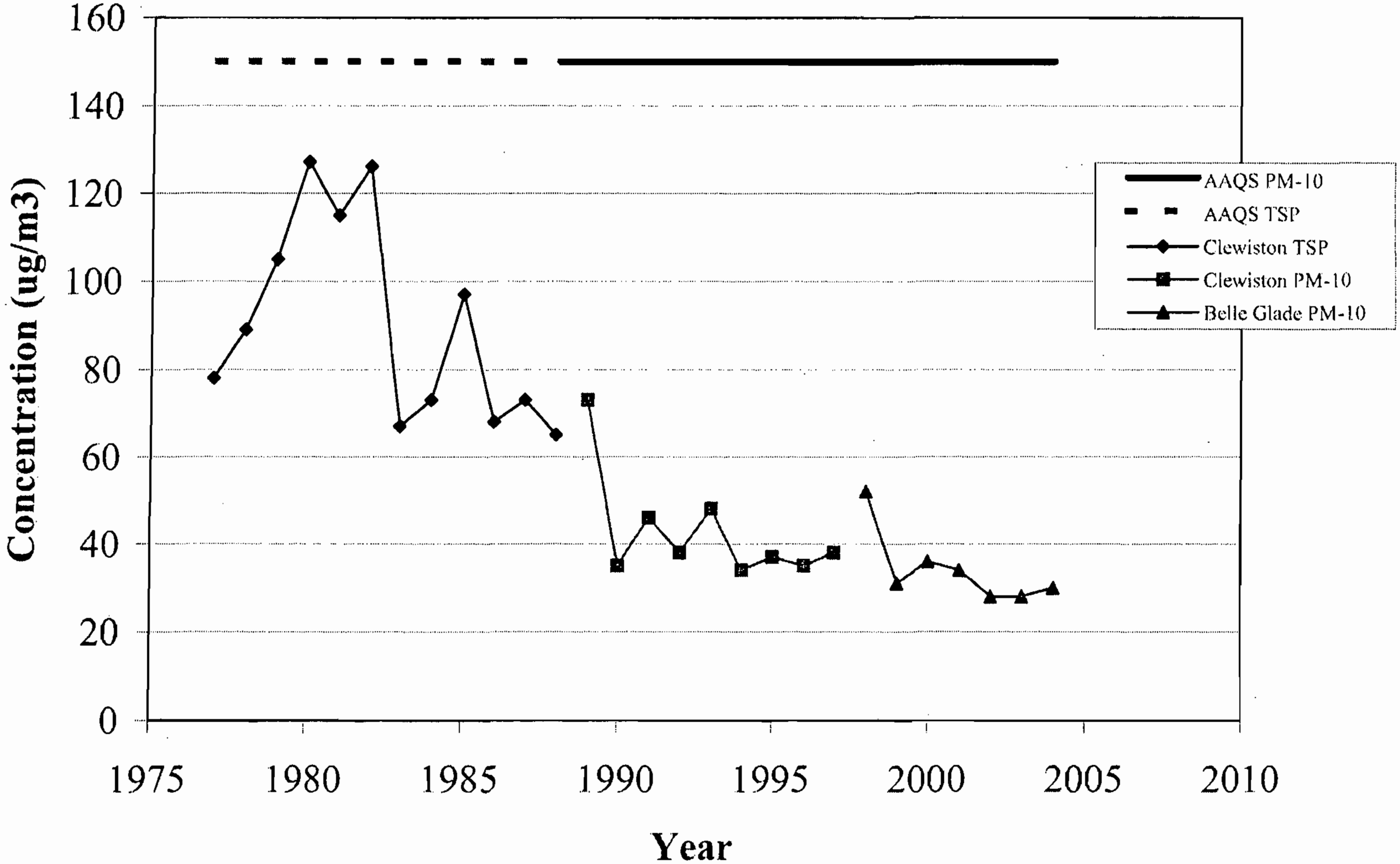


Figure 7-15. Measured Annual Average Nitrogen Dioxide Concentrations from 1977 to 2004- Palm Beach County

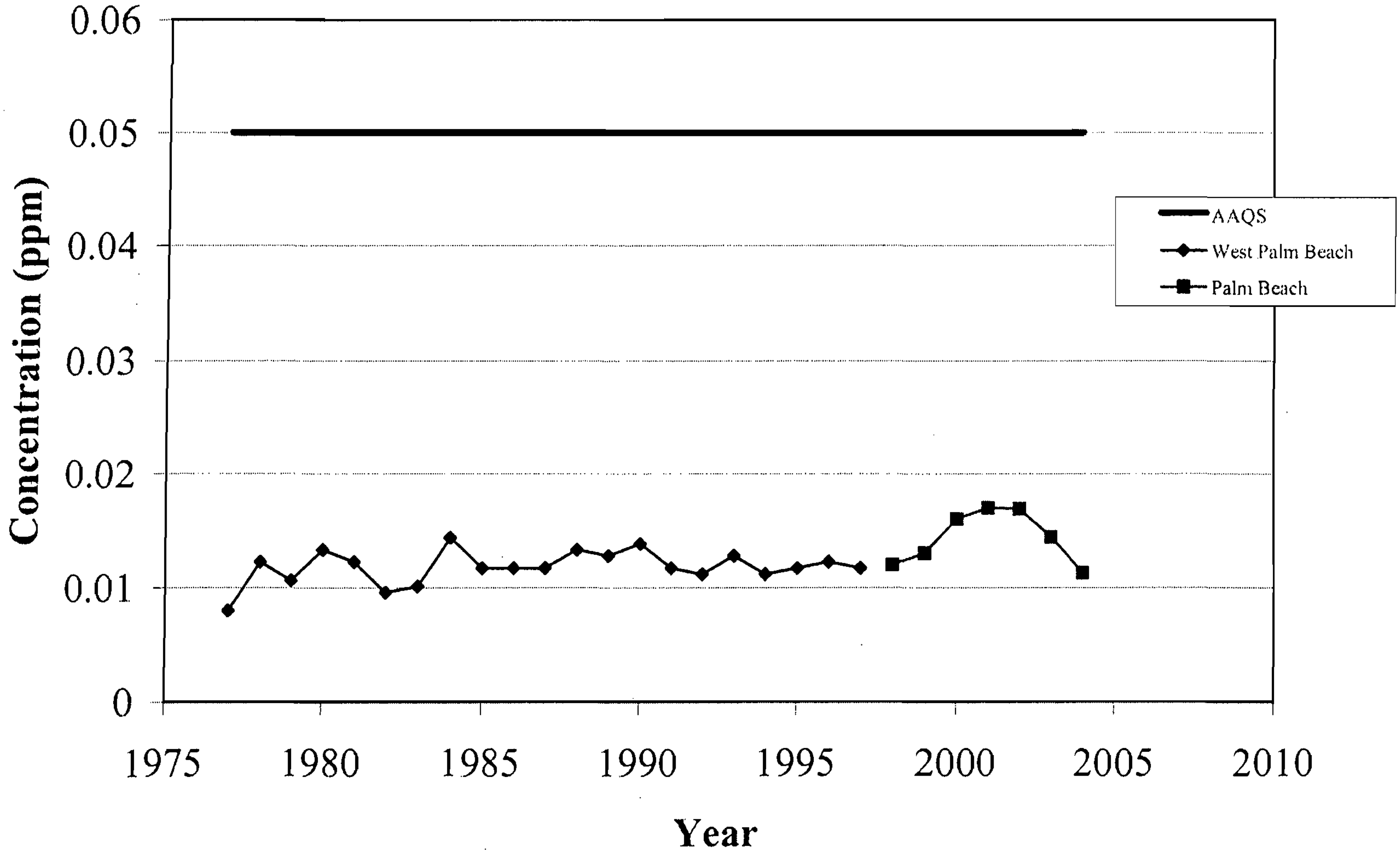
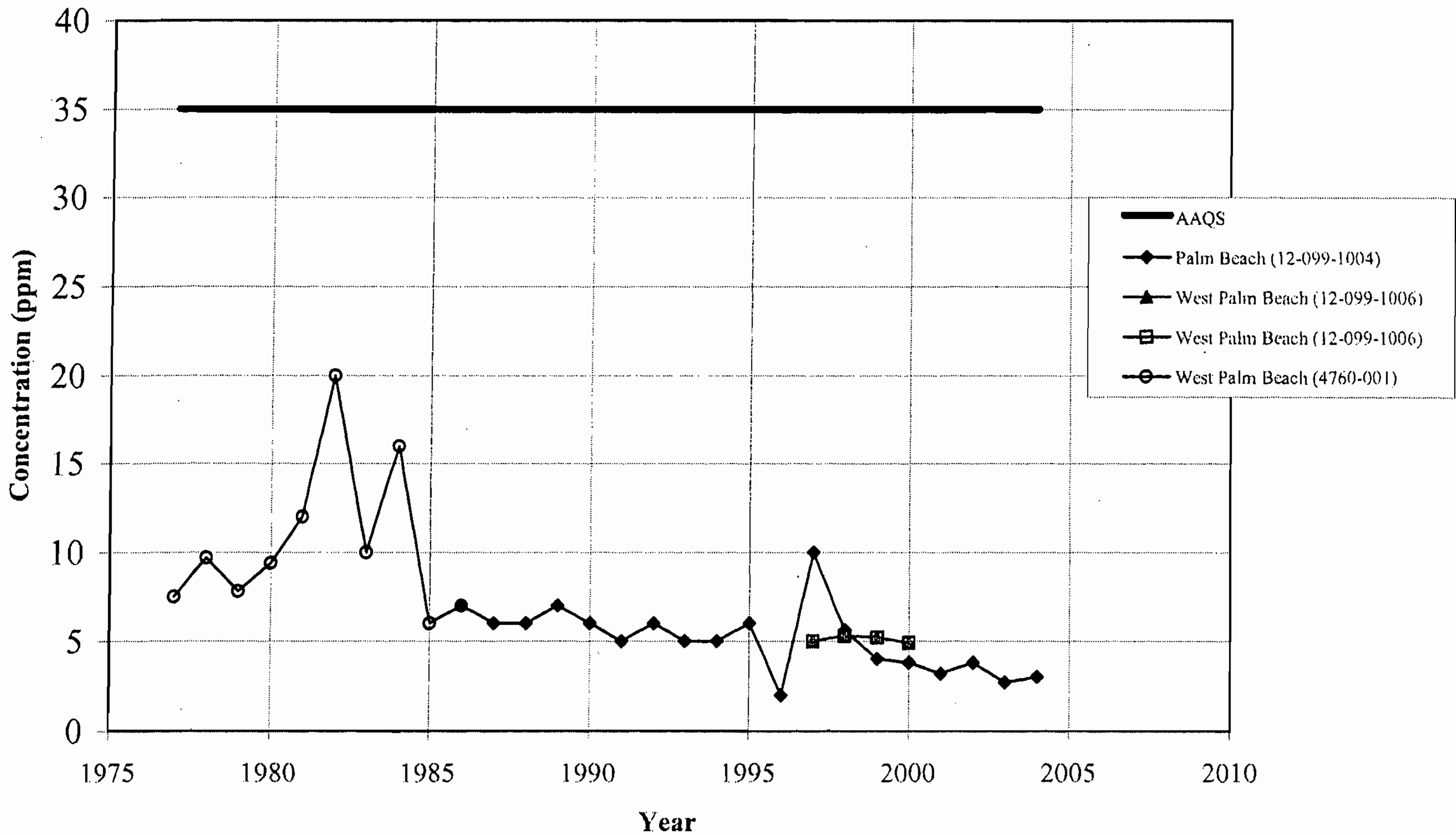


Figure 7-16. 1-hour Average Carbon Monoxide Concentrations (2nd Highest Values) Measured from 1977 to 2004- Palm Beach County



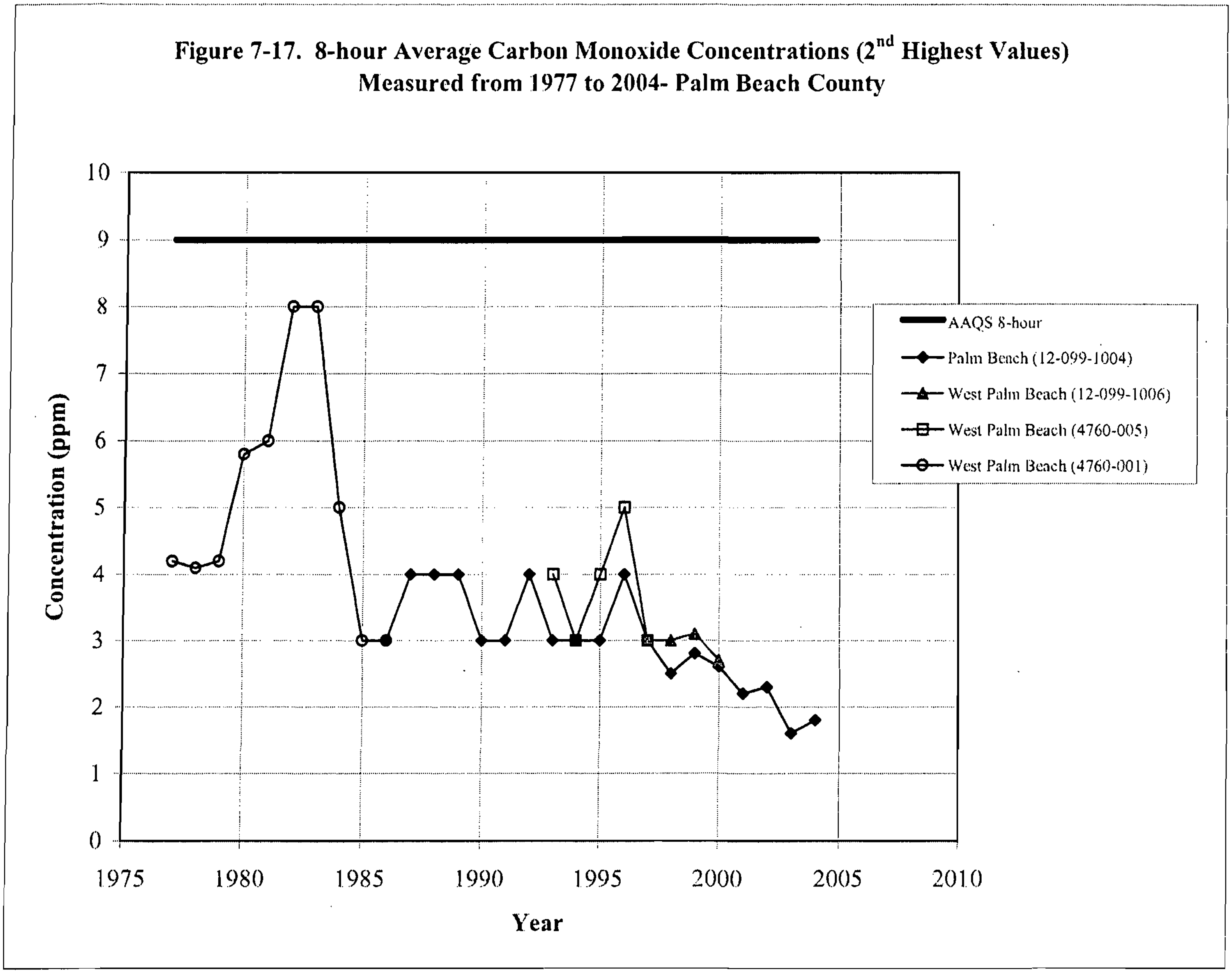


Figure 7-17. 8-hour Average Carbon Monoxide Concentrations (2nd Highest Values)
Measured from 1977 to 2004- Palm Beach County
Concentration (ppm)
10
9
8
7
6
5
4
3
2
1
0
1975
1980
1985
1990
1995
2000
2005
2010
Year
AAQS 8-hour
Palm Beach (12-099-1004)
West Palm Beach (12-099-1006)
West Palm Beach (4760-005)
West Palm Beach (4760-001)

Figure 7-18. 1-hour Average Ozone Concentrations (2nd Highest Values) Measured from 1977 to 2004- Palm Beach County

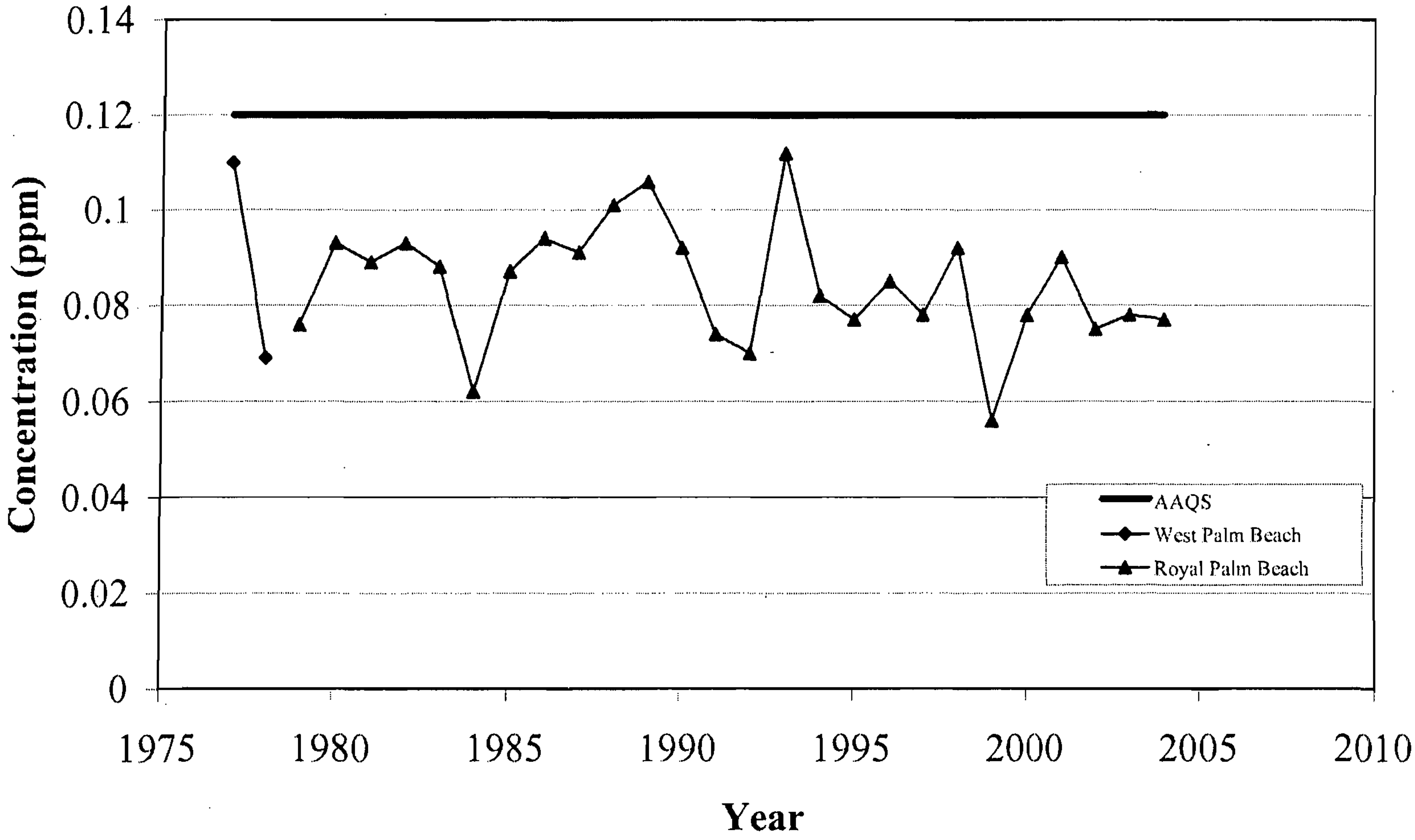
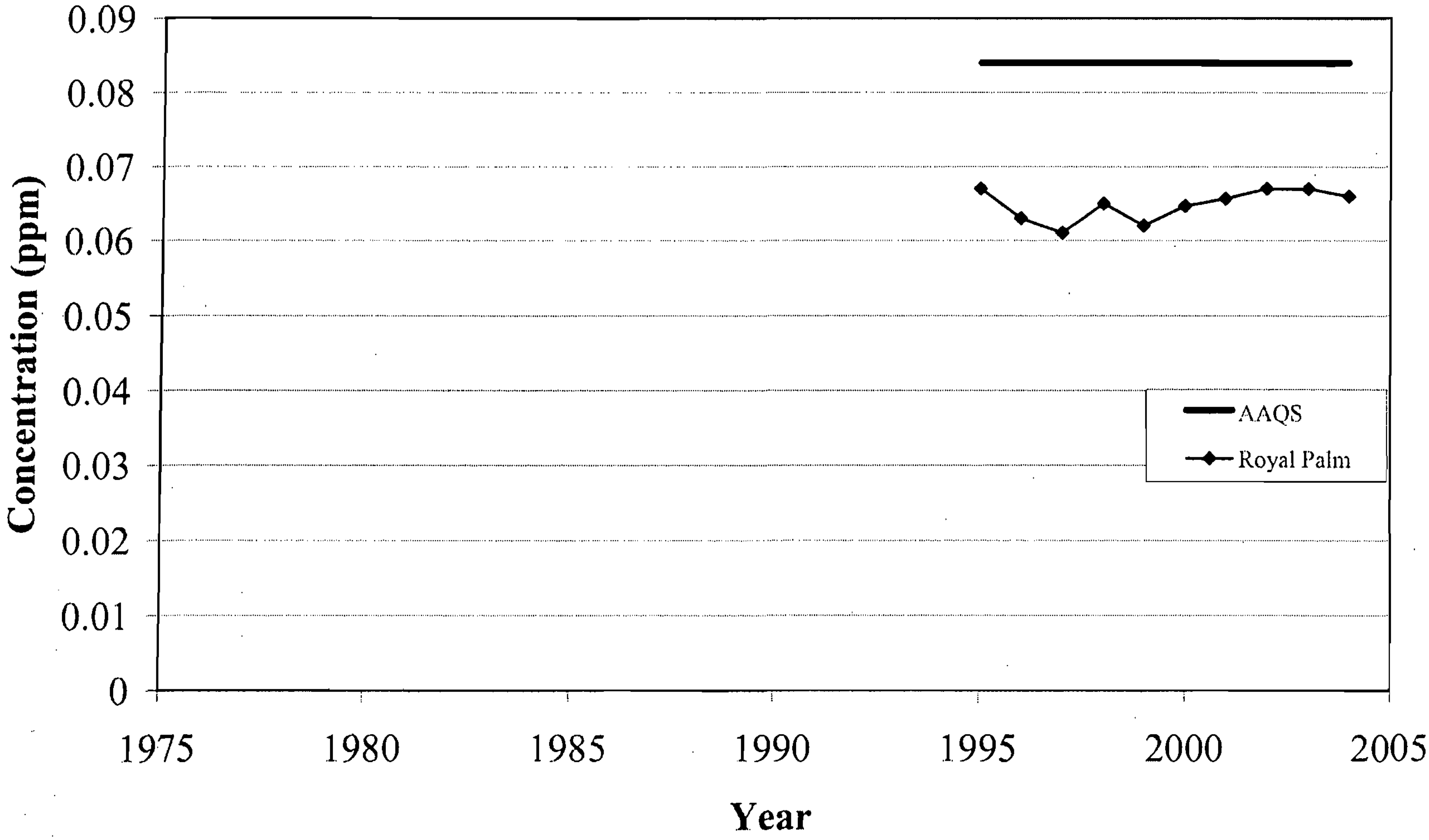


Figure 7-19. 8-hour Average Ozone Concentrations (3-year Average of the 4th Highest Values) Measured from 1995 to 2004- Palm Beach County



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APPENDIX A

EXPECTED PERFORMANCE AND EMISSION INFORMATION

APPENDIX A TO AIR CONSTRUCTION/PSD APPLICATION
DESCRIPTION OF EMISSIONS TABLES FOR WEST COUNTY ENERGY CENTER

Emission Tables – The following tables present the estimated performance and emissions for the combustion turbines being considered for the West County Energy Center. The CTs being considered include the GE Frame 7FA, the GE Frame 7FB and the "G" Class, which may be either the Siemens of Mitsubishi Heavy Industries (MHI). For the "G" Class, information on performance of the CTs quoted by the two manufacturers is very similar. The emissions were enveloped to provide worst-case emission that would be associated with the Project. Performance and emission associated with each option is presented in tables identifying the option: Table numbers A-7FA-x represent the information for the GE Frame 7FA CT; Table numbers A-7FB-x represent the information for the GE Frame 7FB CT; and Table numbers A-GClass-x represent the information for the Siemens/Westinghouse and MHI CT.

Regional Haze Modeling – The air modeling evaluation to determine Regional Haze Impacts for the Project in the Everglades National Park Class I Area was based on the following conditions:

- Natural Gas – baseload with duct firing at 550 MMBtu/hr and a turbine inlet of 35°F. This operation, although limited, produces the highest combination of particulate matter, sulfur dioxide and nitrogen oxide emissions.
- Light Oil – baseload operation and a turbine inlet of 35°F. While this condition is extremely rare in southern Florida, it produces the highest combination of particulate matter, sulfur dioxide and nitrogen oxide emissions.

Regional haze modeling was performed for the GE Frame 7FB and the G Class CTs. The GE Frame 7FB has similar flow characteristics as the GE Frame 7FA CT but generally higher emissions. The G Class turbine has much different flow and emission characteristics than the F Class turbines. The speciation of particulate matter used in the Regional Haze modeling for the GE Frame 7FB CT is shown in Tables A-RH-7FB-1 and A-RH-7FB-2 for natural gas and light oil firing. Information for this speciation was developed using information available from GE for the Frame 7FA turbine. It should be noted that the GE Frame 7FB turbine is very similar to the Frame 7FA CT but a higher firing temperature. For natural gas firing, the filterable particulate from the CT was based on "soil". This is supported by information from the CT manufacturer, General Electric (GE) which stated that PM emissions are essentially zero from the combustion process and that any PM is a result of other factors. GE's letter is included in this appendix. From a combustion standpoint the DLN combustion process pre-mixes the natural gas and air. The pre-mixing of the fuel and air, along with combustion temperatures of 2,600°F, suggests that combustion components such as "elemental carbon" would not occur. Indeed, the combustion temperature of carbon is about 1,200°F. For emissions from the duct burner, it was assumed that all filterable particulate was elemental carbon. Filterable particulate was also added from the SCR system. This filterable particulate was assumed to be soil. The condensable emissions from the CT and duct burners are based on manufacturer guarantees. The sulfuric acid mist was based on the maximum amount of sulfur in the natural gas. It should be noted that emissions of sulfur dioxide, SCR filterable particulate and sulfuric acid mist were determined independently and not adjusted for the total amount of sulfur in the fuel. Therefore, these emissions are overstated and conservative for the analysis.

For light oil firing, the filterable particulate from the CT was based on the manufacturer guarantee with the "elemental carbon" component being the average emission rates from tests and the "soil" component the remainder. This is supported by information from the CT manufacturer, GE which stated that PM emissions are essentially zero from the combustion process and that any PM is a result of other factors. GE's letter is included in this appendix. This is also supported from a combustion standpoint since combustion temperatures are 2,600°F and the combustion temperature of carbon is about 1,200°F. Filterable particulate was also added from the SCR system. This filterable particulate was assumed to be soil. The condensable emissions from the CT and duct burners are based on the average emission tests from GE and subtracting out components associated with fuel sulfur. In the GE letter the average condensable emissions are 14 lb/hr with a contribution of 10 lb/hr from fuel sulfur content (0.05 percent). Unit 5 will use ultra low sulfur content light oil (i.e., 0.0015 percent) that will contribute virtually no sulfur components to condensable particulate. The sulfuric acid mist was based on the maximum amount of sulfur in the light oil. It should be noted that emissions of sulfur dioxide, SCR filterable particulate and sulfuric acid mist were determined independently and not adjusted for the total amount of sulfur in the fuel. Therefore, these emissions are overstated and conservative for the analysis. In addition, the ultra low sulfur content light oil will be comparable in quality to natural gas. For example, the maximum SO_2 emissions from burning natural gas at 2 grains/100 scf is about 9 lb/hr per CT, while the SO_2 emissions firing light oil with a sulfur content of 0.0015 percent is about 3 lb/hr. It is likely that the assumed amount of filterable particulate is high since this guarantee is based on 0.05-percent sulfur fuel currently available. This is also supported by tests conducted on four GE Frame 7FA turbines at FPL facilities using 0.05 percent sulfur distillate oil. The median value for 11 test runs was 3.6 lb filterable particulate. The 4.8 lb/hr assumed as elemental carbon is conservative for ultra low sulfur content light oil. The resulting total PM emission for the GE Frame 7FB when firing ultra low-sulfur light oil is similar to the EPA AP-42 emission factor of 0.012 lb/MMBtu (Table 3.1-2a).

The speciation of particulate matter used in the Regional Haze modeling for the Siemens and MHI G-Class CT is shown in Tables A-RH-GClass-1 and A-RH-GClass-2 for natural gas and light oil firing. The speciation concepts used for the GE Frame 7FB CT were also used for the G-Class CT. The G-Class CT has a higher firing temperature than the 7FB and similar combustion design (i.e., DLN). The filterable and condensable information provided by Siemens and MHI was used to speciate particulate emissions for natural gas firing. For light oil firing, the upper range PM emissions provided by the vendors were considerable higher for the G-Class CTs than the F-Class CTs. Given the use of ultra low-sulfur light oil and the higher firing temperature for the G-Class CTs, the actual PM emissions are not expected to be substantially different than the total PM emission for the F-Class CTs. As a result, an emission rate in lb/MMBtu for the G-Class CTs approximately equivalent to un-adjusted total PM guarantee for the GE CTs using 0.05 percent sulfur distillate oil was used in the regional haze analysis. This assumption would provide a conservative basis for total PM emissions for the G-Class CTs when firing the ultra low-sulfur light oil (0.0015%). The PM emission rates used for the G-Class CTs when firing light oil was equivalent to 0.0184 lb/MMBtu. Indeed, the EPA AP-42 emission factor for distillate oil firing is 0.012 lb/MMBtu for total PM, which is much lower than that used in the regional haze modeling. The EPA emission factor was developed using information from a wide range of CTs, many of which were firing 0.05 percent sulfur oil or higher and have much lower firing temperatures than those being considered for the Project. This clearly suggests that the total PM emission rate used for light oil firing for the G-Class turbine is conservative.

Cooling Tower PM_{10} Emissions – Information on cooing tower PM_{10} emissions was developed based on a procedure developed by Reisman and Frisbie. The percentage of PM_{10} is based on the total dissolved solids (TDS) content of the circulating water in the cooling tower. PM_{10} emissions were calculated for TDS ranging from 1,000 ppm to 89,600 ppm to determine the maximum emissions. The highest PM_{10} emission rate is for a TDS of 4,000 ppm. A copy of the spreadsheet calculations are provided in this appendix. A copy of the Reisman and Frisbie technical paper is also attached.

Emergency Generators – Manufacturer information on the emergency generators is included in this appendix.

EMISSION TABLES

Table A-7FA-1. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, Base Load

Parameter	CT Only Turbine Inlet Temperature					CT with Duct Burner Turbine Inlet Temperature				
	35 °F Case 8	59 °F Case 6	75 °F Case 4	75 °F PAug	95 °F Case 2	35 °F w/DB Case 7	59 °F w/DB Case 5	75 °F w/DB Case 3	75 °F w/DB PAug	95 °F w/DB Case 1
Combustion Turbine Performance										
Net power output (MW)	185.04	173.64	165.24	183.43	152.34	185.04	173.64	165.24	183.43	152.34
Net heat rate (Btu/kWh, LHV)	9,122	9,258	9,379	9336	9,604	9,122	9,258	9,379	9,336	9,604
(Btu/kWh, HHV)	10,126	10,279	10,408	9,982	10,662	10,126	10,279	10,408	9,982	10,662
Heat Input (MMBtu/hr, LHV)	1,688	1,608	1,549	1649.6	1,463	1,688	1,608	1,549	1649.6	1,463
(MMBtu/hr, HHV)	1,874	1,785	1,720	1,831	1,624	1,874	1,785	1,720	1,831	1,624
Evaporative Cooler	Off	Off	Off	On	Off	Off	Off	Off	On	Off
Relative Humidity (%)	60	60	60	60	50	20	60	60	60	50
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835
(Btu/lb, HHV)	23,127	23,127	23,127	23,127	23,127	23,127	23,127	23,127	23,127	23,127
(HHV/LHV)	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110
Steam Flow (lb/hr)	NA	NA	NA	120,190	NA	NA	NA	NA	120,190	NA
Duct Burner (DB)										
Heat input (MMBtu/hr, HHV)	0	0	0	0	0	550	550	550	550	550
(MMBtu/hr, LHV)	0	0	0	0	0	495.5	495.5	495.5	495.5	495.5
CT/DB Exhaust Flow										
Mass Flow (lb/hr)- with no margin	3,786,000	3,610,000	3,480,000	3,653,000	3,293,000	3,808,099.6	3,632,100	3,502,100	3,675,100	3,315,100
- provided	3,786,000	3,610,000	3,480,000	3,653,000	3,293,000					
Temperature (°F)	1,090	1,114	1,131	1,103	1,154	1,090	1,114	1,131	1,103	1,154
Moisture (% Vol.)	7.68	8.24	8.94	14.13	9.88	9.66	10.31	11.07	16.07	12.11
Oxygen (% Vol.)	12.72	12.63	12.50	11.46	12.34	10.52	10.33	10.13	9.25	9.84
Molecular Weight	28.47	28.41	28.32	27.75	28.22	28.34	28.27	28.19	27.63	28.08
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)	1,688	1,608	1,549	1,650	1,463	1,688	1,608	1,549	1,650	1,463
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835
Fuel usage (lb/hr)- calculated	81,018	77,173	74,365	79,174	70,233	81,018	77,173	74,365	79,174	70,233
Heat content (Btu/cf, LHV)- assumed	933	933	933	933	933	933	933	933	933	933
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448
Fuel usage (cf/hr)- calculated	1,808,427	1,722,612	1,659,939	1,767,287	1,567,696	1,808,427	1,722,612	1,659,939	1,767,287	1,567,696
Fuel Usage - Duct Burner Only										
Fuel usage (lb/hr)- calculated	0	0	0	0	0	23,782	23,782	23,782	23,782	23,782
Fuel usage (cf/hr)- calculated	0	0	0	0	0	530,846	530,846	530,846	530,846	530,846
HRSG Stack										
HRSG - Stack Height (ft)	149	149	149	149	149	149	149	149	149	149
Diameter (ft)	19	19	19	19	19	19	19	19	19	19
HRSG Stack Flow Conditions										
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min										
Mass flow (lb/hr)	3,786,000	3,610,000	3,480,000	3,653,000	3,293,000	3,808,100	3,632,100	3,502,100	3,675,100	3,315,100
HRSG Stack Temperature (°F)	203	202	204	204	201	189	188	189	188	190
Molecular weight	28.47	28.41	28.32	27.75	28.22	28.34	28.27	28.19	27.63	28.08
Volume flow (acfm)	1,072,219	1,023,872	992,397	1,063,107	938,297	1,060,289	1,013,207	981,473	1,048,363	933,446
Diameter (ft)	19	19	19	19	19	19	19	19	19	19
Velocity (ft/sec)- calculated	63.0	60.2	58.3	62.5	55.2	62.3	59.6	57.7	61.6	54.9

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, 2004 - CT Performance Data; Golder, 2005 - DB Calculations.

Table A-7FA-2. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, Base Load

Parameter	CT Only Turbine Inlet Temperature					CT with Duct Burner Turbine Inlet Temperature				
	35 °F Case 8	59 °F Case 6	75 °F Case 4	75 °F PAug	95 °F Case 2	35 °F w/DB Case 7	59 °F w/DB Case 5	75 °F w/DB Case 3	75 °F w/DB PAug	95 °F w/DB Case 1
Particulate from CT, DB, and SCR										
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only										
a. PM_{10} (front half) (lb/hr)										
CT- provided	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
DB (lb/hr) - calculated	0.0	0.0	0.0	0.0	0.0	2.8	2.8	2.8	2.8	2.8
Total CT/DB emission rate (lb/hr)	9.0	9.0	9.0	9.0	9.0	11.8	11.8	11.8	11.8	11.8
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})										
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3										
SO_2 emission rate (lb/hr)- calculated	10.3	9.8	9.5	10.1	9.0	13.4	12.9	12.5	13.1	12.0
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100	100	100	100	100	100	100
MW $(NH_4)_2SO_4$/ SO_3 (132/80)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	2.09	1.99	1.92	2.04	1.81	2.70	2.60	2.53	2.65	2.42
Total CT emission rate (lb/hr) [a]	9.0	9.0	9.0	9.0	9.0	NA	NA	NA	NA	NA
Total HRSG stack emission rate (lb/hr) [a + b]	11.1	11.0	10.9	11.0	10.8	14.5	14.4	14.3	14.4	14.2
(lb/mmBtu, HHV)	0.0059	0.0062	0.0063	0.0060	0.0067	0.0060	0.0061	0.0063	0.0060	0.0065
Sulfur Dioxide										
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2/lb S) /100										
Fuel use (cf/hr)	1,808,427	1,722,612	1,659,939	1,767,287	1,567,696	2,339,272	2,253,458	2,190,784	2,298,133	2,098,542
Sulfur content (grains/ 100 cf)	2	2	2	2	2	2	2	2	2	2
lb SO_2/lb S (64/32)	2	2	2	2	2	2	2	2	2	2
CT emission rate (lb/hr)	10.3	9.8	9.5	10.1	9.0	NA	NA	NA	NA	NA
HRSG Stack emission rate (lb/hr)	10.3	9.8	9.5	10.1	9.0	13.4	12.9	12.5	13.1	12.0
Nitrogen Oxides										
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100)] - Oxygen, dry(%)} x 2116.8 lb/ft² x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]										
CT/DB, ppmvd @15% O_2	9	9	9	9	9	10.9	10.9	10.9	9.8	10.9
Moisture (%)	7.68	8.24	8.94	14.13	9.88	9.66	10.31	11.07	16.07	12.11
Oxygen (%)	12.72	12.63	12.5	11.46	12.34	10.52	10.33	10.13	9.25	9.84
Turbine Flow (acfm)	2,507,830	2,433,299	2,377,868	2,502,463	2,291,092	2,533,839	2,459,953	2,404,564	2,611,200	2,318,175
Turbine Exhaust Temperature (°F)	1,090	1,114	1,131	1,103	1,154	1,090	1,114	1,131	1,103	1,154
CT/DB Emission rate (lb/hr)	61.4	58.4	56.3	59.9	53.2	105.4	102.4	100.3	103.9	97.2
CT/DB Emission rate (lb/hr)(provided)	61.0	58.0	56.0	57.0	53.0					
HRSG Stack emission rate, ppmvd @ 15% O_2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
HRSG Stack emission rate (lb/hr)	17.0	16.2	15.6	16.6	14.8	24.2	23.5	23.0	26.4	22.3
Carbon Monoxide										
CO (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	5	5	5	15	5	11.7	12.0	12.3	23.5	12.8
Basis, ppmvd @ 15% O2 - calculated	4.14	4.13	4.11	11.72	4.09	7.4	7.6	7.6	14.0	7.8
Moisture (%)	7.68	8.24	8.94	14.13	9.88	9.66	10.31	11.07	16.07	12.11
Oxygen (%)	12.72	12.63	12.50	11.46	12.34	10.52	10.33	10.13	9.25	9.84
Turbine Flow (acfm)	2,507,830	2,433,299	2,377,868	2,502,463	2,291,092	2,533,839	2,459,953	2,404,564	2,611,200	2,318,175
Turbine Exhaust Temperature (°F)	1,090	1,114	1,131	1,103	1,154	1,090	1,114	1,131	1,103	1,154
CT/DB Emission rate (lb/hr) (corrected 3/3/03)	17.2	16.33	15.7	47.5	14.7	39.2	38.3	37.7	75.0	36.7
HRSG Stack emission rate (lb/hr)	17.2	16.3	15.7	47.5	14.7	39.2	38.3	37.7	75.0	36.7
Volatile Organic Compounds										
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, ppmvw	1.40	1.40	1.40	1.40	1.40	2.7	2.8	2.8	3.1	2.9
Basis, ppmvd @ 15% O2 - calculated	1.3	1.26	1.3	1.3	1.3	1.9	1.9	2.0	2.2	2.0
Moisture (%)	7.68	8.24	8.94	14.13	9.88	9.66	10.31	11.07	16.07	12.11
Oxygen (%) wet	12.72	12.63	12.50	11.46	12.34	10.52	10.33	10.13	9.25	9.84
Turbine Flow (acfm)	2,507,830	2,433,299	2,377,868	2,502,463	2,291,092	2,533,839	2,459,953	2,404,564	2,611,200	2,318,175
Turbine Exhaust Temperature (°F)	1,090	1,114	1,131	1,103	1,154	1,090	1,114	1,131	1,103	1,154
CT/DB Emission rate (lb/hr)	2.98	2.85	2.75	2.95	2.61	5.18	5.05	4.95	5.70	4.81
CT/DB Emission rate (lb/hr)(provided)	2.80	2.80	2.80	2.80	2.60					
HRSG Stack Emission rate (lb/hr)	2.98	2.85	2.75	2.95	2.61	5.18	5.05	4.95	5.70	4.81
Sulfuric Acid Mist										
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100										
CT SO_2 emission rate (lb/hr) - provided	10.3	9.8	9.5	10.1	9.0	13.4	12.9	12.5	13.1	12.0
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10	10	10	10	10	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20	20	20	20	20	20	20
HRSG Stack Emission rate (lb/hr)	1.03	0.98	0.95	1.01	0.90	1.34	1.29	1.25	1.31	1.20
Lead										
Lead (lb/hr) = NA										
Emission Rate Basis	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HRSG Stack Emission rate (lb/hr)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

Source: GE, 2004 - CT Performance Data; Golder, 2005 - DB Calculations.

Table A-7FA-3. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 12	59 °F Case 11	75 °F Case 10	95 °F Case 9
Combustion Turbine Performance				
Net power output (MW)	138.64	130.04	123.84	114.14
Net heat rate (Btu/kWh, LHV)	9,867	10,078	10,279	10,612
(Btu/kWh, HHV)	10,949	11,192	11,407	11,779
Heat Input (MMBtu/hr, LHV)	1,368	1,311	1,273	1,211
(MMBtu/hr, HHV)	1,518	1,455	1,413	1,344
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835
(Btu/lb, HHV)	23,127	23,127	23,127	23,127
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	3,003,000	2,906,000	2,842,000	2,729,000
- provided	3,003,000	2,906,000	2,842,000	2,729,000
Temperature (°F)	1,140	1,159	1,171	1,190
Moisture (% Vol.)	7.77	8.26	8.91	9.8
Oxygen (% Vol.)	12.63	12.60	12.53	12.43
Molecular Weight	28.46	28.41	28.33	28.22
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)	1,368	1,311	1,273	1,211
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835
Fuel usage (lb/hr)- calculated	65,640	62,933	61,080	58,133
Heat content (Btu/cf, LHV)- assumed	933	933	933	933
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448
Fuel usage (cf/hr)- calculated	1,465,696	1,405,250	1,363,881	1,298,077
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	3,003,000	2,906,000	2,842,000	2,729,000
HRSG Stack Temperature (°F)	187	188	189	190
Molecular weight	28.46	28.41	28.33	28.22
CT volume flow (acfm)	830,127	806,158	791,955	764,277
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	48.8	47.4	46.6	44.9

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, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-4. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 12	59 °F Case 11	75 °F Case 10	95 °F Case 9
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	9.0	9.0	9.0	9.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	8.4	8.0	7.8	7.4
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	1.69	1.62	1.58	1.50
Total CT emission rate (lb/hr) [a]	9.0	9.0	9.0	9.0
Total HRSG stack emission rate (lb/hr) [a + b]	10.7	10.6	10.6	10.5
(lb/mmBtu, HHV)	0.0067	0.0069	0.0071	0.0074
Sulfur Dioxide				
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100				
Fuel use (cf/hr)	1,465,696	1,405,250	1,363,881	1,298,077
Sulfur content (grains/ 100 cf)	2	2	2	2
lb SO_2 /lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	8.4	8.0	7.8	7.4
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfr 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT / DB, ppmvd @15% O_2	9	9	9	9
Moisture (%)	7.77	8.26	8.91	9.8
Oxygen (%)	12.63	12.60	12.53	12.43
Turbine Flow (acfm)	2,053,499	2,014,772	1,990,566	1,940,685
Turbine Exhaust Temperature (°F)	1,140	1,159	1,171	1,190
CT/DB Emission rate (lb/hr)	49.2	47.2	45.8	43.6
CT/DB Emission rate (lb/hr)(provided)	49.0	47.0	46.0	44.0
HRSG Stack emission rate, ppmvd @ 15% O_2	2.5	2.5	2.5	2.5
HRSG Stack emission rate (lb/hr)	13.7	13.1	12.7	12.1

Table A-7FA-4. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, 75% Load

Parameter	Turbine Inlet Temperature			
	35 °F	59 °F	75 °F	95 °F
	Case 12	Case 11	Case 10	Case 9
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	5	5	5	5
Moisture (%)	7.77	8.26	8.91	9.8
Turbine Flow (acfm)	2,053,499	2,014,772	1,990,566	1,940,685
Turbine Exhaust Temperature (°F)	1,140	1,159	1,171	1,190
HRSG Exhaust Temperature (°F)	187	188	189	190
HRSG Stack emission rate (lb/hr)	13.6	13.1	12.8	12.2
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvw	1.4	1.4	1.4	1.4
Moisture (%)	7.77	8.26	8.91	9.8
Turbine Flow (acfm)	2,053,499	2,014,772	1,990,566	1,940,685
Turbine Exhaust Temperature (°F)	1,140	1,159	1,171	1,190
HRSG Exhaust Temperature (°F)	186.8	186.8	186.8	186.8
Emission rate (lb/hr)	2.36	2.29	2.25	2.17
Emission rate (lb/hr)	2.40	2.20	2.20	2.20
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	8.4	8.0	7.8	7.4
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)	0.84	0.80	0.78	0.74
Lead				
Lead (lb/hr) = NA				
Emission Rate Basis	NA	NA	NA	NA
HRSG Stack emission rate (lb/hr)	NA	NA	NA	NA

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

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-5. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, 50% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 16	59 °F Case 15	75 °F Case 14	95 °F Case 13
Combustion Turbine Performance				
Net power output (MW)	92.24	86.54	82.34	75.94
Net heat rate (Btu/kWh, LHV)	11,869	12,127	12,331	12,715
(Btu/kWh, HHV)	13,177	13,463	13,690	14,111
Heat Input (MMBtu/hr, LHV)	1,095	1,050	1,016	965
(MMBtu/hr, HHV)	1,215	1,165	1,127	1,072
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835
(Btu/lb, HHV)	23,127	23,127	23,127	23,127
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	2,464,000	2,404,000	2,363,000	2,298,000
- provided	2,464,000	2,404,000	2,363,000	2,298,000
Temperature (°F)	1,192	1,200	1,200	1,200
Moisture (% Vol.)	7.52	7.96	8.56	9.37
Oxygen (% Vol.)	12.91	12.94	12.93	12.92
Molecular Weight	28.47	28.42	28.35	28.25
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)	1,095	1,050	1,016	965
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835
Fuel usage (lb/hr)- calculated	52,556	50,377	48,740	46,335
Heat content (Btu/cf, LHV)- assumed	933	933	933	933
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448
Fuel usage (cf/hr)- calculated	1,173,542	1,124,886	1,088,340	1,034,646
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	2,464,000	2,404,000	2,363,000	2,298,000
HRSG Stack Temperature (°F)	175	178	175	182
Molecular weight	28.47	28.42	28.35	28.25
CT volume flow (acfm)	668,753	655,879	644,108	635,466
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	39.3	38.6	37.9	37.4

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, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-6. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, 50% Load

Parameter	Turbine Inlet Temperature 35 °F Case 16	59 °F Case 15	75 °F Case 14	95 °F Case 13
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	9.0	9.0	9.0	9.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	6.7	6.4	6.2	5.9
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	1.36	1.30	1.26	1.20
CT emission rate (lb/hr) [a]	9.0	9.0	9.0	9.0
Total emission rate (lb/hr) [a + b]	10.4	10.3	10.3	10.2
(lb/mmBtu, HHV)	0.0080	0.0083	0.0085	0.0089
Sulfur Dioxide				
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100				
Fuel use (cf/hr)	1,173,542	1,124,886	1,088,340	1,034,646
Sulfur content (grains/ 100 cf)	2	2	2	2
lb SO_2 /lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	6.7	6.4	6.2	5.9
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (ac 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT / DB, ppmvd @15% O_2	9	9	9	9
Moisture (%)	7.52	7.96	8.56	9.37
Oxygen (%)	12.91	12.94	12.93	12.92
Turbine Flow (acfm)	1,738,988	1,707,858	1,683,015	1,642,593
Turbine Exhaust Temperature (°F)	1,192	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	39.0	37.4	36.1	34.4
CT/DB Emission rate (lb/hr)(provided)	39.0	37.0	36.0	34.0
HRSG Stack emission rate, ppmvd @ 15% O_2	2.5	2.5	2.5	2.5
HRSG Stack emission rate (lb/hr)	10.8	10.4	10.0	9.5

Table A-7FA-6. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, 50% Load

Parameter	Turbine Inlet Temperature 35 °F Case 16	59 °F Case 15	75 °F Case 14	95 °F Case 13
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	5	5	5	5
Moisture (%)	7.52	7.96	8.56	9.37
Turbine Flow (acfm)	1,738,988	1,707,858	1,683,015	1,642,593
Turbine Exhaust Temperature (°F)	1,192	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	175	178	175	182
HRSG Stack emission rate (lb/hr)	11.2	10.9	10.7	10.3
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvw	1.4	1.4	1.4	1.4
Moisture (%)	7.52	7.96	8.56	9.37
Turbine Flow (acfm)	1,738,988	1,707,858	1,683,015	1,642,593
Turbine Exhaust Temperature (°F)	1,192	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	175	175	175	175
HRSG Stack emission rate (lb/hr)	1.94	1.89	1.87	1.82
HRSG Stack emission rate (lb/hr)- provided	2.00	1.80	1.80	1.80
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	6.7	6.4	6.2	5.9
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)	0.67	0.64	0.62	0.59
Lead				
Lead (lb/hr) = NA				
Emission Rate Basis	NA	NA	NA	NA
HRSG Stack emission rate (lb/hr)	NA	NA	NA	NA

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

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-7. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, Peak

Parameter	Turbine Inlet Temperature 75 °F Case 18	95 °F Case 17
Combustion Turbine Performance		
Net power output (MW)	173.43	164.93
Net heat rate (Btu/kWh, LHV)	9,308	9,444
(Btu/kWh, HHV)	10,335	10,482
Heat Input (MMBtu/hr, LHV)	1,615	1,557
(MMBtu/hr, HHV)	1,792	1,729
Relative Humidity (%)	60	50
Fuel heating value (Btu/lb, LHV)	20,835	20,835
(Btu/lb, HHV)	23,127	23,127
(HHV/LHV)	1.110	1.110
CT Exhaust Flow		
Mass Flow (lb/hr)- with no margin	3,532,000	3,395,000
- provided	3,532,000	3,395,000
Temperature (°F)	1,144	1,161
Moisture (% Vol.)	9.39	10.54
Oxygen (% Vol.)	12.24	12.01
Molecular Weight	28.29	28.16
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)	1,615	1,557
Heat content (Btu/lb, LHV)	20,835	20,835
Fuel usage (lb/hr)- calculated	77,499	74,749
Heat content (Btu/cf, LHV)- assumed	933	933
Fuel density (lb/ft^3)	0.0448	0.0448
Fuel usage (cf/hr)- calculated	1,730,520	1,669,110
HRSG Stack		
HRSG - Stack Height (ft)	149	149
Diameter (ft)	19	19
HRSG Stack Flow Conditions		
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min		
Mass flow (lb/hr)	3,532,000	3,395,000
HRSG Stack Temperature (°F)	206	202
Molecular weight	28.29	28.16
CT volume flow (acfm)	1,012,047	971,167
Diameter (ft)	19	19
Velocity (ft/sec)- calculated	59.5	57.1

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

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-8. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, Peak

Parameter	Turbine Inlet Temperature 75 °F Case 18	Turbine Inlet Temperature 95 °F Case 17
Particulate from CTand SCR		
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only		
a. PM_{10} (front half) (lb/hr)		
CT- provided	9.0	9.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion		
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3		
SO_2 emission rate (lb/hr)- calculated	9.9	9.5
Conversion (%) from SO_2 to SO_3	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7
SCR Particulate (lb/hr)- calculated	2.00	1.93
Total CT emission rate (lb/hr) [a]	9.0	9.0
Total HRSG stack emission rate (lb/hr) [a + b]	11.0	10.9
(lb/mmBtu, HHV)	0.0059	0.0060
Sulfur Dioxide		
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100		
Fuel use (cf/hr)	1,730,520	1,669,110
Sulfur content (grains/ 100 cf)	2	2
lb SO_2 /lb S (64/32)	2	2
HRSD Stack emission rate (lb/hr)- calculated	9.9	9.5
Nitrogen Oxides		
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]		
CT/DB, ppmvd @15% O_2	18	18
Moisture (%)	9.39	10.54
Oxygen (%)	12.24	12.01
Turbine Flow (acfm)	2,436,160	2,377,251
Turbine Exhaust Temperature (°F)	1,144	1,161
CT/DB Emission rate (lb/hr)	117.4	113.1
CT emission rate (lb/hr)(provided)	117.0	113.0
HRSG Stack emission rate, ppmvd @ 15% O_2	2.5	2.5
HRSG Stack emission rate (lb/hr)	16.3	15.7

Table A-7FA-8. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, Peak

Parameter	Turbine Inlet Temperature 75 °F Case 18	Turbine Inlet Temperature 95 °F Case 17
Carbon Monoxide		
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	9	9
Basis, ppmvd @ 15% O2 - calculated	7.18	7.10
Moisture (%)	9.39	10.54
Oxygen (%)	12.24	12.01
Turbine Flow (acfm)	2,436,160	2,377,251
Turbine Exhaust Temperature (°F)	1,144	1,161
HRSG Exhaust Temperature (°F)	206	202
HRSG Stack emission rate (lb/hr)	28.5	27.2
HRSG Stack emission rate (lb/hr)(provided)	29.0	27.0
Volatile Organic Compounds		
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]		
Basis, ppmvw	1.4	1.4
Basis, ppmvd @ 15% O2 - calculated	1.2	1.2
Moisture (%)	9.39	10.54
Oxygen (%)	12.24	12.01
Turbine Flow (acfm)	2,436,160	2,377,251
Turbine Exhaust Temperature (°F)	1,144	1,161
HRSG Exhaust Temperature (°F)	206	202
HRSG Stack emission rate (lb/hr)	2.80	2.70
HRSG Stack emission rate (lb/hr)(provided)	2.80	2.80
Sulfuric Acid Mist		
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100		
CT SO_2 emission rate (lb/hr) - provided	9.9	9.5
CT Conversion to H_2SO_4 (% by weight) - provided	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20
HRSG Stack emission rate (lb/hr)	0.99	0.95
Lead		
Lead (lb/hr) = NA		
Emission Rate Basis	NA	NA
HRSG Stack emission rate (lb/hr)	NA	NA

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

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-9. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	Turbine Inlet Temperature 35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Combustion Turbine Performance				
Net power output (MW)	187.7	179.2	170.7	157.5
Net heat rate (Btu/kWh, LHV)	10,141	10,208	10,303	10,470
(Btu/kWh, HHV)	10,753	10,821	10,922	11,100
Heat Input (MMBtu/hr, LHV)	1,904	1,830	1,759	1,649
(MMBtu/hr, HHV)	2,018	1,939	1,864	1,748
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,367	18,367	18,367	18,367
(Btu/lb, HHV)	19,469	19,469	19,469	19,469
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	3,955,000	3,771,000	3,628,000	3,407,000
- provided	3,955,000	3,771,000	3,628,000	3,407,000
Temperature (°F)	1,068	1,097	1,115	1,143
Moisture (% Vol.)	11.11	11.65	12.13	13.07
Oxygen (% Vol.)	11.16	11.00	10.92	10.77
Molecular Weight	28.33	28.28	28.22	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)	1,904	1,830	1,759	1,649
Heat content (Btu/lb, LHV)	18,367	18,367	18,367	18,367
Fuel usage (lb/hr)- calculated	103,675	99,608	95,764	89,802
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	3,955,000	3,771,000	3,628,000	3,407,000
HRSG Stack Temperature (°F)	297	295	294	294
Molecular weight	28.33	28.28	28.22	28.12
CT volume flow (acfm)	1,285,209	1,224,407	1,178,213	1,110,611
(ft^3/s)- calculated	21,420	20,407	19,637	18,510
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	75.5	72.0	69.3	65.3

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

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-10. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	17.0	17.0	17.0	17.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	3.1	3.0	2.9	2.7
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	0.63	0.60	0.58	0.54
CT emission rate (lb/hr) [a]	17.0	17.0	17.0	17.0
Total HRSG stack emission rate (lb/hr) [a + b]	17.6	17.6	17.6	17.5
(lb/mmBtu, HHV)	0.0087	0.0091	0.0094	0.0100
Sulfur Dioxide				
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100				
Fuel oil Sulfur Content	0.0015%	0.0015%	0.0015%	0.0015%
Fuel oil use (lb/hr)	103,675	99,608	95,764	89,802
lb SO2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	3.1	3.0	2.9	2.7
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	11.11	11.65	12.13	13.07
Oxygen (%)	11.16	11.00	10.92	10.77
Turbine Flow (acfm)	2,594,872	2,525,704	2,462,754	2,362,720
Turbine Exhaust Temperature (°F)	1,068	1,097	1,115	1,143
CT/DB Emission rate (lb/hr)	339.1	326.0	313.4	293.5
CT emission rate (lb/hr)(provided)	338.0	325.0	313.0	293.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10.0	10.0
HRSG Stack emission rate (lb/hr)	80.7	77.6	74.6	69.9

Table A-7FA-10. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	Turbine Inlet Temperature 35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	11.5	11.5	11.5	11.5
Moisture (%)	11.11	11.65	12.13	13.07
Basis, ppmvd @ 15% O_2	8.13	8.03	8.01	7.97
Turbine Flow (acfm)	2,594,872	2,525,704	2,462,754	2,362,720
Turbine Exhaust Temperature (°F)	1,068	1,097	1,115	1,143
HRSG Exhaust Temperature (°F)	297	295	294	294
HRSG Stack emission rate (lb/hr)	40.0	37.9	36.4	33.9
HRSG Stack emission rate (lb/hr)- provided	69.0	66.0	63.0	59.0
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 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	3.5	3.5	3.5	3.5
Basis, ppmvd	3.94	3.96	3.98	4.03
Basis, ppmvd @ 15% O_2	2.78	2.77	2.77	2.79
Moisture (%)	11.11	11.65	12.13	13.07
Oxygen (%)	11.16	11.00	10.92	10.77
Oxygen (%-dry)	12.55	12.45	12.43	12.39
Turbine Flow (acfm)	2,594,872	2,525,704	2,462,754	2,362,720
Turbine Exhaust Temperature (°F)	1,068	1,097	1,115	1,143
HRSG Stack emission rate (lb/hr)	7.82	7.47	7.20	6.79
HRSG Stack emission rate (lb/hr)- provided	8.00	7.50	7.00	7.00
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	3.1	3.0	2.9	2.7
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.62	0.60	0.57	0.54
Lead				
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Emission Rate Basis (lb/10^{12} Btu)	14	14	14	14
HRSG Stack emission rate (lb/hr)- calculated	0.0267	0.0256	0.0246	0.0231

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

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-11. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 32	59 °F Case 31	75 °F Case 30	95 °F Case 29
<u>Combustion Turbine Performance</u>				
Net power output (MW)	140.5	134.1	127.7	117.8
Net heat rate (Btu/kWh, LHV)	11,071	11,142	11,271	11,530
(Btu/kWh, HHV)	11,732	11,813	11,948	12,227
Heat Input (MMBtu/hr, LHV)	1,555	1,495	1,440	1,359
(MMBtu/hr, HHV)	1,649	1,584	1,526	1,440
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,367	18,367	18,367	18,367
(Btu/lb, HHV)	19,469	19,469	19,469	19,469
(HHV/LHV)	1.060	1.060	1.060	1.060
<u>CT Exhaust Flow</u>				
Mass Flow (lb/hr)- with no margin	2,947,000	2,898,000	2,851,000	2,783,000
- provided	2,947,000	2,898,000	2,851,000	2,783,000
Temperature (°F)	1,200	1,200	1,200	1,200
Moisture (% Vol.)	11.74	11.85	12.07	12.65
Oxygen (% Vol.)	10.40	10.57	10.70	10.86
Molecular Weight	28.31	28.29	28.25	28.16
<u>Fuel Usage</u>				
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)	1,555	1,495	1,440	1,359
Heat content (Btu/lb, LHV)	18,367	18,367	18,367	18,367
Fuel usage (lb/hr)- calculated	84,674	81,374	78,374	73,986
<u>HRSG Stack</u>				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
<u>HRSG Stack Flow Conditions</u>				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	2,947,000	2,898,000	2,851,000	2,783,000
HRSG Stack Temperature (°F)	271	274	276	278
Molecular weight	28.31	28.29	28.25	28.16
CT volume flow (acfm)	925,521	914,512	903,580	886,499
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	54.4	53.8	53.1	52.1

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

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-12. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 32	59 °F Case 31	75 °F Case 30	95 °F Case 29
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	17.0	17.0	17.0	17.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	2.5	2.4	2.4	2.2
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	0.51	0.49	0.48	0.45
CT emission rate (lb/hr) [a]	17.0	17.0	17.0	17.0
Total HRSG stack emission rate (lb/hr) [a + b]	17.5	17.5	17.5	17.4
(lb/mmBtu, HHV)	0.0105	0.0109	0.0113	0.0120
Sulfur Dioxide				
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100				
Fuel oil Sulfur Content	0.0015%	0.0015%	0.0015%	0.0015%
Fuel oil use (lb/hr)	84,674	81,374	78,374	73,986
lb SO2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	2.5	2.4	2.4	2.2
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	11.74	11.85	12.07	12.65
Oxygen (%)	10.40	10.57	10.70	10.86
Turbine Flow (acfm)	2,102,017	2,068,807	2,037,965	1,995,375
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
CT emission rate (lb/hr)	274.3	263.5	253.7	239.3
CT emission rate (lb/hr)(provided)	274.0	263.0	253.0	239.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10.0	10.0
HRSG Stack emission rate (lb/hr)	65.3	62.7	60.4	57.0

Table A-7FA-12. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, 75% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 32	59 °F Case 31	75 °F Case 30	95 °F Case 29
<u>Carbon Monoxide</u>				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	20
Moisture (%)	11.74	11.85	12.07	12.65
Turbine Flow (acfm)	2,102,017	2,068,807	2,037,965	1,995,375
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	271	274	276	278
HRSG Stack emission rate (lb/hr)	51.4	50.6	49.7	48.3
HRSG Stack emission rate (lb/hr)- provided	51.0	51.0	50.0	48.0
<u>Volatile Organic Compounds</u>				
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 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	3.5	3.5	3.5	3.5
Moisture (%)	11.74	11.85	12.07	12.65
Turbine Flow (acfm)	10.40	10.57	10.70	10.86
Turbine Exhaust Temperature (°F)	2,102,017	2,068,807	2,037,965	1,995,375
HRSG Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Stack emission rate (lb/hr)	5.83	5.74	5.65	5.53
HRSG Stack emission rate (lb/hr)- provided	6.00	5.50	5.50	5.50
<u>Sulfuric Acid Mist</u>				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	2.5	2.4	2.4	2.2
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.51	0.49	0.47	0.44
<u>Lead</u>				
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Emission Rate Basis (lb/10^{12} Btu)	14	14	14	14
HRSG Stack emission rate (lb/hr)- calculated	0.0218	0.0209	0.0202	0.0190

Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-13. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, 50% Load

Parameter	Turbine Inlet Temperature 35 °F Case 36	59 °F Case 35	75 °F Case 34	95 °F Case 33
Combustion Turbine Performance				
Net power output (MW)	93.2	88.9	84.7	78.0
Net heat rate (Btu/kWh, LHV)	12,980	13,121	13,292	13,613
(Btu/kWh, HHV)	13,759	13,910	14,092	14,425
Heat Input (MMBtu/hr, LHV)	1,210	1,167	1,126	1,062
(MMBtu/hr, HHV)	1,282	1,237	1,194	1,125
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,367	18,367	18,367	18,367
(Btu/lb, HHV)	19,469	19,469	19,469	19,469
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	2,487,000	2,457,000	2,418,000	2,353,000
- provided	2,487,000	2,457,000	2,418,000	2,535,000
Temperature (°F)	1,200	1,200	1,200	1,200
Moisture (% Vol.)	10.21	10.38	10.65	11.37
Oxygen (% Vol.)	11.40	11.54	11.64	11.73
Molecular Weight	28.42	28.40	28.35	28.26
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)	1,210	1,167	1,126	1,062
Heat content (Btu/lb, LHV)	18,367	18,367	18,367	18,367
Fuel usage (lb/hr)- calculated	65,874	63,522	61,316	57,799
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	2,487,000	2,457,000	2,418,000	2,353,000
HRSG Stack Temperature (°F)	256	259	264	268
Molecular weight	28.42	28.40	28.35	28.26
CT volume flow (acfm)	761,744	756,777	751,049	737,121
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	44.8	44.5	44.1	43.3

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, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-14. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, 50% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 36	59 °F Case 35	75 °F Case 34	95 °F Case 33
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	17.0	17.0	17.0	17.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	2.0	1.9	1.8	1.7
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	0.40	0.39	0.37	0.35
CT emission rate (lb/hr) [a]	17.0	17.0	17.0	17.0
Total HRSG stack emission rate (lb/hr) [a + b]	17.4	17.4	17.4	17.4
(lb/mmBtu, HHV)	0.0136	0.0141	0.0146	0.0154
Sulfur Dioxide				
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100				
Fuel oil Sulfur Content	0.0015%	0.0015%	0.0015%	0.0015%
Fuel oil use (lb/hr)	65,874	63,522	61,316	57,799
lb SO2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	2.0	1.9	1.8	1.7
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	10.21	10.38	10.65	11.37
Oxygen (%)	11.40	11.54	11.64	11.73
Turbine Flow (acfm)	1,766,795	1,747,217	1,722,019	1,681,491
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	211.0	203.7	196.4	185.2
CT/DB Emission rate (lb/hr)(provided)	211.0	203.0	196.0	185.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10.0	10.0
HRSG Stack emission rate (lb/hr)	50.2	48.5	46.8	44.1
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	20
Moisture (%)	10.21	10.38	10.65	11.37
Turbine Flow (acfm)	1,766,795	1,747,217	1,722,019	1,681,491

Table A-7FA-14. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, 50% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 36	59 °F Case 35	75 °F Case 34	95 °F Case 33
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	28	28	28	28
HRSG Stack emission rate (lb/hr)	44.0	43.4	42.7	41.3
HRSG Stack emission rate (lb/hr)- provided	44.0	43.0	43.0	41.0
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 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	3.5	3.5	3.5	3.5
Moisture (%)	10.21	10.38	10.65	11.37
Turbine Flow (acfm)	11.40	11.54	11.64	11.73
Turbine Exhaust Temperature (°F)	1,766,795	1,747,217	1,722,019	1,681,491
HRSG Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Stack emission rate (lb/hr)	4.90	4.85	4.78	4.66
HRSG Stack emission rate (lb/hr)- provided	5.00	5.00	5.00	4.50
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	2.0	1.9	1.8	1.7
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.40	0.38	0.37	0.35
Lead				
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Emission Rate Basis (lb/10^{12} Btu)	14	14	14	14
HRSG Stack emission rate (lb/hr)- calculated	0.0169	0.0163	0.0158	0.0149

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

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-15. Regulated and Hazardous Air Pollutant Emission Factors and Emissions for the West County Energy Center Project
Natural Gas-Firing Only

Parameter		Emission Rate (lb/hr) firing Natural Gas for Operating Conditions of Base Load (1)			Natural Gas Maximum Annual Emissions (TPY) (2)	
Ambient Temperature (°F):		59 °F	59 °F w/DB	75 °F w/DB Peak	59 °F 1	59 °F 8
HIR (MMBtu/hr):		1,785	2,335	2,381	CT/HRSG	CTs/HRSGs
Sulfuric acid mist		0.98	1.29	1.31	4.8	38.0
HAPs (Section 112(b) of Clean Air Act)						
1,3-Butadiene		0.000767	0.001004	0.001024	0.0037	0.0296
Acetaldehyde		0.0714	0.0934	0.0952	0.3447	2.76
Acrolein		0.0114	0.0149	0.0152	0.0552	0.441
Benzene		0.0214	0.0280	0.0286	0.1034	0.827
Ethylbenzene		0.0571	0.0747	0.0762	0.2758	2.206
Formadehyde		0.385	0.500	0.510	1.8543	14.83
Naphthalene		0.00232	0.00304	0.00310	0.0112	0.0896
Polycyclic Aromatic Hydrocarbons (PAH)	(3)	0.00393	0.00514	0.00524	0.0190	0.1517
Propylene Oxide		0.0518	0.0677	0.0691	0.2499	2.000
Toluene		0.0589	0.0770	0.0786	0.2844	2.28
Xylene		0.114	0.149	0.152	0.5516	4.41
Antimony		0.0	0.0	0.0	0.00	0.00
Arsenic		0.0	0.0	0.0	0.00	0.00
Beryllium		0.0	0.0	0.0	0.00	0.00
Cadmium		0.0	0.0	0.0	0.00	0.00
Chromium		0.0	0.0	0.0	0.00	0.00
Lead		0.0	0.0	0.0	0.00	0.00
Manganese		0.0	0.0	0.0	0.00	0.00
Mercury		0.0	0.0	0.0	0.00	0.00
Nickel		0.0	0.0	0.0	0.00	0.00
Selenium		0.0	0.0	0.0	0.00	0.00
HAPs (Total)		0.778	1.015	1.035	10.01	30.0

(1) Emissions based on the following emission factors and conversion factors for firing natural gas:

Emission Factors		Value	Reference
Sulfuric acid mist		5	%; Conversion of SO_2 to SO_3 in gas turbine
1,3-Butadiene	(a)	0.43	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Acetaldehyde		40	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Acrolein		6.4	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Benzene		12	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Ethylbenzene		32	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Formadehyde		0.091	ppmvd @15% O_2 (see Table 15a)
Naphthalene		1.3	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Polycyclic Aromatic Hydrocarbons (PAH)		2.2	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Propylene Oxide	(a)	29	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Toluene		33	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000. Database
Xylene		64	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Antimony		0.00E+00	
Arsenic		0.00E+00	
Beryllium		0.00E+00	
Cadmium		0.00E+00	
Chromium		0.00E+00	
Lead		0.00E+00	
Manganese		0.00E+00	
Mercury		0.00E+00	
Nickel		0.00E+00	
Selenium		0.00E+00	

(a) Based on 1/2 the detection limit; expected emissions are lower.

(2) Annual emissions based on ambient temperature of 59 °F firing natural gas for following hours: 5,880
2,480
400

(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.

Table A-7FA-15a. Maximum Formaldehyde Emissions for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Natural Gas, Base Load

Parameter	CT Only Turbine Inlet Temperature 35 °F Case 8	 59 °F Case 6	 59 °F w/DB Case 5	 75 °F w/DB PAug	 95 °F Case 2
Formaldehyde (CH_2O) MW =	30				
CH_2O (lb/hr) = CH_2O (ppmvd@ 15% O2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft2 x Volume flow (acfm) x 30 (mole. wgt CH2O) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]					
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091	0.091
Moisture (%)	7.68	8.24	10.31	16.07	9.88
Oxygen (%)	12.72	12.63	10.33	9.25	12.34
Turbine Flow (acfm)	1,072,219	1,023,872	1,013,207	1,048,363	938,297
Turbine Exhaust Temperature (°F)	203	202	188	188	201
CT Emission rate (lb/hr)	0.405	0.385	0.500	0.510	0.351
CT Emission rate (lb/10^{12} Btu) (HHV)	216.0	215.7	220.4	214.2	215.9

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

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FA-16. Regulated and Hazardous Air Pollutant Emission Factors and Emissions for the West County Energy Center Project
Natural Gas-Firing and Distillate Oil-Firing

Parameter		Emission Rate (lb/hr) Firing Distillate Fuel Oil (1)	Maximum Annual Emissions (TPY)			
		Base Load	Distillate Fuel Oil (2)		Natural Gas (4)	Natural Gas and Fuel Oil (5)
Ambient Temperature (°F):		59 °F				
			1	8	8	8
HIR (MMBtu/hr):		1,939	CT/HRSG	CTs/HRSGs	CTs/HRSGs	CTs/HRSGs
Sulfuric acid mist		0.6	0.15	1.2	38.0	37.1
HAPs (Section 112(b) of Clean Air Act)						
1,3-Butadiene		0.0310	0.0078	0.0621	0.0296	0.090
Acetaldehyde		0.00	0.00	0.00	2.76	2.6
Acrolein		0.00	0.00	0.00	0.441	0.42
Benzene		0.107	0.0267	0.2133	0.827	0.99
Ethylbenzene		0.00	0.00	0.00	2.206	2.08
Formadehyde		0.461	0.115	0.921	14.83	14.9
Naphthalene		0.0679	0.0170	0.1357	0.0896	0.220
Polycyclic Aromatic Hydrocarbons (PAH)	(3)	0.0776	0.0194	0.1551	0.1517	0.30
Propylene Oxide		0.00	0.00	0.00	2.000	1.89
Toluene		0.00	0.00	0.00	2.28	2.1
Xylene		0.00	0.00	0.00	4.41	4.2
Antimony		0.00	0.00	0.00	0.00	0.0
Arsenic		0.0213	0.00533	0.0427	0.00	0.043
Beryllium		0.000601	0.000150	0.001202	0.00	0.00120
Cadmium		0.00931	0.00233	0.01862	0.00	0.0186
Chromium		0.0213	0.00533	0.0427	0.00	0.043
Lead		0.0271	0.00679	0.0543	0.00	0.054
Manganese		1.53	0.383	3.06	0.00	3.1
Mercury		0.00233	0.000582	0.00465	0.00	0.0047
Nickel		0.00892	0.00223	0.01784	0.00	0.0178
Selenium		0.0485	0.0121	0.0970	0.00	0.097
HAPs (Total)		2.42	1.610	4.83	30.0	33.1

(1) Emissions based on the following emission factors and conversion factors for firing distillate fuel oil:

Emission Factors		Value	Reference
Sulfuric acid mist		5	%; Conversion of SO_2 to SO_3 in gas turbine
1,3-Butadiene	(a)	16	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Acetaldehyde		0.0	
Acrolein		0.0	
Benzene		55	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Ethylbenzene		0.0	
Formadehyde		0.091	ppmvd @15% O_2 (see Table 16a)
Naphthalene		35	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Polycyclic Aromatic Hydrocarbons (PAH)		40	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Propylene Oxide		0.0	
Toluene		0.0	
Xylene		0.0	
Antimony		0.0	
Arsenic	(a)	11	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Beryllium	(a)	0.31	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Cadmium		4.8	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Chromium		11	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Lead		14	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Manganese		790	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Mercury		1.2	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Nickel	(a)	4.6	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Selenium	(a)	25	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000

(a) Based on 1/2 the detection limit; expected emissions are lower.

(2) Annual emissions based on ambient temperature of 59 °F and firing fuel oil at base load for : 500 hours
(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.
(4) Annual emissions based on maximum emissions presented for natural gas-firing
(5) Maximum total annual emissions based on ## hours of firing fuel and remaining hours firing natural gas.

Table A-7FA-16a. Maximum Formaldehyde Emissions for the West County Energy Center Project
GE Frame 7FA, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	CT Only Turbine Inlet Temperature 35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Formaldehyde (CH_2O) MW = 30				
CH_2O (lb/hr) = CH_2O (ppmvd@ 15% O2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft2 x Volume flow (acfm) x 30 (mole. wgt CH2O) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091
Moisture (%)	11.11	11.65	12.13	13.07
Oxygen (%)	11.16	11.00	10.92	10.77
Exhaust Flow (acfm)	1,285,209	1,224,407	1,178,213	1,110,611
Exhaust Temperature (°F)	297	295	294	294
CT Emission rate (lb/hr)	0.479	0.461	0.443	0.415
CT Emission rate (lb/10^{12} Btu) (HHV)	237.4	237.5	237.5	237.2

Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: GE, 2004 - CT Performance Data; Golder, 2005.

Table A-7FB-1. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Natural Gas, Base Load

Parameter	CT Only Turbine Inlet Temperature				CT with Duct Burner Turbine Inlet Temperature			
	35 °F Case 8	59 °F Case 6	75 °F Case 4	95 °F Case 2	35 °F w/DB Case 7	59 °F w/DB Case 5	75 °F w/DB Case 3	95 °F w/DB Case 1
Combustion Turbine Performance								
Net power output (MW)	200.09	191.38	180.54	165.29	200.087	191.383	180.54	165.285
Net heat rate (Btu/kWh, LHV)	8,948	9,052	9,202	9,459	8,948	9,052	9,202	9,459
(Btu/kWh, HHV)	9,932	10,048	10,214	10,499	9,932	10,048	10,214	10,499
Heat Input (MMBtu/hr, LHV)	1,790	1,733	1,661	1,563	1,790	1,733	1,661	1,563
(MMBtu/hr, HHV)	1,987	1,923	1,844	1,735	1,987	1,923	1,844	1,735
Evaporative Cooler	Off	Off	Off	Off	Off	Off	Off	Off
Relative Humidity (%)	60	60	60	50	20	60	60	50
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835
(Btu/lb, HHV)	23,127	23,127	23,127	23,127	23,127	23,127	23,127	23,127
(HHV/LHV)	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110
Steam Flow (lb/hr)	NA	NA	NA	NA	NA	NA	NA	NA
Duct Burner (DB)								
Heat input (MMBtu/hr, HHV)	0	0	0	0	550	550	550	550
(MMBtu/hr, LHV)	0	0	0	0	495.5	495.5	495.5	495.5
CT/DB Exhaust Flow								
Mass Flow (lb/hr)- with no margin	3,756,000	3,600,000	3,468,000	3,283,000	3,778,099.6	3,622,100	3,490,100	3,305,100
- provided	3,756,000	3,600,000	3,468,000	3,283,000				
Temperature (°F)	1,147	1,178	1,192	1,213	1,147	1,178	1,192	1,213
Moisture (% Vol.)	7.68	8.59	9.27	10.19	9.93	10.66	11.40	12.42
Oxygen (% Vol.)	12.72	12.23	12.13	11.99	10.23	9.93	9.75	9.49
Molecular Weight	28.45	28.39	28.30	28.20	28.32	28.25	28.17	28.06
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)	1,790	1,733	1,661	1,563	1,790	1,733	1,661	1,563
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835
Fuel usage (lb/hr)- calculated	85,932	83,153	79,736	75,037	85,932	83,153	79,736	75,037
Heat content (Btu/cf, LHV)- assumed	933	933	933	933	933	933	933	933
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448
Fuel usage (cf/hr)- calculated	1,918,132	1,856,102	1,779,822	1,674,937	1,918,132	1,856,102	1,779,822	1,674,937
Fuel Usage - Duct Burner Only								
Fuel usage (lb/hr)- calculated	0	0	0	0	23,782	23,782	23,782	23,782
Fuel usage (cf/hr)- calculated	0	0	0	0	530,846	530,846	530,846	530,846
HRSG Stack								
HRSG - Stack Height (ft)	149	149	149	149	149	149	149	149
Diameter (ft)	19	19	19	19	19	19	19	19
HRSG Stack Flow Conditions								
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min								
Mass flow (lb/hr)	3,756,000	3,600,000	3,468,000	3,283,000	3,778,100	3,622,100	3,490,100	3,305,100
HRSG Stack Temperature (°F)	203	202	204	201	189	188	189	190
Molecular weight	28.45	28.39	28.30	28.20	28.32	28.25	28.17	28.06
Volume flow (acfm)	1,064,229	1,021,774	989,679	935,957	1,052,574	1,011,154	978,815	931,237
Diameter (ft)	19	19	19	19	19	19	19	19
Velocity (ft/sec)- calculated	62.6	60.1	58.2	55.0	61.9	59.4	57.5	54.7

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, 2005 - CT Performance Data; Golder, 2005 - DB Calculations.

Table A-7FB-2. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Natural Gas, Base Load

Parameter	CT Only Turbine Inlet Temperature				CT with Duct Burner Turbine Inlet Temperature			
	35 °F Case 8	59 °F Case 6	75 °F Case 4	95 °F Case 2	35 °F w/DB Case 7	59 °F w/DB Case 5	75 °F w/DB Case 3	95 °F w/DB Case 1
Particulate from CT, DB, and SCR								
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only								
a. PM_{10} (front half) (lb/hr)								
CT- provided	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
DB (lb/hr) - calculated	0.0	0.0	0.0	0.0	2.8	2.8	2.8	2.8
Total CT/DB emission rate (lb/hr)	9.0	9.0	9.0	9.0	11.8	11.8	11.8	11.8
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})								
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3								
SO_2 emission rate (lb/hr)- calculated	11.0	10.6	10.2	9.6	14.0	13.6	13.2	12.6
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	2.22	2.14	2.06	1.93	2.83	2.76	2.67	2.55
Total CT emission rate (lb/hr) [a]	9.0	9.0	9.0	9.0	NA	NA	NA	NA
Total HRSG stack emission rate (lb/hr) [a + b]	11.2	11.1	11.1	10.9	14.6	14.5	14.4	14.3
(lb/mmBtu, HHV)	0.0056	0.0058	0.0060	0.0063	0.0057	0.0059	0.0060	0.0063
Sulfur Dioxide								
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100								
Fuel use (cf/hr)	1,918,132	1,856,102	1,779,822	1,674,937	2,448,978	2,386,947	2,310,667	2,205,783
Sulfur content (grains/ 100 cf)	2	2	2	2	2	2	2	2
lb SO_2 /lb S (64/32)	2	2	2	2	2	2	2	2
CT emission rate (lb/hr)	11.0	10.6	10.2	9.6	NA	NA	NA	NA
HRSG stack emission rate (lb/hr)	11.0	10.6	10.2	9.6	14.0	13.6	13.2	12.6
HRSG stack emission rate (lb/hr) provided	9.6	9.2	8.8	8.3				
Nitrogen Oxides								
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]								
CT/DB, ppmvd @15% O_2	25	25	25	25	21.5	21.9	21.7	21.4
Moisture (%)	7.68	8.59	9.27	10.19	9.93	10.66	11.40	12.42
Oxygen (%)	12.72	12.23	12.13	11.99	10.23	9.93	9.75	9.49
Turbine Flow (acfm)	2,580,359	2,526,434	2,462,870	2,368,920	2,607,578	2,554,165	2,490,596	2,397,230
Turbine Exhaust Temperature (°F)	1,147	1,178	1,192	1,213	1,147	1,178	1,192	1,213
CT/DB Emission rate (lb/hr)	169.2	169.9	163.2	153.8	213.2	213.9	207.2	197.8
CT/DB Emission rate (lb/hr)(provided)	180.0	174.0	167.0	157.0	224.0	218.0	218.0	201.0
HRSG Stack emission rate, ppmvd @ 15% O_2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
HRSG Stack emission rate (lb/hr)	18.0	17.4	16.7	15.7	26.1	24.9	25.1	23.5
Carbon Monoxide								
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	15	15	15	15	22.0	22.1	23.3	23.1
Basis, ppmvd @ 15% O2 - calculated	12.43	11.77	11.75	11.72	13.6	13.3	13.9	13.5
Moisture (%)	7.68	8.59	9.27	10.19	9.93	10.66	11.40	12.42
Oxygen (%)	12.72	12.23	12.13	11.99	10.23	9.93	9.75	9.49
Turbine Flow (acfm)	2,580,359	2,526,434	2,462,870	2,368,920	2,607,578	2,554,165	2,490,596	2,397,230
Turbine Exhaust Temperature (°F)	1,147	1,178	1,192	1,213	1,147	1,178	1,192	1,213
HRSG Stack emission rate rate (lb/hr) (corrected 3/3/03)	51.2	48.69	46.7	43.9	73.2	70.0	70.7	65.9
HRSG Stack emission rate (lb/hr)(provided)	52.0	50.0	48.0	45.0	74.0	72.0	72.0	67.0
Volatile Organic Compounds								
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]								
Basis, ppmvw	1.40	1.40	1.40	1.40	2.7	2.8	2.8	2.9
Basis, ppmvd @ 15% O2 - calculated	1.3	1.20	1.2	1.2	1.9	1.9	1.9	2.0
Moisture (%)	7.68	8.59	9.27	10.19	9.93	10.66	11.40	12.42
Oxygen (%) wet	12.72	12.23	12.13	11.99	10.23	9.93	9.75	9.49
Turbine Flow (acfm)	2,580,359	2,526,434	2,462,870	2,368,920	2,607,578	2,554,165	2,490,596	2,397,230
Turbine Exhaust Temperature (°F)	1,147	1,178	1,192	1,213	1,147	1,178	1,192	1,213
CT/DB Emission rate (lb/hr)	2.96	2.84	2.74	2.61	5.16	5.04	4.94	4.81
CT/DB Emission rate (lb/hr)(provided)	2.80	2.80	2.80	2.60				
HRSG Stack emission rate (lb/hr)	2.96	2.84	2.74	2.61	5.16	5.04	4.94	4.81
HRSG Stack emission rate (lb/hr)(provided)	3.00	2.80	2.80	2.60	5.20	5.00	5.00	4.80
Sulfuric Acid Mist								
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100								
CT SO_2 emission rate (lb/hr) - provided	11.0	10.6	10.2	9.6	14.0	13.6	13.2	12.6
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10	10	10	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0	0.0	0.0	0.0	0.0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20	20	20	20	20
HRSG Stack emission rate (lb/hr)	1.10	1.06	1.02	0.96	1.40	1.36	1.32	1.26
Lead								
Lead (lb/hr) = NA								
Emission Rate Basis	NA	NA	NA	NA	NA	NA	NA	NA
HRSG Stack emission rate (lb/hr)	NA	NA	NA	NA	NA	NA	NA	NA

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

Source: GE, 2005 - CT Performance Data; Golder, 2005 - DB Calculations.

Table A-7FB-3. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Natural Gas, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 12	59 °F Case 11	75 °F Case 10	95 °F Case 9
Combustion Turbine Performance				
Net power output (MW)	150.065	143.537	135.405	123.964
Net heat rate (Btu/kWh, LHV)	9,779	9,874	10,061	10,388
(Btu/kWh, HHV)	10,116	10,140	10,432	10,845
Heat Input (MMBtu/hr, LHV)	1,368	1,311	1,273	1,211
(MMBtu/hr, HHV)	1,518	1,455	1,413	1,344
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835
(Btu/lb, HHV)	23,127	23,127	23,127	23,127
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	3,036,000	2,969,000	2,909,000	2,828,000
- provided	3,036,000	2,969,000	2,909,000	2,828,000
Temperature (°F)	1,196	1,200	1,200	1,200
Moisture (% Vol.)	7.8	8.53	9.11	9.87
Oxygen (% Vol.)	12.38	12.30	12.31	12.36
Molecular Weight	28.42	28.39	28.32	28.22
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)	1,368	1,311	1,273	1,211
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835
Fuel usage (lb/hr)- calculated	65,640	62,933	61,080	58,133
Heat content (Btu/cf, LHV)- assumed	933	933	933	933
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448
Fuel usage (cf/hr)- calculated	1,465,696	1,405,250	1,363,881	1,298,077
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	3,036,000	2,969,000	2,909,000	2,828,000
HRSG Stack Temperature (°F)	187	188	189	190
Molecular weight	28.42	28.39	28.32	28.22
CT volume flow (acfm)	840,507	824,150	810,876	792,131
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	49.4	48.4	47.7	46.6

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-4. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Natural Gas, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 12	59 °F Case 11	75 °F Case 10	95 °F Case 9
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	9.0	9.0	9.0	9.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	8.4	8.0	7.8	7.4
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	1.69	1.62	1.58	1.50
Total CT emission rate (lb/hr) [a]	9.0	9.0	9.0	9.0
Total HRSG stack emission rate (lb/hr) [a + b]	10.7	10.6	10.6	10.5
(lb/mmBtu, HHV)	0.0070	0.0073	0.0075	0.0078
Sulfur Dioxide				
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100				
Fuel use (cf/hr)	1,465,696	1,405,250	1,363,881	1,298,077
Sulfur content (grains/ 100 cf)	2	2	2	2
lb SO_2 /lb S (64/32)	2	2	2	2
HRSG stack emission rate (lb/hr)	8.4	8.0	7.8	7.4
HRSG stack emission rate (lb/hr) provided	7.9	7.6	7.3	6.9
(dtl ppmvw check provided 1.1 ppmvw)	7.52	7.36	7.23	7.05
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT / DB, ppmvd @15% O_2	25	25	25	25
Moisture (%)	7.8	8.53	9.11	9.87
Oxygen (%)	12.38	12.30	12.31	12.36
Turbine Flow (acfm)	2,152,207	2,111,899	2,074,363	2,023,604
Turbine Exhaust Temperature (°F)	1,196	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	143.5	139.0	133.9	126.5
CT/DB Emission rate (lb/hr)(provided)	146.0	140.0	135.0	128.0
HRSG Stack emission rate, ppmvd @ 15% O_2	2.5	2.5	2.5	2.5
HRSG Stack emission rate (lb/hr)	14.6	14.0	13.5	12.8
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	15	15	15	15
Moisture (%)	7.8	8.53	9.11	9.87
Turbine Flow (acfm)	2,152,207	2,111,899	2,074,363	2,023,604
Turbine Exhaust Temperature (°F)	1,196	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	187	188	189	190
HRSG Stack emission rate (lb/hr)- calculated	41.4	40.2	39.2	37.9
HRSG Stack mission rate (lb/hr)- provided	42.0	41.0	40.0	39.0

Table A-7FB-4. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Natural Gas, 75% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 12	59 °F Case 11	75 °F Case 10	95 °F Case 9
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvw	1.4	1.4	1.4	1.4
Moisture (%)	7.8	8.53	9.11	9.87
Turbine Flow (acfm)	2,152,207	2,111,899	2,074,363	2,023,604
Turbine Exhaust Temperature (°F)	1,196	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	186.8	186.8	186.8	186.8
HRSG Stack emission rate (lb/hr)- calculated	2.39	2.34	2.30	2.24
HRSG Stack mission rate (lb/hr)- provided	2.40	2.40	2.20	2.20
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	8.4	8.0	7.8	7.4
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.84	0.80	0.78	0.74
Lead				
Lead (lb/hr) = NA				
Emission Rate Basis	NA	NA	NA	NA
HRSG Stack emission rate (lb/hr)	NA	NA	NA	NA

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-5. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Natural Gas, 60% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 16	59 °F Case 15	75 °F Case 14	95 °F Case 13
Combustion Turbine Performance				
Net power output (MW)	120.052	114.83	108.324	115.699
Net heat rate (Btu/kWh, LHV)	10,677	10,789	11,006	10,678
(Btu/kWh, HHV)	11,851	11,976	12,217	11,853
Heat Input (MMBtu/hr, LHV)	1,095	1,050	1,016	965
(MMBtu/hr, HHV)	1,215	1,165	1,127	1,072
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835
(Btu/lb, HHV)	23,127	23,127	23,127	23,127
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	2,745,000	2,695,000	2,642,000	2,743,000
- provided	2,745,000	2,695,000	2,642,000	2,743,000
Temperature (°F)	1,192	1,200	1,200	1,200
Moisture (% Vol.)	7.8	8.48	8.81	9.78
Oxygen (% Vol.)	12.59	12.55	12.65	12.45
Molecular Weight	28.46	28.38	28.34	28.23
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)	1,095	1,050	1,016	965
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835
Fuel usage (lb/hr)- calculated	52,556	50,377	48,740	46,335
Heat content (Btu/cf, LHV)- assumed	933	933	933	933
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448
Fuel usage (cf/hr)- calculated	1,173,542	1,124,886	1,088,340	1,034,646
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	2,745,000	2,695,000	2,642,000	2,743,000
HRSG Stack Temperature (°F)	175	178	175	182
Molecular weight	28.46	28.38	28.34	28.23
CT volume flow (acfm)	745,457	736,462	720,549	759,073
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	43.8	43.3	42.4	44.6

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, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-6. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Natural Gas, 60% Load

Parameter	Turbine Inlet Temperature 35 °F Case 16	59 °F Case 15	75 °F Case 14	95 °F Case 13
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	9.0	9.0	9.0	9.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	6.7	6.4	6.2	5.9
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2SO_4$/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	1.36	1.30	1.26	1.20
CT emission rate (lb/hr) [a]	9.0	9.0	9.0	9.0
Total emission rate (lb/hr) [a + b]	10.4	10.3	10.3	10.2
(lb/mmBtu, HHV)	0.0085	0.0088	0.0091	0.0095
Sulfur Dioxide				
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100				
Fuel use (cf/hr)	1,173,542	1,124,886	1,088,340	1,034,646
Sulfur content (grains/ 100 cf)	2	2	2	2
lb SO_2 /lb S (64/32)	2	2	2	2
HRSG stack emission rate (lb/hr)	6.7	6.4	6.2	5.9
HRSG stack emission rate (lb/hr) provided	6.9	6.6	6.4	6.6
(dtl ppmvw check provided 1.1 ppmvw)	6.79	6.68	6.56	6.84
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT / DB, ppmvd @15% O_2	25	25	25	25
Moisture (%)	7.8	8.48	8.81	9.78
Oxygen (%)	12.59	12.55	12.65	12.45
Turbine Flow (acfm)	1,938,447	1,917,690	1,882,749	1,962,102
Turbine Exhaust Temperature (°F)	1,192	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	125.6	121.8	116.5	121.3
CT/DB Emission rate (lb/hr)(provided)	127.0	122.0	117.0	122.0
HRSG Stack emission rate, ppmvd @ 15% O_2	2.5	2.5	2.5	2.5
HRSG Stack emission rate (lb/hr)	12.7	12.2	11.7	12.2

Table A-7FB-6. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Natural Gas, 60% Load

Parameter	Turbine Inlet Temperature 35 °F Case 16	59 °F Case 15	75 °F Case 14	95 °F Case 13
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	15	15	15	15
Moisture (%)	7.8	8.48	8.81	9.78
Turbine Flow (acfm)	1,938,447	1,917,690	1,882,749	1,962,102
Turbine Exhaust Temperature (°F)	1,192	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	175	178	175	182
HRSG Stack emission rate (lb/hr)- calculated	37.4	36.5	35.7	36.8
HRSG Stack emission rate (lb/hr)(provided)	38.0	37.0	36.0	38.0
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvw	1.4	1.4	1.4	1.4
Moisture (%)	7.8	8.48	8.81	9.78
Turbine Flow (acfm)	1,938,447	1,917,690	1,882,749	1,962,102
Turbine Exhaust Temperature (°F)	1,192	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	175	175	175	175
HRSG Stack emission rate (lb/hr)	2.16	2.13	2.09	2.18
HRSG Stack emission rate (lb/hr)- provided	2.20	2.20	2.00	2.20
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	6.7	6.4	6.2	5.9
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.67	0.64	0.62	0.59
Lead				
Lead (lb/hr) = NA				
Emission Rate Basis	NA	NA	NA	NA
HRSG Stack emission rate (lb/hr)	NA	NA	NA	NA

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-7. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Combustion Turbine Performance				
Net power output (MW)	205.3	191.9	176.7	158.1
Net heat rate (Btu/kWh, LHV)	9,932	10,106	10,342	10,623
(Btu/kWh, HHV)	10,528	10,712	10,963	11,260
Heat Input (MMBtu/hr, LHV)	1,904	1,830	1,759	1,649
(MMBtu/hr, HHV)	2,018	1,939	1,864	1,748
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,367	18,367	18,367	18,367
(Btu/lb, HHV)	19,469	19,469	19,469	19,469
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	3,761,000	3,568,000	3,392,000	3,207,000
- provided	3,761,000	3,568,000	3,392,000	3,207,000
Temperature (°F)	1,154	1,185	1,205	1,215
Moisture (% Vol.)	12.96	13.38	13.72	14.21
Oxygen (% Vol.)	10.14	10.05	10.05	10.03
Molecular Weight	28.18	28.14	28.10	28.04
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)	1,904	1,830	1,759	1,649
Heat content (Btu/lb, LHV)	18,367	18,367	18,367	18,367
Fuel usage (lb/hr)- calculated	103,675	99,608	95,764	89,802
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	3,761,000	3,568,000	3,392,000	3,207,000
HRSG Stack Temperature (°F)	297	295	294	294
Molecular weight	28.18	28.14	28.10	28.04
CT volume flow (acfm)	1,228,481	1,164,243	1,106,606	1,048,468
(ft^3/s)- calculated	20,475	19,404	18,443	17,474
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	72.2	68.4	65.0	61.6

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-8. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	Turbine Inlet Temperature 35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	17.0	17.0	17.0	17.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	3.1	3.0	2.9	2.7
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	0.63	0.60	0.58	0.54
CT emission rate (lb/hr) [a]	17.0	17.0	17.0	17.0
Total HRSG stack emission rate (lb/hr) [a + b]	17.6	17.6	17.6	17.5
(lb/mmBtu, HHV)	0.0087	0.0091	0.0094	0.0100
Sulfur Dioxide				
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100				
Fuel oil Sulfur Content	0.0015%	0.0015%	0.0015%	0.0015%
Fuel oil use (lb/hr)	103,675	99,608	95,764	89,802
lb SO2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	3.1	3.0	2.9	2.7
HRSG Stack emission rate (lb/hr)- provided	2.4	2.3	2.2	2.1
(dtl ppmvw check provided <0.5 ppmvw)	4.27	4.06	3.86	3.66
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	12.96	13.38	13.72	14.21
Oxygen (%)	10.14	10.05	10.05	10.03
Turbine Flow (acfm)	2,619,126	2,537,951	2,445,695	2,330,701
Turbine Exhaust Temperature (°F)	1,154	1,185	1,205	1,215
CT/DB Emission rate (lb/hr)	351.8	334.4	315.6	295.9
CT emission rate (lb/hr)(provided)	356.0	339.0	319.0	293.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10.0	10.0
HRSG Stack emission rate (lb/hr)	84.8	80.7	76.0	69.8
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	20
Moisture (%)	12.96	13.38	13.72	14.21
Basis, ppmvd @ 15% O_2	12.76	12.69	12.75	12.81
Turbine Flow (acfm)	2,619,126	2,537,951	2,445,695	2,330,701
Turbine Exhaust Temperature (°F)	1,154	1,185	1,205	1,215
HRSG Exhaust Temperature (°F)	297	295	294	294
HRSG Stack emission rate (lb/hr)	65.0	61.5	58.3	55.0
HRSG Stack emission rate (lb/hr)- provided	65.0	62.0	59.0	56.0

Table A-7FB-8. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	Turbine Inlet Temperature 35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 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	3.5	3.5	3.5	3.5
Basis, ppmvd	4.02	4.04	4.06	4.08
Basis, ppmvd @ 15% O_2	2.56	2.56	2.59	2.61
Moisture (%)	12.96	13.38	13.72	14.21
Oxygen (%)	10.14	10.05	10.05	10.03
Oxygen (%-dry)	11.65	11.60	11.65	11.69
Turbine Flow (acfm)	2,619,126	2,537,951	2,445,695	2,330,701
Turbine Exhaust Temperature (°F)	1,154	1,185	1,205	1,215
HRSG Stack emission rate (lb/hr)	7.47	7.10	6.76	6.41
HRSG Stack emission rate (lb/hr)- provided	7.50	7.00	6.50	6.50
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	3.1	3.0	2.9	2.7
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.62	0.60	0.57	0.54
Lead				
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Emission Rate Basis (lb/10^{12} Btu)	14	14	14	14
HRSG Stack emission rate (lb/hr)- calculated	0.0267	0.0256	0.0246	0.0231

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-9. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, 75% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 32	59 °F Case 31	75 °F Case 30	95 °F Case 29
Combustion Turbine Performance				
Net power output (MW)	154.0	144.7	133.2	119.2
Net heat rate (Btu/kWh, LHV)	10,800	10,885	11,086	11,395
(Btu/kWh, HHV)	11,448	11,538	11,751	12,079
Heat Input (MMBtu/hr, LHV)	1,555	1,495	1,440	1,359
(MMBtu/hr, HHV)	1,649	1,584	1,526	1,440
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,367	18,367	18,367	18,367
(Btu/lb, HHV)	19,469	19,469	19,469	19,469
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	3,059,000	2,961,000	2,858,000	2,730,000
- provided	3,059,000	2,961,000	2,858,000	2,730,000
Temperature (°F)	1,200	1,200	1,200	1,200
Moisture (% Vol.)	12.57	12.59	12.77	13.09
Oxygen (% Vol.)	10.20	10.39	10.50	10.62
Molecular Weight	28.23	28.21	28.18	28.13
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)	1,555	1,495	1,440	1,359
Heat content (Btu/lb, LHV)	18,367	18,367	18,367	18,367
Fuel usage (lb/hr)- calculated	84,674	81,374	78,374	73,986
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	3,059,000	2,961,000	2,858,000	2,730,000
HRSG Stack Temperature (°F)	271	274	276	278
Molecular weight	28.23	28.21	28.18	28.13
CT volume flow (acfm)	963,477	937,002	907,995	870,629
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	56.6	55.1	53.4	51.2

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-10. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 32	59 °F Case 31	75 °F Case 30	95 °F Case 29
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	17.0	17.0	17.0	17.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	2.5	2.4	2.4	2.2
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	0.51	0.49	0.48	0.45
CT emission rate (lb/hr) [a]	17.0	17.0	17.0	17.0
Total HRSG stack emission rate (lb/hr) [a + b]	17.5	17.5	17.5	17.4
(lb/mmBtu, HHV)	0.0106	0.0110	0.0115	0.0121
Sulfur Dioxide				
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100				
Fuel oil Sulfur Content	0.0015%	0.0015%	0.0015%	0.0015%
Fuel oil use (lb/hr)	84,674	81,374	78,374	73,986
lb SO2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	2.5	2.4	2.4	2.2
HRSG Stack emission rate (lb/hr)- provided	2.0	1.9	1.9	1.8
(dtl ppmvw check provided <0.5 ppmvw)	3.36	3.36	3.24	3.10
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	12.57	12.59	12.77	13.09
Oxygen (%)	10.20	10.39	10.50	10.62
Turbine Flow (acfm)	2,118,094	2,119,683	2,047,924	1,959,654
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
CT emission rate (lb/hr)	277.3	270.8	256.7	239.7
CT emission rate (lb/hr)(provided)	287.0	270.0	253.0	233.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10.0	10.0
HRSG Stack mission rate (lb/hr)	68.3	64.3	60.2	55.5
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	20
Moisture (%)	12.57	12.59	12.77	13.09
Turbine Flow (acfm)	2,118,094	2,119,683	2,047,924	1,959,654
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	271	274	276	278
HRSG Stack emission rate (lb/hr)	51.4	51.4	49.5	47.2
HRSG Stack emission rate (lb/hr)- provided	53.0	51.0	50.0	47.0

Table A-7FB-10. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 32	59 °F Case 31	75 °F Case 30	95 °F Case 29
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 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	3.5	3.5	3.5	3.5
Moisture (%)	12.57	12.59	12.77	13.09
Turbine Flow (acfm)	10.20	10.39	10.50	10.62
Turbine Exhaust Temperature (°F)	2,118,094	2,119,683	2,047,924	1,959,654
HRSG Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Stack emission rate (lb/hr)	5.87	5.88	5.68	5.43
HRSG Stack emission rate (lb/hr)- provided	6.00	6.00	5.50	5.00
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	2.5	2.4	2.4	2.2
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.51	0.49	0.47	0.44
Lead				
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Emission Rate Basis (lb/10^{12} Btu)	14	14	14	14
HRSG Stack emission rate (lb/hr)- calculated	0.0218	0.0209	0.0202	0.0190

Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-11. Design Information and Stack Parameters for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, 60% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 36	59 °F Case 35	75 °F Case 34	95 °F Case 33
Combustion Turbine Performance				
Net power output (MW)	123.2	115.7	106.5	111.3
Net heat rate (Btu/kWh, LHV)	11,632	11,746	12,058	11,720
(Btu/kWh, HHV)	12,330	12,451	12,781	12,423
Heat Input (MMBtu/hr, LHV)	1,210	1,167	1,126	1,062
(MMBtu/hr, HHV)	1,282	1,237	1,194	1,125
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,367	18,367	18,367	18,367
(Btu/lb, HHV)	19,469	19,469	19,469	19,469
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	2,755,000	2,673,000	2,599,000	2,353,000
- provided	2,755,000	2,673,000	2,599,000	2,658,000
Temperature (°F)	1,200	1,200	1,200	1,200
Moisture (% Vol.)	11.57	11.65	11.89	12.82
Oxygen (% Vol.)	10.80	10.95	11.05	10.79
Molecular Weight	28.30	28.28	28.24	28.15
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)	1,210	1,167	1,126	1,062
Heat content (Btu/lb, LHV)	18,367	18,367	18,367	18,367
Fuel usage (lb/hr)- calculated	65,874	63,522	61,316	57,799
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	19	19	19	19
Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	2,755,000	2,673,000	2,599,000	2,353,000
HRSG Stack Temperature (°F)	256	259	264	268
Molecular weight	28.30	28.28	28.24	28.15
CT volume flow (acfm)	847,428	826,627	810,410	739,982
Diameter (ft)	19	19	19	19
Velocity (ft/sec)- calculated	49.8	48.6	47.6	43.5

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-12. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, 60% Load

Parameter	Turbine Inlet Temperature 35 °F Case 36	59 °F Case 35	75 °F Case 34	95 °F Case 33
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	17.0	17.0	17.0	17.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	2.0	1.9	1.8	1.7
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	0.40	0.39	0.37	0.35
CT emission rate (lb/hr) [a]	17.0	17.0	17.0	17.0
Total HRSG stack emission rate (lb/hr) [a + b]	17.4	17.4	17.4	17.4
(lb/mmBtu, HHV)	0.0136	0.0141	0.0146	0.0154
Sulfur Dioxide				
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100				
Fuel oil Sulfur Content	0.0015%	0.0015%	0.0015%	0.0015%
Fuel oil use (lb/hr)	65,874	63,522	61,316	57,799
lb SO2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	2.0	1.9	1.8	1.7
HRSG Stack emission rate (lb/hr)- provided	1.8	1.7	1.6	1.7
(dtl ppmvw check provided <0.5 ppmvw)	3.11	3.02	2.94	2.67
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	11.57	11.65	11.89	12.82
Oxygen (%)	10.80	10.95	11.05	10.79
Turbine Flow (acfm)	1,965,530	1,908,486	1,858,122	1,688,016
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	244.8	232.6	221.9	203.4
CT/DB Emission rate (lb/hr)(provided)	246.0	232.0	219.0	223.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10.0	10.0
HRSG Stack emission rate (lb/hr)	58.6	55.2	52.1	53.1
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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	20
Moisture (%)	11.57	11.65	11.89	12.82
Turbine Flow (acfm)	1,965,530	1,908,486	1,858,122	1,688,016
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	28	28	28	28
HRSG Stack emission rate (lb/hr)	48.2	46.8	45.4	40.8
HRSG Stack emission rate (lb/hr)- provided	44.0	43.0	43.0	41.0

Table A-7FB-12. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, 60% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 36	59 °F Case 35	75 °F Case 34	95 °F Case 33
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 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	3.5	3.5	3.5	3.5
Moisture (%)	11.57	11.65	11.89	12.82
Turbine Flow (acfm)	10.80	10.95	11.05	10.79
Turbine Exhaust Temperature (°F)	1,965,530	1,908,486	1,858,122	1,688,016
HRSG Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Stack emission rate (lb/hr)	5.45	5.29	5.15	4.68
HRSG Stack emission rate (lb/hr)- provided	5.00	5.00	5.00	4.50
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	2.0	1.9	1.8	1.7
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.40	0.38	0.37	0.35
Lead				
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Emission Rate Basis (lb/10^{12} Btu)	14	14	14	14
HRSG Stack emission rate (lb/hr)- calculated	0.0169	0.0163	0.0158	0.0149

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-13. Regulated and Hazardous Air Pollutant Emission Factors and Emissions for the West County Energy Center Project When Firing Natural Gas

Parameter		Emission Rate (lb/hr) firing Natural Gas for Operating Conditions of Base Load (1)		Natural Gas Maximum Annual Emissions (TPY) (2)	
Ambient Temperature (°F):		59 °F	59 °F w/DB	59 °F	59 °F
				1	8
HIR (MMBtu/hr):		1,923	2,473	CT/HRSG	CTs/HRSGs
Sulfuric acid mist		1.06	1.36	5.08	40.7
HAPs (Section 112(b) of Clean Air Act)					
1,3-Butadiene		0.000827	0.001063	0.0040	0.0317
Acetaldehyde		0.0769	0.0989	0.3686	2.95
Acrolein		0.0123	0.0158	0.0590	0.472
Benzene		0.0231	0.0297	0.1106	0.885
Ethylbenzene		0.0615	0.0791	0.2949	2.359
Formadehyde		0.403	0.536	1.9576	15.66
Naphthalene		0.00250	0.00321	0.0120	0.0958
Polycyclic Aromatic Hydrocarbons (PAH)	(3)	0.00423	0.00544	0.0203	0.1622
Propylene Oxide		0.0558	0.0717	0.2672	2.138
Toluene		0.0635	0.0816	0.3041	2.43
Xylene		0.123	0.158	0.5898	4.72
Antimony		0.0	0.0	0.0000	0.00
Arsenic		0.0	0.0	0.0000	0.00
Beryllium		0.0	0.0	0.0000	0.00
Cadmium		0.0	0.0	0.0000	0.00
Chromium		0.0	0.0	0.0000	0.00
Lead		0.0	0.0	0.0000	0.00
Manganese		0.0	0.0	0.0000	0.00
Mercury		0.0	0.0	0.0000	0.00
Nickel		0.0	0.0	0.0000	0.00
Selenium		0.0	0.0	0.0000	0.00
HAPs (Total)		0.827	1.081	10.63	31.9

(1) Emissions based on the following emission factors and conversion factors for firing natural gas:

Emission Factors		Value	Reference
Sulfuric acid mist		5	%; Conversion of SO_2 to SO_3 in gas turbine
1,3-Butadiene	(a)	0.43	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Acetaldehyde		40	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Acrolein		6.4	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Benzene		12	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Ethylbenzene		32	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Formadehyde		0.091	ppmvd @15% O2 (see Table 13a)
Naphthalene		1.3	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Polycyclic Aromatic Hydrocarbons (PAH)		2.2	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Propylene Oxide	(a)	29	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Toluene		33	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000. Database
Xylene		64	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Antimony		0.00E+00	
Arsenic		0.00E+00	
Beryllium		0.00E+00	
Cadmium		0.00E+00	
Chromium		0.00E+00	
Lead		0.00E+00	
Manganese		0.00E+00	
Mercury		0.00E+00	
Nickel		0.00E+00	
Selenium		0.00E+00	

(a) Based on 1/2 the detection limit; expected emissions are lower.

(2) Annual emissions based on ambient temperature of 59 °F firing natural gas for following hours:

at base load; CT only
at base load; CT with duct firing
0 at base load; CT with duct firing and power aug.
total

(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.

Table A-7FB-13a. Maximum Formaldehyde Emissions for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Natural Gas, Base Load

Parameter	CT Only Turbine Inlet Temperature 35 °F Case 8	59 °F Case 6	59 °F w/DB Case 5	75 °F w/DB Case 3	95 °F Case 2
Formaldehyde (CH_2O) MW = 30					
CH_2O (lb/hr) = CH_2O (ppmvd@ 15% O2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft2 x Volume flow (acfm) x 30 (mole. wgt CH2O) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]					
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091	0.091
Moisture (%)	7.68	8.59	9.27	14.13	10.19
Oxygen (%)	12.72	12.23	9.93	9.75	11.99
Turbine Flow (acfm)	1,064,229	1,021,774	1,011,154	978,815	935,957
Turbine Exhaust Temperature (°F)	203	202	188	189	201
CT Emission rate (lb/hr)	0.402	0.403	0.536	0.470	0.365
CT Emission rate (lb/10^{12} Btu) (HHV)	202.1	209.8	216.7	196.2	210.4

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-7FB-14. Regulated and Hazardous Air Pollutant Emission Factors and Emissions for the West County Energy Center Project When Firing Distillate Fuel Oil

Parameter		Emission Rate (lb/hr) Firing Distillate Fuel Oil (1)	Maximum Annual Emissions (TPY)			
		Base Load	Distillate Fuel Oil (2)		Natural Gas (4)	Natural Gas and Fuel Oil (5)
Ambient Temperature (°F):		59 °F				
			1	8	8	8
HIR (MMBtu/hr):		1,939	CT/HRSG	CTs/HRSGs	CTs/HRSGs	CTs/HRSGs
Sulfuric acid mist		0.6	0.15	1.2	40.7	39.5
HAPs (Section 112(b) of Clean Air Act)						
1,3-Butadiene		0.0310	0.0078	0.0621	0.0317	0.092
Acetaldehyde		0.00	0.00	0.00	2.95	2.8
Acrolein		0.00	0.00	0.00	0.472	0.44
Benzene		0.107	0.0267	0.2133	0.885	1.05
Ethylbenzene		0.00	0.00	0.00	2.359	2.22
Formadehyde		0.383	0.096	0.765	15.66	15.5
Naphthalene		0.0679	0.0170	0.1357	0.0958	0.226
Polycyclic Aromatic Hydrocarbons (PAH)	(3)	0.0776	0.0194	0.1551	0.1622	0.31
Propylene Oxide		0.00	0.00	0.00	2.138	2.02
Toluene		0.00	0.00	0.00	2.43	2.3
Xylene		0.00	0.00	0.00	4.72	4.4
Antimony		0.00	0.00	0.00	0.00	0.0
Arsenic		0.0213	0.00533	0.0427	0.00	0.043
Beryllium		0.000601	0.000150	0.001202	0.00	0.00120
Cadmium		0.00931	0.00233	0.01862	0.00	0.0186
Chromium		0.0213	0.00533	0.0427	0.00	0.043
Lead		0.0271	0.00679	0.0543	0.00	0.054
Manganese		1.53	0.383	3.06	0.00	3.1
Mercury		0.00233	0.000582	0.00465	0.00	0.0047
Nickel		0.00892	0.00223	0.01784	0.00	0.0178
Selenium		0.0485	0.0121	0.0970	0.00	0.097
HAPs (Total)		2.34	1.558	4.67	31.9	34.8

(1) Emissions based on the following emission factors and conversion factors for firing distillate fuel oil:

Emission Factors		Value	Reference
Sulfuric acid mist		5	%; Conversion of SO_2 to SO_3 in gas turbine
1,3-Butadiene	(a)	16	lb/10^{12} Btu; AP-42,Table 3.1-4, EPA 2000
Acetaldehyde		0.0	
Acrolein		0.0	
Benzene		55	lb/10^{12} Btu; AP-42,Table 3.1-4, EPA 2000
Ethylbenzene		0.0	
Formadehyde		0.091	ppmvd @15% O2 (see Table 13a)
Naphthalene		35	lb/10^{12} Btu; AP-42,Table 3.1-4, EPA 2000
Polycyclic Aromatic Hydrocarbons (PAH)		40	lb/10^{12} Btu; AP-42,Table 3.1-4, EPA 2000
Propylene Oxide		0.0	
Toluene		0.0	
Xylene		0.0	
Antimony		0.0	
Arsenic	(a)	11	lb/10^{12} Btu; AP-42,Table 3.1-5, EPA 2000
Beryllium	(a)	0.31	lb/10^{12} Btu; AP-42,Table 3.1-5, EPA 2000
Cadmium		4.8	lb/10^{12} Btu; AP-42,Table 3.1-5, EPA 2000
Chromium		11	lb/10^{12} Btu; AP-42,Table 3.1-5, EPA 2000
Lead		14	lb/10^{12} Btu; AP-42,Table 3.1-5, EPA 2000
Manganese		790	lb/10^{12} Btu; AP-42,Table 3.1-5, EPA 2000
Mercury		1.2	lb/10^{12} Btu; AP-42,Table 3.1-5, EPA 2000
Nickel	(a)	4.6	lb/10^{12} Btu; AP-42,Table 3.1-5, EPA 2000
Selenium	(a)	25	lb/10^{12} Btu; AP-42,Table 3.1-5, EPA 2000

(a) Based on 1/2 the detection limit; expected emissions are lower.

(2) Annual emissions based on ambient temperature of 59 °F and firing fuel oil at base load for : 500 hours
(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.
(4) Annual emissions based on maximum emissions presented for natural gas-firing
(5) Maximum total annual emissions based on 500 hours of firing fuel and remaining hours firing natural gas.

Table A-7B-14a. Maximum Formaldehyde Emissions for the West County Energy Center Project
GE Frame 7FB, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	CT Only Turbine Inlet Temperature 35 °F Case 32	 59 °F Case 31	 75 °F Case 30	 95 °F Case 29
Formaldehyde (CH_2O) MW = 30				
CH_2O (lb/hr) = CH_2O (ppmvd@ 15% O2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft2 x Volume flow (acfm) x 30 (mole. wgt CH2O) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091
Moisture (%)	12.57	12.59	12.77	13.09
Oxygen (%)	10.20	10.39	10.50	10.62
Turbine Flow (acfm)	963,477	937,002	907,995	870,629
Turbine Exhaust Temperature (°F)	271	274	276	278
CT Emission rate (lb/hr)	0.405	0.383	0.363	0.339
CT Emission rate (lb/10^{12} Btu) (HHV)	245.5	241.5	237.8	235.2

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

Source: GE, 2005 - CT Performance Data; Golder, 2005.

Table A-GClass-1. Design Information and Stack Parameters for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Natural Gas, Base Load

Parameter	CT Only Turbine Inlet Temperature 35 °F Case 8	59 °F Case 6	75 °F Case 4	95 °F Case 2	CT with Duct Burner Turbine Inlet Temperature 35 °F w/DB Case 7	59 °F w/DB Case 5	75 °F w/DB Case 3	95 °F w/DB Case 1
Combustion Turbine Performance								
Net power output (MW)	278.19	255.43	248.64	234.71	278.19	255.43	248.64	234.71
Net heat rate (Btu/kWh, LHV)	8,699	8,857	8,930	9,078	8,699	8,857	8,930	9,078
(Btu/kWh, HHV)	9,656	9,831	9,912	10,077	9,656	9,831	9,912	10,078
Heat Input (MMBtu/hr, LHV)	2,420	2,262	2,220	2,131	2,420	2,262	2,220	2,131
(MMBtu/hr, HHV)	2,686	2,511	2,465	2,365	2,686	2,511	2,465	2,365
Evaporative Cooler	Off	Off	Off	Off	Off	Off	Off	Off
Relative Humidity (%)	60	60	60	50	20	60	60	50
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835
(Btu/lb, HHV)	23,127	23,127	23,127	23,127	23,127	23,127	23,127	23,127
(HHV/LHV)	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110
Steam Flow (lb/hr)	NA	NA	NA	NA	NA	NA	NA	NA
Duct Burner (DB)								
Heat input (MMBtu/hr, HHV)	0	0	0	0	475	475	475	475
(MMBtu/hr, LHV)	0	0	0	0	427.9	427.9	427.9	427.9
CT/DB Exhaust Flow								
Mass Flow (lb/hr)- calculated from acfm	4,952,944	4,683,190	4,570,480	4,380,849	4,972,030.5	4,702,276	4,589,567	4,399,935
- provided	NA	NA	NA	NA				
Temperature (°F) - assumed	1200	1200	1200	1200	1,200	1,200	1,200	1,200
Moisture (% Vol.)	7.68	8.87	9.89	11.04	9.81	10.24	11.28	12.48
Oxygen (% Vol.)	12.72	11.92	11.71	11.49	10.47	10.39	10.15	9.87
Molecular Weight	28.41	28.36	28.25	28.12	28.32	28.27	28.16	28.03
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)	2,420	2,262	2,220	2,131	2,420	2,262	2,220	2,131
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835	20,835	20,835	20,835	20,835
Fuel usage (lb/hr)- calculated	116,151	108,583	106,567	102,280	116,151	108,583	106,567	102,280
Heat content (Btu/cf, LHV)- assumed	933	933	933	933	933	933	933	933
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448	0.0448
Fuel usage (cf/hr)- calculated	2,592,650	2,423,735	2,378,738	2,283,032	2,592,650	2,423,735	2,378,738	2,283,032
Fuel Usage - Duct Burner Only								
Fuel usage (lb/hr)- calculated	0	0	0	0	20,539	20,539	20,539	20,539
Fuel usage (cf/hr)- calculated	0	0	0	0	458,458	458,458	458,458	458,458
HRSG Stack								
HRSG - Stack Height (ft)	149	149	149	149	149	149	149	149
Diameter (ft)	22	22	22	22	22	22	22	22
HRSG Stack Flow Conditions								
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min								
Mass flow (lb/hr)	4,952,944	4,683,190	4,570,480	4,380,849	4,972,030	4,702,276	4,589,567	4,399,935
HRSG Stack Temperature (°F)	189	188	190	191	189	188	189	190
Molecular weight	28.41	28.36	28.25	28.12	28.32	28.27	28.16	28.03
Volume flow (acfm) provided	1,376,418	1,301,592	1,279,218	1,233,554	1,385,106	1,311,589	1,287,448	1,240,888
Diameter (ft)	22	22	22	22	22	22	22	22
Velocity (ft/sec)- calculated	60.3	57.1	56.1	54.1	60.7	57.5	56.4	54.4
Velocity (ft/sec)- provided	60	57	56	54				

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft^3.

Source: Siemens, 2005; MHI, 2005; CT Performance Data; Golder, 2005 - DB Calculations.

Table A-GClass-2. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Natural Gas, Base Load

Parameter	CT Only Turbine Inlet Temperature 35 °F Case 8	59 °F Case 6	75 °F Case 4	95 °F Case 2	CT with Duct Burner Turbine Inlet Temperature 35 °F w/DB Case 7	59 °F w/DB Case 5	75 °F w/DB Case 3	95 °F w/DB Case 1
Particulate from CT, DB, and SCR								
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only								
a. PM_{10} (front half) (lb/hr)								
CT- provided	NA	NA	NA	NA	NA	NA	NA	NA
DB (lb/hr) - calculated	0.0	0.0	0.0	0.0	2.4	2.4	2.4	2.4
Total CT/DB emission rate (lb/hr)	NA	NA	NA	NA	NA	NA	NA	NA
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})								
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3								
SO_2 emission rate (lb/hr)- calculated	15.7	14.9	14.3	13.5	17.4	16.5	16.2	15.7
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	3.17	3.01	2.89	2.73	3.52	3.33	3.28	3.17
Total CT emission rate (lb/hr) [a]	NA	NA	NA	NA	NA	NA	NA	NA
Total HRSG stack emission rate (lb/hr) [a + b]	NA	NA	NA	NA	NA	NA	NA	NA
(lb/mmBtu, HHV)	NA	NA	NA	NA	NA	NA	NA	NA
Total CT emission rate (lb/hr) provided	12	11.5	11	10.5	14.4	13.9	13.4	12.9
Sulfur Dioxide								
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100								
Fuel use (cf/hr)	2,592,650	2,423,735	2,378,738	2,283,032	3,051,107	2,882,192	2,837,196	2,741,489
Sulfur content (grains/ 100 cf)	2	2	2	2	2	2	2	2
lb SO_2 /lb S (64/32)	2	2	2	2	2	2	2	2
CT emission rate (lb/hr)	14.8	13.8	13.6	13.0	NA	NA	NA	NA
HRSG stack emission rate (lb/hr)	14.8	13.8	13.6	13.0	17.4	16.5	16.2	15.7
HRSG stack emission rate (lb/hr) MHI provided	15.7	14.9	14.3	13.5				
Nitrogen Oxides								
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]								
CT/DB, ppmvd @15% O_2	35	35	35	35	27.6	29.7	29.3	28.9
Moisture (%)	7.68	8.87	9.89	11.04	9.81	10.24	11.28	12.48
Oxygen (%)	12.72	11.92	11.71	11.49	10.47	10.39	10.15	9.87
Turbine Flow (acfm)	3,520,576	3,334,325	3,266,926	3,145,468	3,544,984	3,358,381	3,290,982	3,169,524
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	312.8	321.1	314.5	301.9	350.8	359.1	352.5	339.9
CT/DB Emission rate (lb/hr)(provided)	360.0	344.0	331.0	317.0				
HRSG Stack emission rate, ppmvd @ 15% O_2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
HRSG Stack emission rate (lb/hr)	25.7	24.6	23.6	22.6	31.8	30.2	30.0	29.4
HRSG Stack emission rate (lb/hr) - provided	26.0	25.0	24.0	23.0				
Carbon Monoxide								
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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, ppmvw - calculated	6.04	6.63	6.70	6.77	10.6	11.4	11.6	11.9
Basis, ppmvd @ 15% O2 - provided	5.00	5.00	5.00	5.00	6.7	7.2	7.2	7.3
Moisture (%)	7.68	8.87	9.89	11.04	9.81	10.24	11.28	12.48
Oxygen (%)	12.72	11.92	11.71	11.49	10.47	10.39	10.15	9.87
Turbine Flow (acfm)	3,520,576	3,334,325	3,266,926	3,145,468	3,544,984	3,358,381	3,290,982	3,169,524
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	27.2	27.92	27.3	26.3	46.2	46.9	46.3	45.3
HRSG Stack emission rate (lb/hr)	27.2	27.9	27.3	26.3	46.2	46.9	46.3	45.3
HRSG Stack emission rate (lb/hr)(provided)	31.0	30.0	29.0	28.0				
Volatile Organic Compounds								
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 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 - calculated	1.45	1.59	1.61	1.62	2.4	2.6	2.7	2.7
Basis, ppmvd @ 15% O2 - provided	1.20	1.20	1.20	1.20	1.7	1.8	1.9	1.9

Table A-GClass-2. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Natural Gas, Base Load

Parameter	CT Only Turbine Inlet Temperature				CT with Duct Burner Turbine Inlet Temperature			
	35 °F Case 8	59 °F Case 6	75 °F Case 4	95 °F Case 2	35 °F w/DB Case 7	59 °F w/DB Case 5	75 °F w/DB Case 3	95 °F w/DB Case 1
Moisture (%)	7.68	8.87	9.89	11.04	9.81	10.24	11.28	12.48
Oxygen (%) wet	12.72	11.92	11.71	11.49	10.47	10.39	10.15	9.87
Turbine Flow (acfm)	3,520,576	3,334,325	3,266,926	3,145,468	3,544,984	3,358,381	3,290,982	3,169,524
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	4.04	4.20	4.16	4.05	5.94	6.10	6.06	5.95
HRSG Stack emission rate (lb/hr)	4.04	4.20	4.16	4.05	5.94	6.10	6.06	5.95
HRSG Stack emission rate (lb/hr)(provided)	4.30	4.10	3.90	3.80				
Sulfuric Acid Mist								
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100								
CT SO_2 emission rate (lb/hr) - provided	15.7	14.9	14.3	13.5	17.4	16.5	16.2	15.7
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10	10	10	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0	0.0	0.0	0.0	0.0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20	20	20	20	20
HRSG Stack emission rate (lb/hr)	1.57	1.49	1.43	1.35	1.74	1.65	1.62	1.57
Lead								
Lead (lb/hr) = NA								
Emission Rate Basis	NA	NA	NA	NA	NA	NA	NA	NA
Emission rate (lb/hr)	NA	NA	NA	NA	NA	NA	NA	NA

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

Source: Siemens, 2005; MHI, 2005; CT Performance Data; Golder Associates, 2005 - DB Calculations.

Table A-GClass-3. Design Information and Stack Parameters for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Natural Gas, 75% Load

Parameter	Turbine Inlet Temperature			
	35 °F	59 °F	75 °F	95 °F
	Case 12	Case 11	Case 10	Case 9
Combustion Turbine Performance				
Net power output (MW)	208.31	191.2	179.52	164.945
Net heat rate (Btu/kWh, LHV)	9,200	9,420	9,615	9,915
(Btu/kWh, HHV)	10,212	10,456	10,673	11,006
Heat Input (MMBtu/hr, LHV)	1,916	1,801	1,725	1,635
(MMBtu/hr, HHV)	2,127	1,999	1,915	1,815
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	20,835	20,835	20,835	20,835
(Btu/lb, HHV)	23,127	23,127	23,127	23,127
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow				
Mass flow (lb/hr)- calculated from acfm	3,913,810	3,748,904	3,641,030	3,498,885
- provided	NA	NA	NA	NA
Temperature (°F) - assumed	1,200	1,200	1,200	1,200
Moisture (% Vol.)	8.46	8.73	9.33	10.17
Oxygen (% Vol.)	11.97	12.08	12.07	12.02
Molecular Weight	28.41	28.37	28.30	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)	1,916	1,801	1,725	1,635
Heat content (Btu/lb, LHV)	20,835	20,835	20,835	20,835
Fuel usage (lb/hr)- calculated	91,961	86,441	82,809	78,474
Heat content (Btu/cf, LHV)- assumed	933	933	933	933
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448	0.0448
Fuel usage (cf/hr)- calculated	2,053,431	1,930,183	1,849,088	1,752,276
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	22	22	22	22
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)- calculated from acfm	3,913,810	3,748,904	3,641,030	3,498,885
HRSG Stack Temperature (°F)	177	178	180	182
Molecular weight	28.41	28.37	28.30	28.20
CT volume flow (acfm)	1,067,556	1,025,415	1,001,699	968,969
Diameter (ft)	22	22	22	22
Velocity (ft/sec)- calculated	46.8	45.0	43.9	42.5
Velocity (ft/sec)- provided	47	45	44	42

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: Siemens, 2005; MHI, 2005; CT Performance Data; Golder Associates, 2005.

Table A-GClass-4. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Natural Gas, 75% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 12	59 °F Case 11	75 °F Case 10	95 °F Case 9
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	NA	NA	NA	NA
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	12.3	11.7	11.3	10.8
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	2.49	2.36	2.28	2.18
Total CT emission rate (lb/hr) [a]	NA	NA	NA	NA
Total HRSG stack emission rate (lb/hr) [a + b]	NA	NA	NA	NA
(lb/mmBtu, HHV)	NA	NA	NA	NA
Total CT emission rate (lb/hr) provided	10.0	10.0	10.0	10.0
Sulfur Dioxide				
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100				
Fuel use (cf/hr)	2,053,431	1,930,183	1,849,088	1,752,276
Sulfur content (grains/ 100 cf)	2	2	2	2
lb SO_2 /lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	11.7	11.0	10.6	10.0
HRSG Stack emission rate (lb/hr) MHI provided	12.30	11.70	11.30	10.80
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT / DB, ppmvd @15% O_2	35	35	35	35
Moisture (%)	8.46	8.73	9.33	10.17
Oxygen (%)	11.97	12.08	12.07	12.02
Turbine Flow (acfm)	2,782,014	2,668,008	2,598,157	2,505,434
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	269.2	252.2	241.6	228.7
CT/DB Emission rate (lb/hr)(provided)	285.0	268.0	257.0	243.0
HRSG Stack emission rate, ppmvd @ 15% O_2	2.5	2.5	2.5	2.5
HRSG Stack emission rate (lb/hr)	20.4	19.1	18.4	17.4
HRSG Stack emission rate (lb/hr)(provided)	21.0	20.0	19.0	18.0

Table A-GClass-4. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Natural Gas, 75% Load

Parameter	Turbine Inlet Temperature			
	35 °F	59 °F	75 °F	95 °F
	Case 12	Case 11	Case 10	Case 9
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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, ppmvw	13.26	12.99	12.86	12.74
Basis, ppmvd @ 15% O2 - provided	10	10	10	10
Moisture (%)	8.46	8.73	9.33	10.17
Turbine Flow (acfm)	2,782,014	2,668,008	2,598,157	2,505,434
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	177	178	180	182
HRSG Stack emission rate (lb/hr)- calculated	46.0	43.3	41.7	39.8
HRSG Stack emission rate (lb/hr)- provided	50.0	47.0	45.0	42.0
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 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	3.05	2.99	2.96	2.93
Basis, ppmvd @ 15% O2 - provided	2.3	2.3	2.3	2.3
Moisture (%)	8.46	8.73	9.33	10.17
Turbine Flow (acfm)	2,782,014	2,668,008	2,598,157	2,505,434
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	177	177	177	177
HRSG Stack emission rate (lb/hr)- calculated	6.72	6.32	6.09	5.82
HRSG Stack emission rate (lb/hr)- provided	6.50	6.10	5.90	5.60
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	12.3	11.7	11.3	10.8
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	1.23	1.17	1.13	1.08
Lead				
Lead (lb/hr) = NA				
Emission Rate Basis	NA	NA	NA	NA
HRSG Stack emission rate (lb/hr)	NA	NA	NA	NA

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

Source: Siemens, 2005; MHI, 2005; CT Performance Data; Golder, 2005.

Table A-GClass-5. Design Information and Stack Parameters for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	Turbine Inlet Temperature 35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Combustion Turbine Performance				
Net power output (MW)	270.3	254.5	241.3	227.5
Net heat rate (Btu/kWh, LHV)	9,180	9,300	9,430	9,590
(Btu/kWh, HHV)	9,731	9,858	9,996	10,165
Heat Input (MMBtu/hr, LHV)	2,482	2,367	2,275	2,181
(MMBtu/hr, HHV)	2,631	2,509	2,411	2,312
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,367	18,367	18,367	18,367
(Btu/lb, HHV)	19,469	19,469	19,469	19,469
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	5,057,565	4,848,676	4,666,901	4,473,519
- provided	NA	NA	NA	NA
Temperature (°F) - assumed	1,200	1,200	1,200	1,200
Moisture (% Vol.)	8.12	8.74	9.48	10.62
Oxygen (% Vol.)	11.75	11.67	11.55	11.34
Molecular Weight	28.65	28.59	28.50	28.37
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)	2,482	2,367	2,275	2,181
Heat content (Btu/lb, LHV)	18,367	18,367	18,367	18,367
Fuel usage (lb/hr)- calculated	135,134	128,891	123,845	118,764
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	22	22	22	22
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	5,057,565	4,848,676	4,666,901	4,473,519
HRSG Stack Temperature (°F)	292	293	294	294
Molecular weight	28.65	28.59	28.50	28.37
CT volume flow (acfm)	1,614,651	1,553,663	1,502,003	1,446,053
(ft^3/s)- calculated	26,911	25,894	25,033	24,101
Diameter (ft)	22	22	22	22
Velocity (ft/sec)- calculated	70.8	68.1	65.9	63.4
Velocity (ft/sec)- provided	71	68	66	63

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

Source: Siemens, 2005; MHI, 2005; CT Performance Data; Golder, 2005.

Table A-GClass-6. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	NA	NA	NA	NA
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	4.1	3.9	3.7	3.6
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	0.82	0.78	0.75	0.72
CT emission rate (lb/hr) [a]	NA	NA	NA	NA
Total HRSG stack emission rate (lb/hr) [a + b]	NA	NA	NA	NA
(lb/mmBtu, HHV)	NA	NA	NA	NA
Total CT emission rate (lb/hr) provided	72.5	69.2	66.3	63.0
Sulfur Dioxide				
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100				
Fuel oil Sulfur Content	0.0015%	0.0015%	0.0015%	0.0015%
Fuel oil use (lb/hr)	135,134	128,891	123,845	118,764
lb SO2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	4.1	3.9	3.7	3.6
HRSG Stack emission rate (lb/hr)- provided	4.10	3.90	3.70	3.60
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	8.12	8.74	9.48	10.62
Oxygen (%)	11.75	11.67	11.55	11.34
Turbine Flow (acfm)	3,564,256	3,425,074	3,306,797	3,183,618
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
CT/DB Emission rate (lb/hr)	430.8	411.2	395.1	379.0
CT emission rate (lb/hr)(provided)	452.0	431.0	415.0	398.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10.0	10.0
HRSG Stack emission rate (lb/hr)	107.6	102.6	98.8	94.8
HRSG Stack emission rate (lb/hr)(provided)	108.0	103.0	99.0	95.0

Table A-GClass-6. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	Turbine Inlet Temperature 35 °F Case 28	59 °F Case 26	75 °F Case 24	95 °F Case 22
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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, ppmvw	9.62	9.62	9.66	9.74
Basis, ppmvd @ 15% O2 - provided	7	7	7	7
Moisture (%)	8.12	8.74	9.48	10.62
Basis, ppmvd @ 15% O_2	7.00	7.00	7.00	7.00
Turbine Flow (acfm)	3,564,256	3,425,074	3,306,797	3,183,618
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	292	293	294	294
HRSG Stack emission rate (lb/hr)	43.7	41.7	40.1	38.4
HRSG Stack emission rate (lb/hr)- provided	46.0	44.0	43.0	41.0
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 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	13.75	13.75	13.80	13.92
Basis, ppmvd @ 15% O2 - provided	10.00	10.00	10.00	10.00
Moisture (%)	8.12	8.74	9.48	10.62
Oxygen (%)	11.75	11.67	11.55	11.34
Oxygen (%-dry)	12.79	12.79	12.76	12.69
Turbine Flow (acfm)	3,564,256	3,425,074	3,306,797	3,183,618
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Stack emission rate (lb/hr)	38.83	37.31	36.15	35.11
HRSG Stack emission rate (lb/hr)- provided	38.00	36.00	35.00	33.00
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	4.1	3.9	3.7	3.6
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.81	0.77	0.74	0.71
Lead				
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Emission Rate Basis (lb/10^{12} Btu)	14	14	14	14
HRSG Stack emission rate (lb/hr)- calculated	0.0347	0.0331	0.0318	0.0305

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

Source: Siemens, 2005; MHI, 2005; CT Performance Data; Golder, 2005.

Table A-GClass-7. Design Information and Stack Parameters for the West County Energy Center Project
FrameG CT, Dry Low NO_x Combustor, Distillate Oil, 75% Load

Parameter	Turbine Inlet Temperature			
	35 °F Case 32	59 °F Case 31	75 °F Case 30	95 °F Case 29
Combustion Turbine Performance				
Net power output (MW)	202.4	185.5	174.0	159.6
Net heat rate (Btu/kWh, LHV)	9,650	9,890	10,110	10,420
(Btu/kWh, HHV)	10,229	10,483	10,717	11,045
Heat Input (MMBtu/hr, LHV)	1,953	1,835	1,759	1,663
(MMBtu/hr, HHV)	2,070	1,945	1,865	1,762
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,367	18,367	18,367	18,367
(Btu/lb, HHV)	19,469	19,469	19,469	19,469
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	4,043,651	3,863,011	3,770,815	3,634,880
- provided	NA	NA	NA	NA
Temperature (°F) - assumed	1,200	1,200	1,200	1,200
Moisture (% Vol.)	7.41	7.7	8.32	9.17
Oxygen (% Vol.)	11.94	12.05	12.03	12.00
Molecular Weight	28.73	28.69	28.61	28.51
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)	1,953	1,835	1,759	1,663
Heat content (Btu/lb, LHV)	18,367	18,367	18,367	18,367
Fuel usage (lb/hr)- calculated	106,332	99,926	95,770	90,525
HRSG Stack				
HRSG - Stack Height (ft)	149	149	149	149
Diameter (ft)	22	22	22	22
HRSG Stack Flow Conditions				
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min				
Mass flow (lb/hr)	4,043,651	3,863,011	3,770,815	3,634,880
HRSG Stack Temperature (°F)	271	274	276	278
Molecular weight	28.73	28.69	28.61	28.51
CT volume flow (acfm)	1,251,267	1,202,012	1,180,000	1,143,977
Diameter (ft)	22	22	22	22
Velocity (ft/sec)- calculated	54.9	52.7	51.7	50.2
Velocity (ft/sec)- provided	55	53	52	50

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

Source: Siemens, 2005; MHI, 2005; CT Performance Data; Golder, 2005.

Table A-GClass-8. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
FrameG CT, Dry Low NQ Combustor, Distillate Oil, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 32	59 °F Case 31	75 °F Case 30	95 °F Case 29
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only				
a. PM_{10} (front half) (lb/hr)				
CT- provided	NA	NA	NA	NA
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})				
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3				
SO_2 emission rate (lb/hr)- calculated	3.2	3.0	2.9	2.7
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	0.64	0.61	0.58	0.55
CT emission rate (lb/hr) [a]	NA	NA	NA	NA
Total HRSG stack emission rate (lb/hr) [a + b]	NA	NA	NA	NA
(lb/mmBtu, HHV)	NA	NA	NA	NA
Total CT emission rate (lb/hr) provided	76.9	73.8	71.4	68.3
Sulfur Dioxide				
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100				
Fuel oil Sulfur Content	0.0015%	0.0015%	0.0015%	0.0015%
Fuel oil use (lb/hr)	106,332	99,926	95,770	90,525
lb SO2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	3.2	3.0	2.9	2.7
HRSG Stack emission rate (lb/hr)- provided	3.2	3.0	2.9	2.7
Nitrogen Oxides				
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	7.41	7.7	8.32	9.17
Oxygen (%)	11.94	12.05	12.03	12.00
Turbine Flow (acfm)	2,841,843	2,719,188	2,661,413	2,574,918
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
CT emission rate (lb/hr)	341.5	319.3	307.8	291.6
CT emission rate (lb/hr)(provided)	355.0	334.0	320.0	303.0
HRSG Stack, ppmvd @ 15% O_2	10	10	10.0	10.0
HRSG Stack emission rate (lb/hr)- calculated	84.5	79.5	76.2	72.1
HRSG Stack emission rate (lb/hr)- provided	85.0	80.0	77.0	73.0

Table A-GClass-8. Maximum Emissions for Criteria Pollutants for the West County Energy Center Project
FrameG CT, Dry Low NQ Combustor, Distillate Oil, 75% Load

Parameter	Turbine Inlet Temperature 35 °F Case 32	59 °F Case 31	75 °F Case 30	95 °F Case 29
Carbon Monoxide				
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 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, ppmvw	33.92	33.24	32.96	32.58
Basis, ppmvd @ 15% O2 - provided	25	25	25	25
Moisture (%)	7.41	7.7	8.32	9.17
Turbine Flow (acfm)	2,841,843	2,719,188	2,661,413	2,574,918
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Exhaust Temperature (°F)	271	274	276	278
HRSG Stack emission rate (lb/hr)	123.7	115.7	111.5	105.7
HRSG Stack emission rate (lb/hr)- provided	129.0	121.0	116.0	110.0
Volatile Organic Compounds				
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 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	13.57	13.30	13.18	13.03
Basis, ppmvd @ 15% O2 - provided	10.00	10.00	10.00	10.00
Moisture (%)	7.41	7.70	8.32	9.17
Turbine Flow (acfm)	11.94	12.05	12.03	12.00
Turbine Exhaust Temperature (°F)	2,841,843	2,719,188	2,661,413	2,574,918
HRSG Exhaust Temperature (°F)	1,200	1,200	1,200	1,200
HRSG Stack emission rate (lb/hr)	30.55	28.65	27.80	26.59
HRSG Stack emission rate (lb/hr)- provided	29.40	27.60	26.50	25.10
Sulfuric Acid Mist				
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100				
CT SO_2 emission rate (lb/hr) - provided	3.2	3.0	2.9	2.7
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20
HRSG Stack emission rate (lb/hr)- calculated	0.64	0.60	0.57	0.54
Lead				
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu				
Emission Rate Basis (lb/10^{12} Btu)	14	14	14	14
HRSG Stack emission rate (lb/hr)- calculated	0.0273	0.0257	0.0246	0.0233

Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: SW, MHI, 2004 - CT Performance Data; Golder, 2005.

Table A-GClass-9. Regulated and Hazardous Air Pollutant Emission Factors and Emissions for the West County Energy Center Project When Firing Natural Gas, Frame G CT

Parameter		Emission Rate (lb/hr) firing Natural Gas for Operating Conditions of Base Load (1)		Natural Gas Maximum Annual Emissions (TPY) (2)	
Ambient Temperature (°F):		59 °F	59 °F w/DB	59 °F	59 °F
				1	6
HIR (MMBtu/hr):		2,511	2,986	CT/HRSG	CTs/HRSGs
Sulfuric acid mist		1.49	1.65	7.5	45.0
HAPs (Section 112(b) of Clean Air Act)					
1,3-Butadiene		0.001080	0.001284	0.0	0.0334
Acetaldehyde		0.1004	0.1194	0.5	3.11
Acrolein		0.0161	0.0191	0.1	0.497
Benzene		0.0301	0.0358	0.2	0.932
Ethylbenzene		0.0804	0.0956	0.4	2.484
Formadehyde		0.544	0.644	2.8	16.80
Naphthalene		0.00326	0.00388	0.0	0.1009
Polycyclic Aromatic Hydrocarbons (PAH)	(3)	0.00552	0.00657	0.0	0.1708
Propylene Oxide		0.0728	0.0866	0.4	2.251
Toluene		0.0829	0.0985	0.4	2.56
Xylene		0.161	0.191	0.8	4.97
Antimony		0.0	0.0	0.0	0.00
Arsenic		0.0	0.0	0.0	0.00
Beryllium		0.0	0.0	0.0	0.00
Cadmium		0.0	0.0	0.0	0.00
Chromium		0.0	0.0	0.0	0.00
Lead		0.0	0.0	0.0	0.00
Manganese		0.0	0.0	0.0	0.00
Mercury		0.0	0.0	0.0	0.00
Nickel		0.0	0.0	0.0	0.00
Selenium		0.0	0.0	0.0	0.00
HAPs (Total)		1.098	1.302	11.30	33.9

(1) Emissions based on the following emission factors and conversion factors for firing natural gas:

Emission Factors		Value	Reference
Sulfuric acid mist		5	%; Conversion of SO_2 to SO_3 in gas turbine
1,3-Butadiene	(a)	0.43	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Acetaldehyde		40	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Acrolein		6.4	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Benzene		12	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Ethylbenzene		32	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Formadehyde		0.091	ppmvd @15% O2 (see Table 10a)
Naphthalene		1.3	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Polycyclic Aromatic Hydrocarbons (PAH)		2.2	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Propylene Oxide	(a)	29	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Toluene		33	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000. Database
Xylene		64	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Antimony		0.00E+00	
Arsenic		0.00E+00	
Beryllium		0.00E+00	
Cadmium		0.00E+00	
Chromium		0.00E+00	
Lead		0.00E+00	
Manganese		0.00E+00	
Mercury		0.00E+00	
Nickel		0.00E+00	
Selenium		0.00E+00	

(a) Based on 1/2 the detection limit; expected emissions are lower.

(2) Annual emissions based on ambient temperature of 59 °F firing natural gas for following hours:

6880 CT
2880 CT/DB

(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.

Table A-GClass-9a. Maximum Formaldehyde Emissions for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	CT Only Turbine Inlet Temperature 35 °F Case 8	59 °F Case 6	59 °F w/DB Case 5	95 °F Case 2
Formaldehyde (CH_2O) MW = 30				
CH_2O (lb/hr) = CH_2O (ppmvd@ 15% O2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft2 x Volume flow (acfm) x 30 (mole. wgt CH2O) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091
Moisture (%)	7.68	8.87	10.24	11.04
Oxygen (%)	12.72	11.92	10.39	11.49
Exhaust Flow (acfm)	1,376,418	1,301,592	1,311,589	1,233,554
Exhaust Temperature (°F)	189	188	188	191
CT Emission rate (lb/hr)	0.530	0.544	0.644	0.512
CT Emission rate (lb/10^{12} Btu) (HHV)	197.5	216.8	256.4	216.4

Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: Siemens, 2005; MHI, 2005; CT Performance Data; Golder, 2005.

Table A-GClass-10. Regulated and Hazardous Air Pollutant Emission Factors and Emissions for the West County Energy Center Project When Firing Distillate Fuel Oil, Frame G CT

Parameter		Emission Rate (lb/hr) Firing Distillate Fuel Oil (1)	Maximum Annual Emissions (TPY)			
		Base Load	Distillate Fuel Oil (2)		Natural Gas (4)	Natural Gas and Fuel Oil (5)
Ambient Temperature (°F):		59 °F				
			1	6	6	6
HIR (MMBtu/hr):		2,509	CT/HRSG	CTs/HRSGs	CTs/HRSGs	CTs/HRSGs
Sulfuric acid mist		0.77	0.19	1.2	45.0	43.6
HAPs (Section 112(b) of Clean Air Act)						
1,3-Butadiene		0.0401	0.0100	0.0602	0.0334	0.092
Acetaldehyde		0.00	0.00	0.00	3.11	2.9
Acrolein		0.00	0.00	0.00	0.497	0.47
Benzene		0.138	0.0345	0.2070	0.932	1.09
Ethylbenzene		0.00	0.00	0.00	2.484	2.34
Formadehyde		0.581	0.145	0.872	16.80	16.7
Naphthalene		0.0878	0.0220	0.1317	0.1009	0.227
Polycyclic Aromatic Hydrocarbons (PAH)	(3)	0.1004	0.0251	0.1506	0.1708	0.31
Propylene Oxide		0.00	0.00	0.00	2.251	2.12
Toluene		0.00	0.00	0.00	2.56	2.4
Xylene		0.00	0.00	0.00	4.97	4.7
Antimony		0.00	0.00	0.00	0.00	0.0
Arsenic		0.0276	0.00690	0.0414	0.00	0.041
Beryllium		0.000778	0.000194	0.001167	0.00	0.00117
Cadmium		0.01204	0.00301	0.01807	0.00	0.0181
Chromium		0.0276	0.00690	0.0414	0.00	0.041
Lead		0.0351	0.00878	0.0527	0.00	0.053
Manganese		1.98	0.496	2.97	0.00	3.0
Mercury		0.00301	0.000753	0.00452	0.00	0.0045
Nickel		0.01154	0.00289	0.01731	0.00	0.0173
Selenium		0.0627	0.0157	0.0941	0.00	0.094
HAPs (Total)		3.11	1.555	4.67	33.9	36.6

(1) Emissions based on the following emission factors and conversion factors for firing distillate fuel oil:

Emission Factors		Value	Reference
Sulfuric acid mist		5	%; Conversion of SO_2 to SO_3 in gas turbine
1,3-Butadiene	(a)	16	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Acetaldehyde		0.0	
Acrolein		0.0	
Benzene		55	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Ethylbenzene		0.0	
Formadehyde		0.091	ppmvd @15% O2 (see Table 10a)
Naphthalene		35	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Polycyclic Aromatic Hydrocarbons (PAH)		40	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Propylene Oxide		0.0	
Toluene		0.0	
Xylene		0.0	
Antimony		0.0	
Arsenic	(a)	11	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Beryllium	(a)	0.31	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Cadmium		4.8	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Chromium		11	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Lead		14	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Manganese		790	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Mercury		1.2	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Nickel	(a)	4.6	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Selenium	(a)	25	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000

(a) Based on 1 2 the detection limit; expected emissions are lower.

(2) Annual emissions based on ambient temperature of 59 °F and firing fuel oil at base load for : 500 hours
(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.
(4) Annual emissions based on maximum emissions presented for natural gas-firing
(5) Maximum total annual emissions based on 500 hours of firing fuel and remaining hours firing natural gas.

Table A-GClass-10a. Maximum Formaldehyde Emissions for the West County Energy Center Project
Frame G CT, Dry Low NO_x Combustor, Distillate Oil, Base Load

Parameter	CT Only Turbine Inlet Temperature 35 °F Case 28	 59 °F Case 26	 75 °F Case 24	 95 °F Case 22
Formaldehyde (CH_2O) MW = 30				
CH_2O (lb/hr) = CH_2O (ppmvd@ 15% O2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft2 x Volume flow (acfm) x 30 (mole. wgt CH2O) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091
Moisture (%)	8.12	8.74	9.48	10.62
Oxygen (%)	11.75	11.67	11.55	11.34
Exhaust Flow (acfm)	1,614,651	1,553,663	1,502,003	1,446,053
Exhaust Temperature (°F)	292	293	294	294
CT Emission rate (lb/hr)	0.609	0.581	0.558	0.535
CT Emission rate (lb/10^{12} Btu) (HHV)	231.4	231.5	231.6	231.6

Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: Siemens, 2005; MHI, 2005; CT Performance Data; Golder, 2005.

REGIONAL HAZE

PM SPECIATION

Table A-RH-FB-1 GE FB GAS FIRING - COMBINED CYCLE (Emissions are per CT)
CALPUFF Emissions 35 °F Inlet Duct Firing at 550 MMBtu/hr

PM	Source	Rate (lb/hr)	Soil	EC	H_2SO_4	Organic
Filterable	CT	9	9	0		
	DB	2.75	0	2.75		
	SCR	2.35	2.35			
Condensible	CT	3.5			1.10	2.40
	DB	2.75			0.30	2.45
Total PM_{10}		20.35	11.35	2.75	1.40350808	4.84649192
		100.00%	55.78%	13.51%	6.90%	23.81%
Extinction Factor			1.00	10.00	6.00	4.00
Total Relative Extinction Factor		66.66	11.35	27.50	8.42	19.39
		100.00%	17.03%	41.26%	12.63%	29.08%

Notes: DB emissions based on 0.005 lb/MMBtu for both filterable and condensible.
CT filterable is soil based on GE data and information; GE stated that no PM from combustion process (i.e., no EC).
DB filterable assumed to be EC
H2SO4 based on direct calculation and apportioned based on heat input
GE Emission Estimates:

	Average Rate (lb/hr)
Filterable (Front Half)	4.8
Condensible (Back Half)	2.8
Total (Front and Back Half)	7.6

	Rate (lb/hr)
SO_2:	14
NO_x:	26.1

Table A-RH-FB-2 GE FB OIL FIRING - COMBINED CYCLE (Emissions are per CT)
CALPUFF Emissions 35 °F Inlet Baseload

PM	Source	Rate (lb/hr)	Soil	EC	H_2SO_4	Organic
Filterable	CT	17	12.2	4.8		
	DB	0	0	0		
	SCR	0.63	0.63			
Condensible	CT	4.62			0.62	4.00
	DB	0				0.00
Total PM10		22.25	12.83	4.8	0.62	4
		100.00%	57.66%	21.57%	2.79%	17.98%
Extinction Factor			1.00	10.00	6.00	4.00
Total Relative Extinction Factor		80.55	12.83	48.00	3.72	16.00
		100.00%	15.93%	59.59%	4.62%	19.86%

Notes: CT filterable is soil based on GE data and information; 4.8 lb/hr is 50% of average front-half test data.
Condensible based on GE average rate and subtracting the effect of 0.05% sulfur fuel
H_2SO_4 based on direct calculation and apportioned based on heat input
GE Emission Estimates:

	Average Rate (lb/hr)	
Filterable (Front Half)	9.5	
Condensible (Back Half)	4	14 lb/hr minus sulfate of 10 lb/hr
Total (Front and Back Half)	13.5	

	Rate (lb/hr)
SO_2:	3.1
NO_x:	84.8

Table A-RH-GClass-1. "G" Class CT GAS FIRING - COMBINED CYCLE (Emissions are per CT)
CALPUFF Emissions 35 °F Inlet Duct Firing at 475 MMBtu/hr

PM	Source	Rate (lb/hr)	Soil	EC	H_2SO_4	Organic
Filterable	CT	12	12	0		
	DB	2.375	0	2.375		
	SCR	2.91	2.91			
Condensible	CT	3.36			1.57	1.79
	DB	2.375			0.17	2.21
Total PM10		23.02	14.91	2.375	1.74	3.995
		100.00%	64.78%	10.32%	7.56%	17.35%
Extinction Factor			1.00	10.00	6.00	4.00
Total Relative Extinction Factor		65.08	14.91	23.75	10.44	15.98
		100.00%	22.92%	36.49%	16.04%	24.55%

Notes: DB emissions based on 0.005 lb/MMBtu for both filterable and condensible.
CT filterable is soil based on combustion temperatures.
DB filterable assumed to be EC
H_2SO_4 based on direct calculation and apportioned based on heat input
SW Emission Estimated 12 lb/hr for both filterable and condnesible.

	Rate (lb/hr)
SO_2:	17.4
NO_x:	31.8

Table A-RH-GClass-2. "G" Class CT OIL FIRING - COMBINED CYCLE (Emissions are per CT)
CALPUFF Emissions 35 °F Inlet Baseload

PM	Source	Rate (lb/hr)	Soil	EC	H_2SO_4	Organic
Filterable	CT	38.6672	29.0004	9.6668		
	DB	0	0	0		
	SCR	NA	NA			
Condensible	CT	9.6668			0.81	8.86
	DB	0				0.00
Total PM10		48.334	29.0004	9.6668	0.81	8.8568
		100.00%	60.00%	20.00%	1.68%	18.32%
Extinction Factor			1.00	10.00	6.00	4.00
Total Relative Extinction Factor		165.96	29.00	96.67	4.86	35.43
		100.00%	17.47%	58.25%	2.93%	21.35%

Notes: CT filterable is assumed to be soil (75%) and EC (25%)
Total PM based on lb/MMBtu similar to GE 7FA with some margin (refer to Appendix A discussion).
Condensible based on 20% of total PM (GE difference) and subtracting the effect of 0.05% sulfur fuel
Filterable PM form the SCR included in the CT emission estimates.
H_2SO_4 based on direct calculation and apportioned based on heat input

	Rate (lb/hr)
SO_2:	4.1
NO_x:	108

GE International
Power Systems

Brahim Richani, Ph.D.
Manager – GPPSD/PPE CC Systems, Applications & Environmental Engineering
(518) 385-5368
Fax: (518) 381-7450

Global Power Plant Systems Dept.
GE International, Inc.
1 River Road, Bldg. 2 - Room 204
Schenectady, NY 12345

September 19, 2003

Mr. John Gnecco
Florida Power and Light
Email: John_Gnecco@fpl.com
Tel: 561-694-4000

SUBJECT: Expected Particulate Matter Emissions: GE 7FA DLN Combustion Turbines

Dear Mr. Gnecco:

In response to your request for expected PM-10 emissions data for GE 7FA DLN gas turbines, enclosed is a summary of the data gathered to date on our 7FA units with liquid fuel-firing and water injection for NOx control. All of the emissions data included in this summary must be considered as estimates only and are not guarantees under any condition.

Only limited data are available in-house for water injected liquid fuel-fired 7FA units. The data presented in this transmittal correspond to stack measurements for 7 tests on 3 units located at different sites and operating at base load conditions. Both front and back half emissions were measured using EPA Method 5 and 202, respectively. Each test consisted of 3 runs each, with exception of Test 1 where the back half emissions were measured for only 2 of the 3 runs.

From the enclosed summary, it is observed that PM-10 emissions (front and back half) for liquid fuel operations range from 4 to 37 lbs/hr with an average of 24 lbs/hr and a standard deviation of 9 lbs/hr. Front half emissions ranged from 1 to 20 lbs/hr with an average of 10 lbs/hr and a standard deviation of 4 lbs/hr, and back half emissions ranged from 3 to 21 lbs/hr with an average of 14 lbs/hr and a standard deviation of 6 lbs/hr. It is assumed that back half emissions include sulfur mist emissions corresponding to an 0.05% by wt. Sulfur fuel. The 0.05% by wt. sulfur can contribute as much as 10 lbs/hr of sulfur mist emissions at base load operating conditions. With a 0.0015% by wt. sulfur fuel, the expected corresponding sulfur mist contribution to total PM-10 emissions is less than 1 lb/hr.

As evident in the summary data, PM-10 emissions vary widely although they reflect emissions from equivalent units (same combustor and size) firing similar liquid fuels. Additionally, the combustion process in gas turbines is highly efficient, complete and repeatable process with a very specific range of allowable operating conditions. Therefore, it is assumed that the variation in the data is largely due to non-combustion factors such as fuel and ambient air impurities and measurement artifacts. For these reasons, it is GE's policy to keep the PM-10 emissions guarantee for 7FA liquid-fuel operations to 34 lbs/hr excluding sulfur compounds. Additionally in the case of non-compliance, GE's only remedy in meeting the PM-10 emissions guarantee is to re-test the unit after an extended period of operation (minimum of 300 hrs). To date, this has proven to be highly successful, which further reflect that PM-10 emissions variations from gas turbines are mostly due to non-combustion factors.

I hope you find this summary helpful. Please note that the summary data presented herein are subject to change as additional field data are gathered. If you have any questions, fell free to call me at (518) 385-5368.

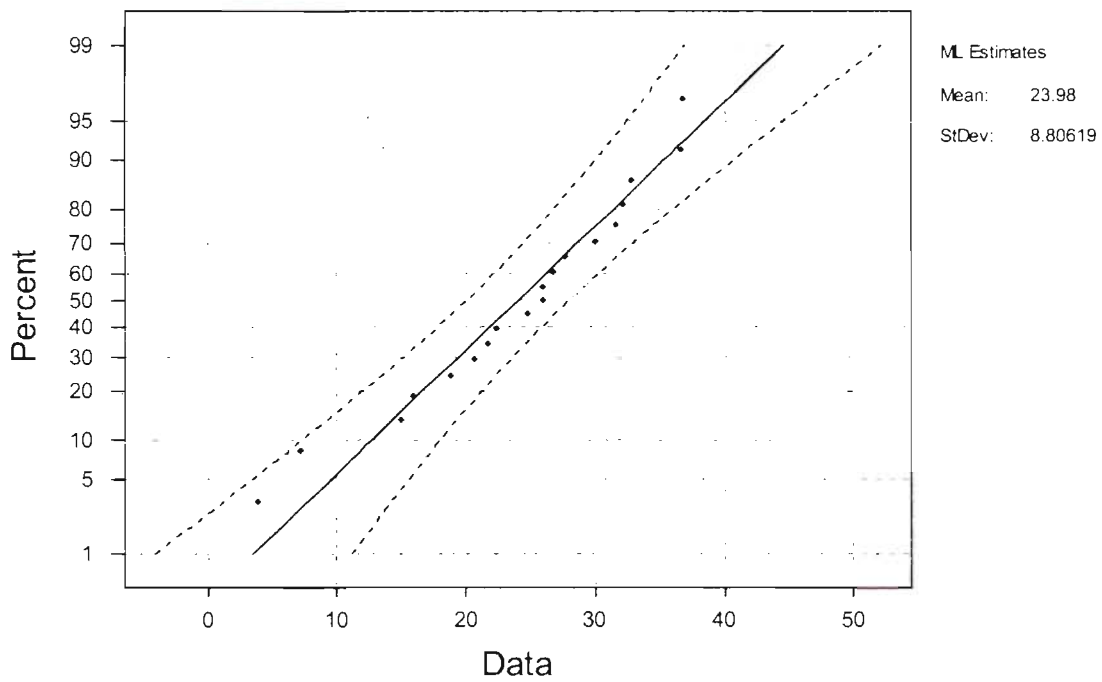
Sincerely,

Brahim Richani, Ph.D.
Manager

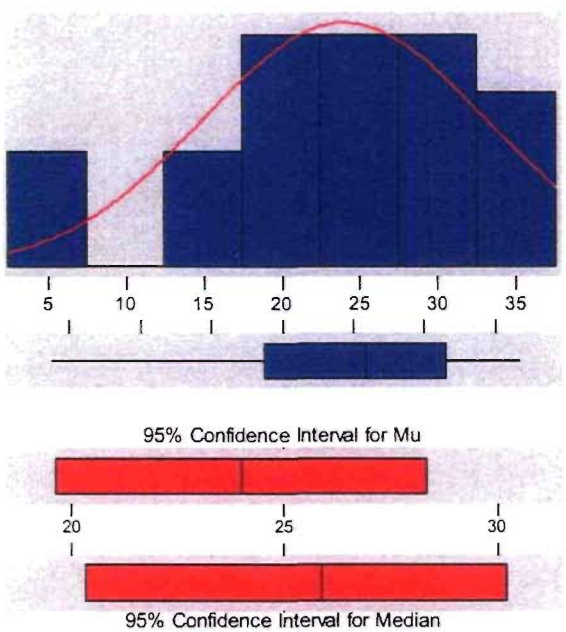
Enclosure

cc: John Almstead – GE
Frank Brooks – GE
Joel Chalfin – GE
Jeanne Beres – GE
Jim Dryzmala – GE

Normal Probability Plot for FrontandBack



Descriptive Statistics



Variable: FrontandBack

Anderson-Darling Normality Test

A-Squared:	0.301
P-Value:	0.545
Mean	23.9800
StDev	9.0475
Variance	81.8572
Skewness	-7.1E-01
Kurtosis	0.202106
N	19
Minimum	3.7900
1st Quartile	18.8200
Median	25.9000
3rd Quartile	31.5400
Maximum	36.7400

95% Confidence Interval for Mu

19.6192 28.3408

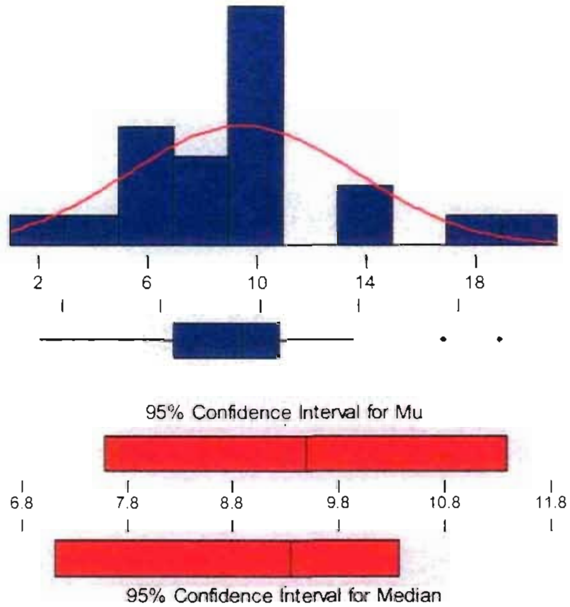
95% Confidence Interval for Sigma

6.8364 13.3797

95% Confidence Interval for Median

20.3493 30.2094

Descriptive Statistics



Variable: Front Half

Anderson-Darling Normality Test	
A-Squared:	0.548
P-Value:	0.139
Mean	9.49652
StDev	4.16896
Variance	17.3802
Skewness	0.656983
Kurtosis	1.25466
N	21
Minimum	1.2070
1st Quartile	6.5800
Median	9.3600
3rd Quartile	10.8250
Maximum	19.7000

95% Confidence Interval for Mu

7.5988 11.3942

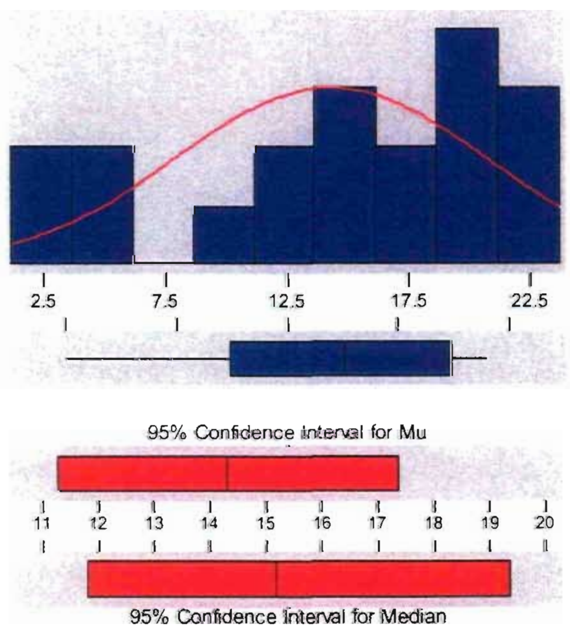
95% Confidence Interval for Sigma

3.1895 6.0203

95% Confidence Interval for Median

7.1372 10.3824

Descriptive Statistics



Variable: Back Half

Anderson-Darling Normality Test	
A-Squared:	0.635
P-Value:	0.083
Mean	14.3511
StDev	6.3264
Variance	40.0235
Skewness	-6.8E-01
Kurtosis	-7.4E-01
N	19
Minimum	2.5900
1st Quartile	10.0600
Median	15.2200
3rd Quartile	19.9400
Maximum	21.4600

95% Confidence Interval for Mu

11.3018 17.4003

95% Confidence Interval for Sigma

4.7803 9.3557

95% Confidence Interval for Median

11.8572 19.3957

GE International
Power Systems

Brahim Richani, Ph.D.
Manager – GPPSD/PPE CC Systems, Applications & Environmental Engineering
(518) 385-5368
Fax: (518) 381-7450

Global Power Plant Systems Dept.
GE International, Inc.
1 River Road, Bldg. 2 - Room 304
Schenectady, NY 12345

June 17, 2003

Mr. John Gnecco
Florida Power and Light
Email: John_Gnecco@fpl.com
Tel: 561-694-4000

SUBJECT: Particulate Matter Emissions: GE PG7241FA DLN Combustion Turbines

Dear Mr. Gnecco:

In response to your request of PM-10 emissions data for GE PG7241 DLN (7FA) gas turbines, enclosed is a summary of the data gathered to date on our 7FA units with natural gas firing. All of the emissions data included in this summary are for natural gas-fired operations only.

From the enclosed summary, it is concluded that PM-10 emissions (front and back half) can range from 1 to 29 lbs/hr with an average of 7.5 lbs/hr. Front half emissions range from 0 to 17 lbs/hr with an average of 4.8 lbs/hr, and back half emissions range from 0 to 15 lbs/hr with an average of 2.8 lbs/hr.

As evident in the summary data, PM-10 emissions vary widely although they reflect emissions from equivalent units (same combustor and size) firing natural gas. The variation in the data implies that there is no consistency in the gathered PM-10 emissions. Please note that the combustion process in gas turbines, specifically DLN units, is a highly efficient, complete and repeatable process with a narrow and very specific range of allowable operating conditions. Once these units are field tuned and certified during the commissioning process, there are no operator adjustments conducted altering the combustion process thereafter. Due to the specific characteristics of the combustion process and the variation in the gathered data, GE believes that PM-10 emissions from its 7FA natural gas-fired units are essentially zero (no emissions from the combustion process itself). Therefore, it is impractical to speciate any PM-10 emissions from the combustion process.

The reported levels in the gathered data are due to non-combustion factors such as measurement artifacts, airborne PM which passes through the gas turbine inlet air filters, airborne construction debris, metallic rust or oxidation products, etc. It is anticipated that front-half (filterable) PM-10 emissions include ambient air and/or fuel quality effects for which GE has no control of and they generally may contain:

- Airborne PM-10 that passes through the gas turbine inlet air filters

- Particulate matter (inert solids) in the fuel gas supply
- Airborne construction debris (present in the inlet or exhaust equipment)
- Metallic rust or oxidation products (present in the inlet or exhaust equipment)
- Measurement (Method 5) artifacts

Additionally, back-half (condensable) PM-10 emissions are mostly from site-specific fuel contaminates and may contain:

- Formation of ammonia sulfates from the SCR system
- Sulfates even w/o an SCR system
- Unburned fuel hydrocarbons that agglomerate to form particles
- Possible other undefined condensables

I hope you find this summary helpful for your permitting needs. If you have any questions, or need additional information, please call me.

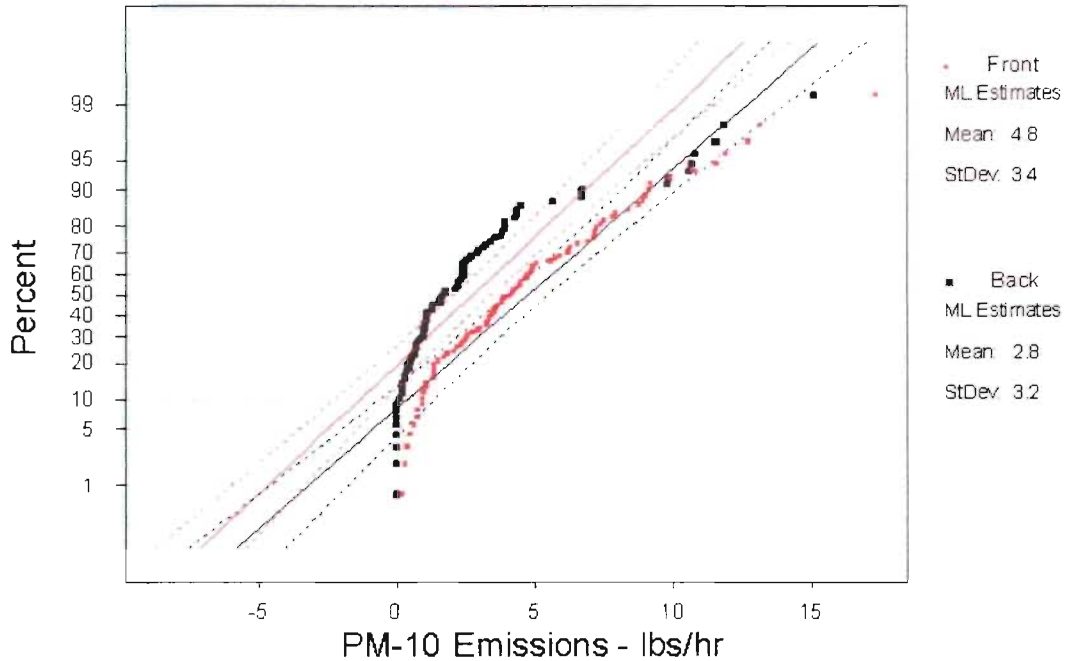
Sincerely,

Brahim Richani, Ph.D.
Manager

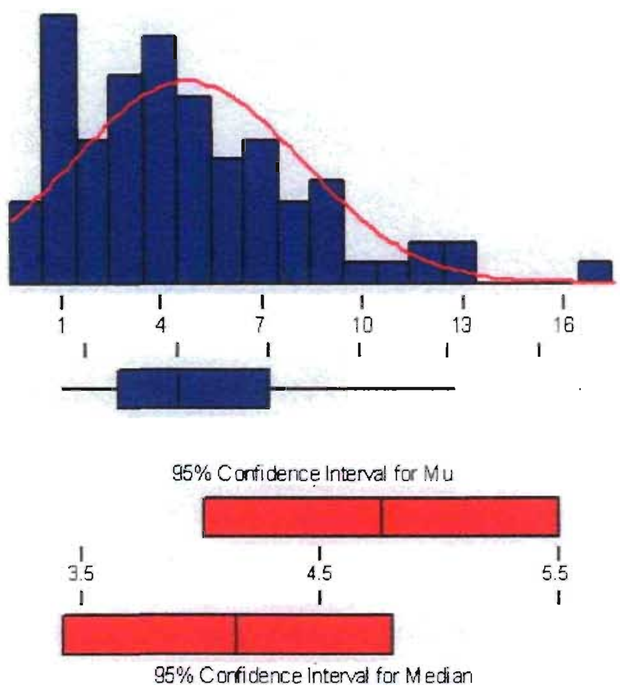
Enclosure

cc: Ken Kosky – Golder Associates – kkosky@golder.com; Tel: 352-336-5600
Frank Brooks – GE
Joel Chalfin – GE
Jeanne Beres - GE

Normal Probability Plot for Front & Back Halfs



Descriptive Statistics



Variable: Front Half

Anderson-Darling Normality Test

A-Squared:	1.488
P-Value:	0.001
Mean	4.76165
StDev	3.43445
Variance	11.7954
Skewness	1.07651
Kurtosis	1.34730
N	84
Minimum	0.2400
1st Quartile	2.1212
Median	4.1500
3rd Quartile	7.0850
Maximum	17.3800

95% Confidence Interval for Mu

4.0163	5.5070

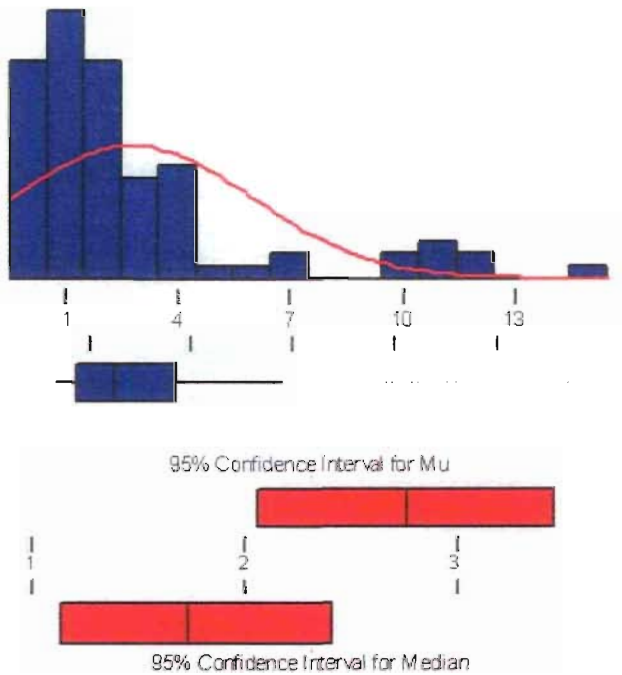
95% Confidence Interval for Sigma

2.9821	4.0498

95% Confidence Interval for Median

3.4144	4.8127

Descriptive Statistics



Variable: Back Half

Anderson-Darling Normality Test

A-Squared:	6.800
P-Value:	0.000
Mean	2.76214
StDev	3.21017
Variance	10.3052
Skewness	1.96176
Kurtosis	3.56237
N	84
Minimum	0.0000
1st Quartile	0.6825
Median	1.7350
3rd Quartile	3.5425
Maximum	15.1100

95% Confidence Interval for Mu

2.0655 3.4588

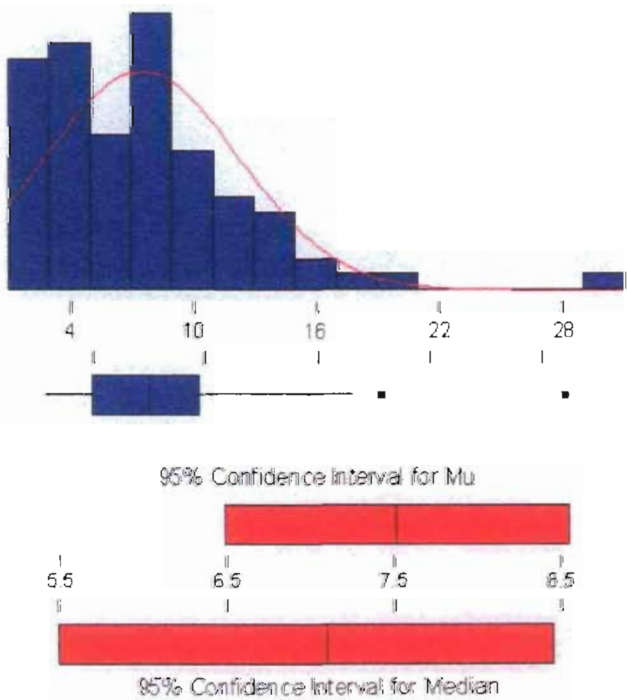
95% Confidence Interval for Sigma

2.7874 3.7854

95% Confidence Interval for Median

1.1300 2.4243

Descriptive Statistics



Variable: Front & Back Half

Anderson-Darling Normality Test

A-Squared:	1.368
P-Value:	0.001
Mean	7.52395
StDev	4.72575
Variance	22.3327
Skewness	1.50019
Kurtosis	4.33434
N	84
Minimum	1.3600
1st Quartile	3.9625
Median	7.1100
3rd Quartile	9.7750
Maximum	29.2300

95% Confidence Interval for Mu

6.4984 8.5495

95% Confidence Interval for Sigma

4.1033 5.5725

95% Confidence Interval for Median

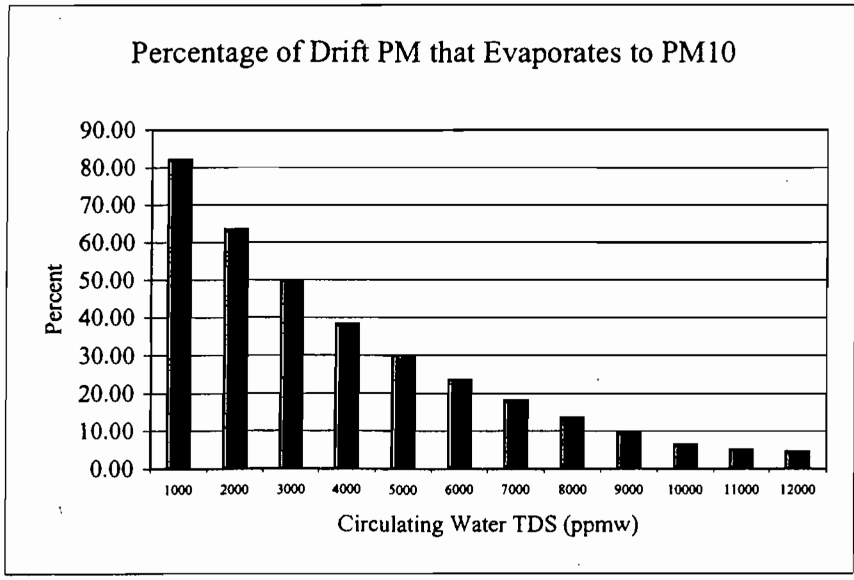
5.5049 8.4599

PM AND PM_{10} EMISSION RATE CALCULATIONS FOR COOLING TOWER

TDS (ppmw)	PM Emission Rate (lb/hr)	Percent of Emissions < or = PM10 %	PM10 Emissions (lb/hr)
1000	0.766	82.04	0.628
2000	1.531	63.50	0.972
3000	2.297	50.00	1.148
4000	3.062	38.33	1.174
5000	3.828	29.97	1.147
6000	4.594	23.59	1.084
7000	5.359	18.20	0.975
8000	6.125	13.57	0.831
9000	6.891	9.65	0.665
10000	7.656	6.28	0.481
11000	8.422	5.11	0.430
12000	9.187	4.46	0.410
30000	22.968	0.76	0.175
89600	68.599	0.22	0.151

Tower Circulation Rate (GPM)	Drift Rate %
306,000	0.0005

Calculated PM10 % < or = PM10 %
82.04
63.50
50.00
38.33
29.97
23.59
18.20
13.57
9.65
6.28
5.11
4.46
0.76
0.22



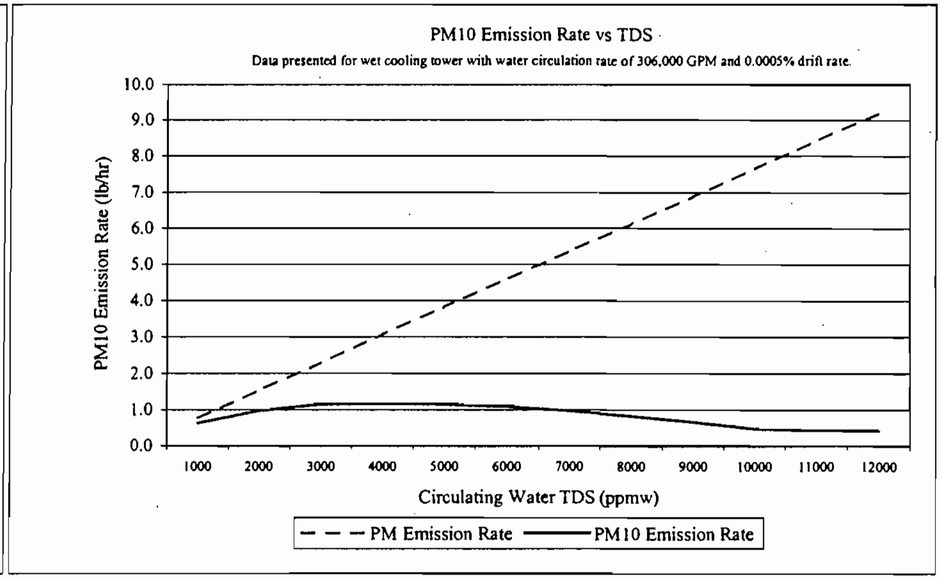


Table #. Resultant Solid Particulate Size Destribution (TDS = 1000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	5.24E-07	0.24	0.769	0.000
20	4188.8	4.19E-03	4.19E-06	1.90	1.538	0.196
30	14137.2	1.41E-02	1.41E-05	6.43	2.307	0.226
40	33510.3	3.35E-02	3.35E-05	15.23	3.076	0.514
50	65449.8	6.54E-02	6.54E-05	29.75	3.844	1.816
60	113097.3	1.13E-01	1.13E-04	51.41	4.613	5.702
70	179594.4	1.80E-01	1.80E-04	81.63	5.382	21.348
90	381703.5	3.82E-01	3.82E-04	173.50	6.920	49.812
110	696910.0	6.97E-01	6.97E-04	316.78	8.458	70.509
130	1150346.5	1.15E+00	1.15E-03	522.88	9.995	82.023
150	1767145.9	1.77E+00	1.77E-03	803.25	11.533	88.012
180	3053628.1	3.05E+00	3.05E-03	1388.01	13.840	91.032
210	4849048.3	4.85E+00	4.85E-03	2204.11	16.147	92.468
240	7238229.5	7.24E+00	7.24E-03	3290.10	18.453	94.091
270	10305994.7	1.03E+01	1.03E-02	4684.54	20.760	94.689
300	14137166.9	1.41E+01	1.41E-02	6425.98	23.066	96.288
350	22449297.5	2.24E+01	2.24E-02	10204.23	26.911	97.011
400	33510321.6	3.35E+01	3.35E-02	15231.96	30.755	98.340
450	47712938.4	4.77E+01	4.77E-02	21687.70	34.600	99.071
500	65449846.9	6.54E+01	6.54E-02	29749.93	38.444	99.071
600	113097335.5	1.13E+02	1.13E-01	51407.88	46.133	100.000

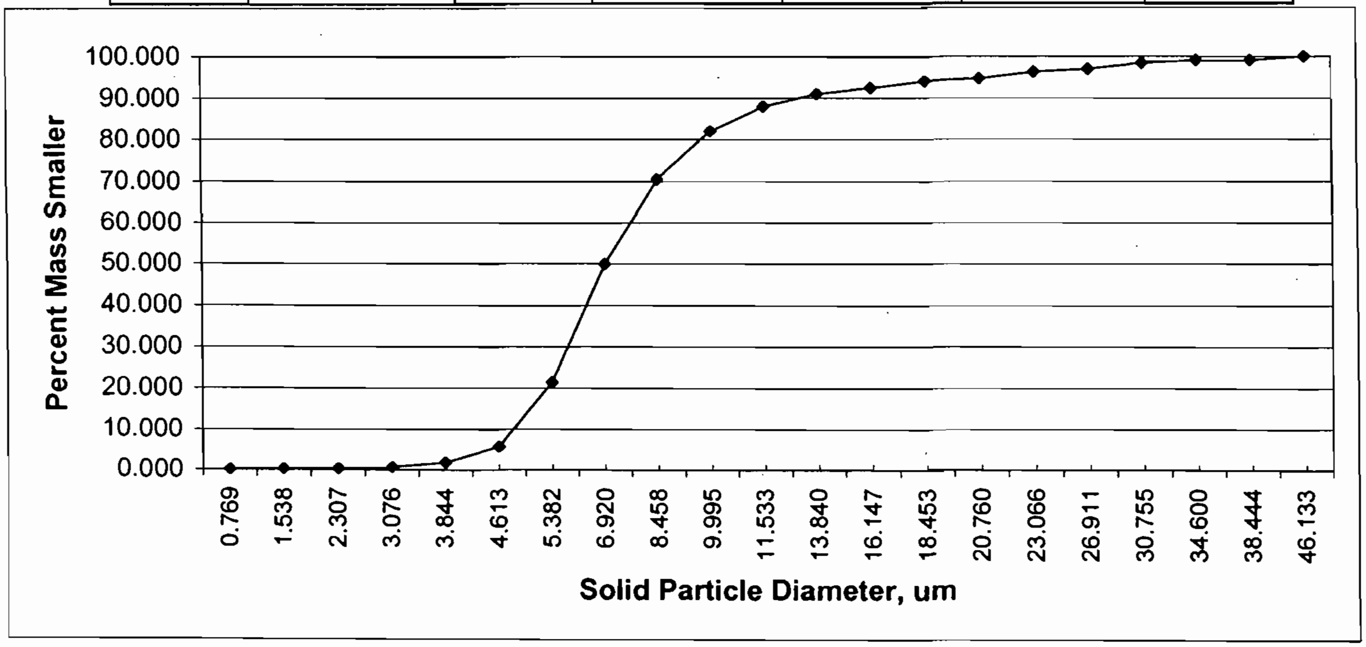


Table #. Resultant Solid Particulate Size Destribution (TDS = 2000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	1.05E-06	0.48	0.969	0.000
20	4188.8	4.19E-03	8.38E-06	3.81	1.937	0.196
30	14137.2	1.41E-02	2.83E-05	12.85	2.906	0.226
40	33510.3	3.35E-02	6.70E-05	30.46	3.875	0.514
50	65449.8	6.54E-02	1.31E-04	59.50	4.844	1.816
60	113097.3	1.13E-01	2.26E-04	102.82	5.812	5.702
70	179594.4	1.80E-01	3.59E-04	163.27	6.781	21.348
90	381703.5	3.82E-01	7.63E-04	347.00	8.719	49.812
110	696910.0	6.97E-01	1.39E-03	633.55	10.656	70.509
130	1150346.5	1.15E+00	2.30E-03	1045.77	12.593	82.023
150	1767145.9	1.77E+00	3.53E-03	1606.50	14.531	88.012
180	3053628.1	3.05E+00	6.11E-03	2776.03	17.437	91.032
210	4849048.3	4.85E+00	9.70E-03	4408.23	20.343	92.468
240	7238229.5	7.24E+00	1.45E-02	6580.21	23.250	94.091
270	10305994.7	1.03E+01	2.06E-02	9369.09	26.156	94.689
300	14137166.9	1.41E+01	2.83E-02	12851.97	29.062	96.288
350	22449297.5	2.24E+01	4.49E-02	20408.45	33.906	97.011
400	33510321.6	3.35E+01	6.70E-02	30463.93	38.749	98.340
450	47712938.4	4.77E+01	9.54E-02	43375.40	43.593	99.071
500	65449846.9	6.54E+01	1.31E-01	59499.86	48.436	99.071
600	113097335.5	1.13E+02	2.26E-01	102815.76	58.124	100.000

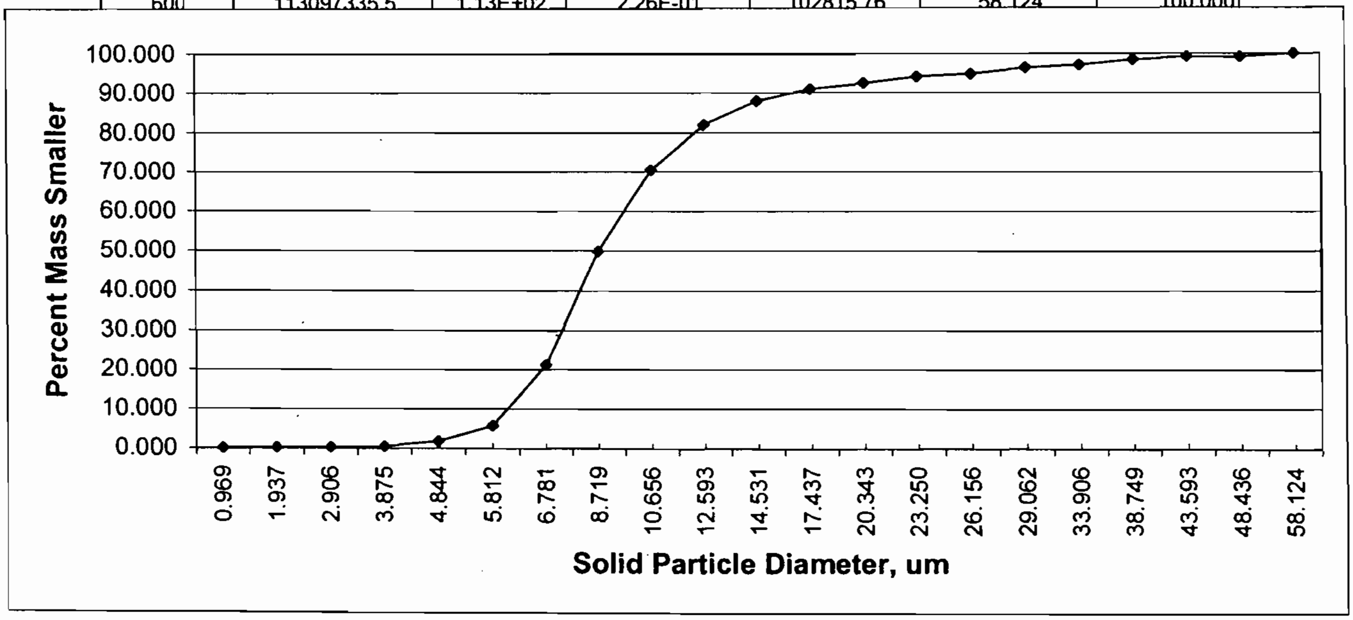


Table #. Resultant Solid Particulate Size Destribution (TDS = 3000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	1.57E-06	0.71	1.109	0.000
20	4188.8	4.19E-03	1.26E-05	5.71	2.218	0.196
30	14137.2	1.41E-02	4.24E-05	19.28	3.327	0.226
40	33510.3	3.35E-02	1.01E-04	45.70	4.436	0.514
50	65449.8	6.54E-02	1.96E-04	89.25	5.545	1.816
60	113097.3	1.13E-01	3.39E-04	154.22	6.654	5.702
70	179594.4	1.80E-01	5.39E-04	244.90	7.762	21.348
90	381703.5	3.82E-01	1.15E-03	520.50	9.980	49.812
110	696910.0	6.97E-01	2.09E-03	950.33	12.198	70.509
130	1150346.5	1.15E+00	3.45E-03	1568.65	14.416	82.023
150	1767145.9	1.77E+00	5.30E-03	2409.74	16.634	88.012
180	3053628.1	3.05E+00	9.16E-03	4164.04	19.961	91.032
210	4849048.3	4.85E+00	1.45E-02	6612.34	23.287	92.468
240	7238229.5	7.24E+00	2.17E-02	9870.31	26.614	94.091
270	10305994.7	1.03E+01	3.09E-02	14053.63	29.941	94.689
300	14137166.9	1.41E+01	4.24E-02	19277.95	33.268	96.288
350	22449297.5	2.24E+01	6.73E-02	30612.68	38.812	97.011
400	33510321.6	3.35E+01	1.01E-01	45695.89	44.357	98.340
450	47712938.4	4.77E+01	1.43E-01	65063.10	49.901	99.071
500	65449846.9	6.54E+01	1.96E-01	89249.79	55.446	99.071
600	113097335.5	1.13E+02	3.39E-01	154223.64	66.535	100.000

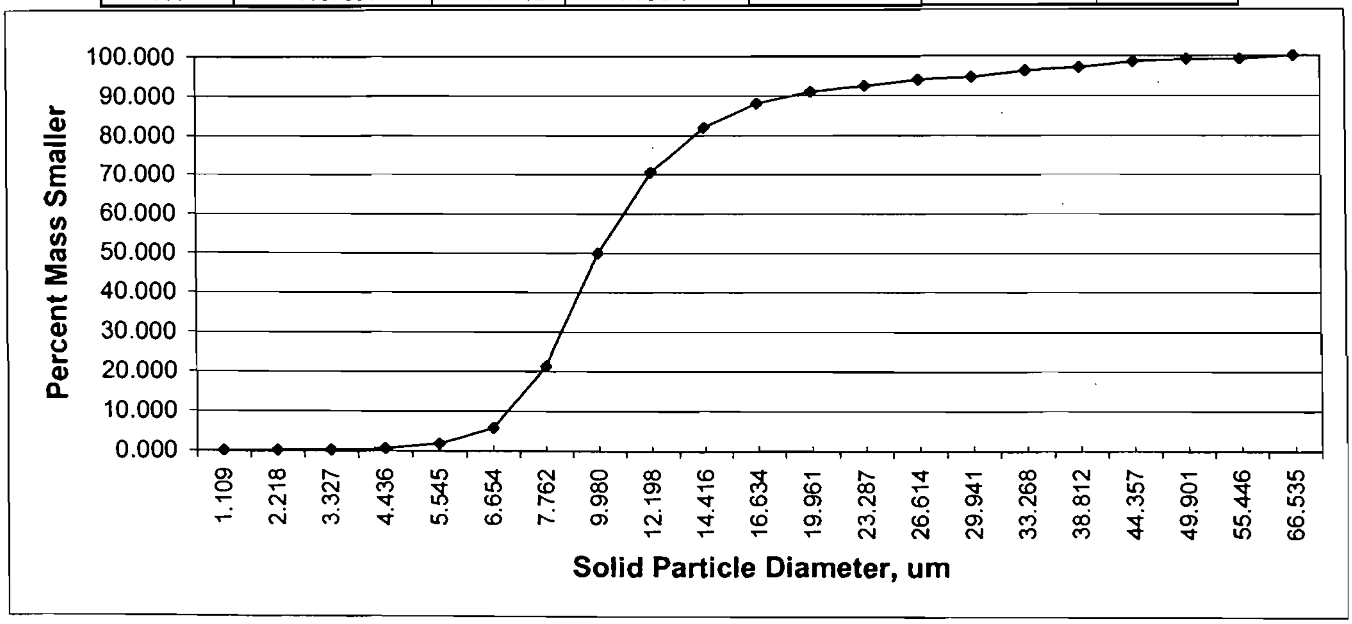


Table #. Resultant Solid Particulate Size Destribution (TDS = 4000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	2.09E-06	0.95	1.221	0.000
20	4188.8	4.19E-03	1.68E-05	7.62	2.441	0.196
30	14137.2	1.41E-02	5.65E-05	25.70	3.662	0.226
40	33510.3	3.35E-02	1.34E-04	60.93	4.882	0.514
50	65449.8	6.54E-02	2.62E-04	119.00	6.103	1.816
60	113097.3	1.13E-01	4.52E-04	205.63	7.323	5.702
70	179594.4	1.80E-01	7.18E-04	326.54	8.544	21.348
90	381703.5	3.82E-01	1.53E-03	694.01	10.985	49.812
110	696910.0	6.97E-01	2.79E-03	1267.11	13.426	70.509
130	1150346.5	1.15E+00	4.60E-03	2091.54	15.867	82.023
150	1767145.9	1.77E+00	7.07E-03	3212.99	18.308	88.012
180	3053628.1	3.05E+00	1.22E-02	5552.05	21.969	91.032
210	4849048.3	4.85E+00	1.94E-02	8816.45	25.631	92.468
240	7238229.5	7.24E+00	2.90E-02	13160.42	29.293	94.091
270	10305994.7	1.03E+01	4.12E-02	18738.17	32.954	94.689
300	14137166.9	1.41E+01	5.65E-02	25703.94	36.616	96.288
350	22449297.5	2.24E+01	8.98E-02	40816.90	42.718	97.011
400	33510321.6	3.35E+01	1.34E-01	60927.86	48.821	98.340
450	47712938.4	4.77E+01	1.91E-01	86750.80	54.924	99.071
500	65449846.9	6.54E+01	2.62E-01	118999.72	61.026	99.071
600	113097335.5	1.13E+02	4.52E-01	205631.52	73.231	100.000

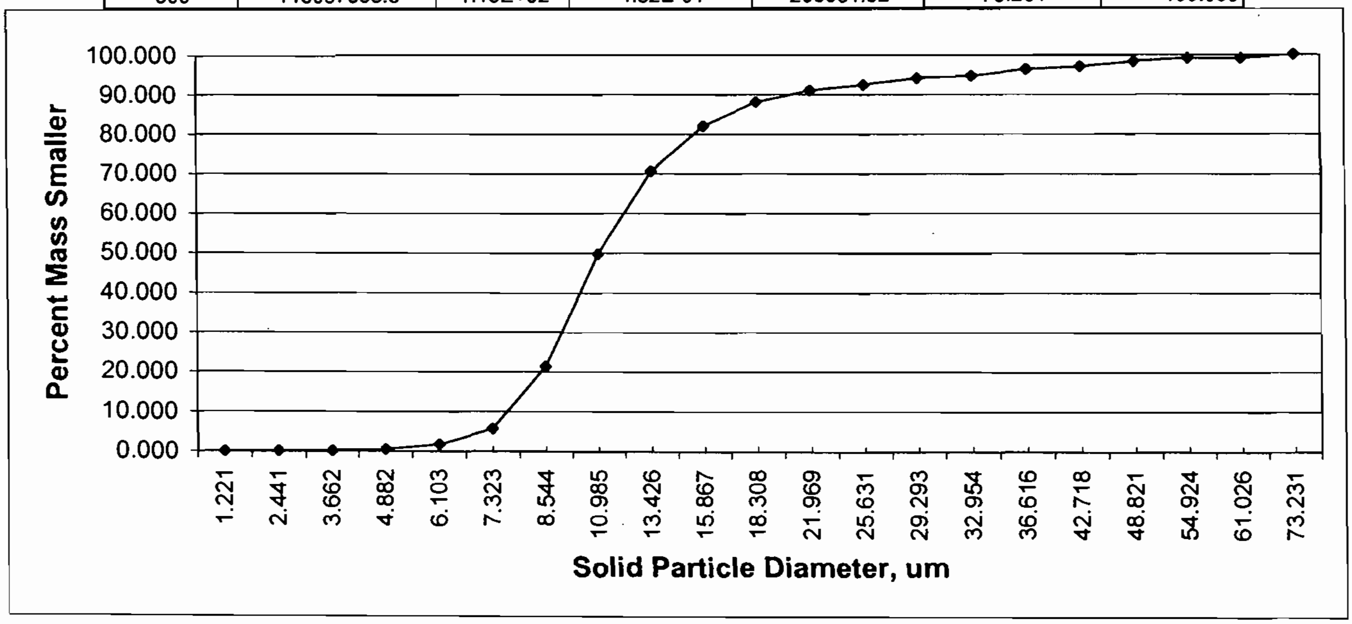


Table #. Resultant Solid Particulate Size Destribution (TDS = 5000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	2.62E-06	1.19	1.315	0.000
20	4188.8	4.19E-03	2.09E-05	9.52	2.630	0.196
30	14137.2	1.41E-02	7.07E-05	32.13	3.944	0.226
40	33510.3	3.35E-02	1.68E-04	76.16	5.259	0.514
50	65449.8	6.54E-02	3.27E-04	148.75	6.574	1.816
60	113097.3	1.13E-01	5.65E-04	257.04	7.889	5.702
70	179594.4	1.80E-01	8.98E-04	408.17	9.203	21.348
90	381703.5	3.82E-01	1.91E-03	867.51	11.833	49.812
110	696910.0	6.97E-01	3.48E-03	1583.89	14.462	70.509
130	1150346.5	1.15E+00	5.75E-03	2614.42	17.092	82.023
150	1767145.9	1.77E+00	8.84E-03	4016.24	19.722	88.012
180	3053628.1	3.05E+00	1.53E-02	6940.06	23.666	91.032
210	4849048.3	4.85E+00	2.42E-02	11020.56	27.610	92.468
240	7238229.5	7.24E+00	3.62E-02	16450.52	31.554	94.091
270	10305994.7	1.03E+01	5.15E-02	23422.72	35.499	94.689
300	14137166.9	1.41E+01	7.07E-02	32129.92	39.443	96.288
350	22449297.5	2.24E+01	1.12E-01	51021.13	46.017	97.011
400	33510321.6	3.35E+01	1.68E-01	76159.82	52.591	98.340
450	47712938.4	4.77E+01	2.39E-01	108438.50	59.165	99.071
500	65449846.9	6.54E+01	3.27E-01	148749.65	65.738	99.071
600	113097335.5	1.13E+02	5.65E-01	257039.40	78.886	100.000

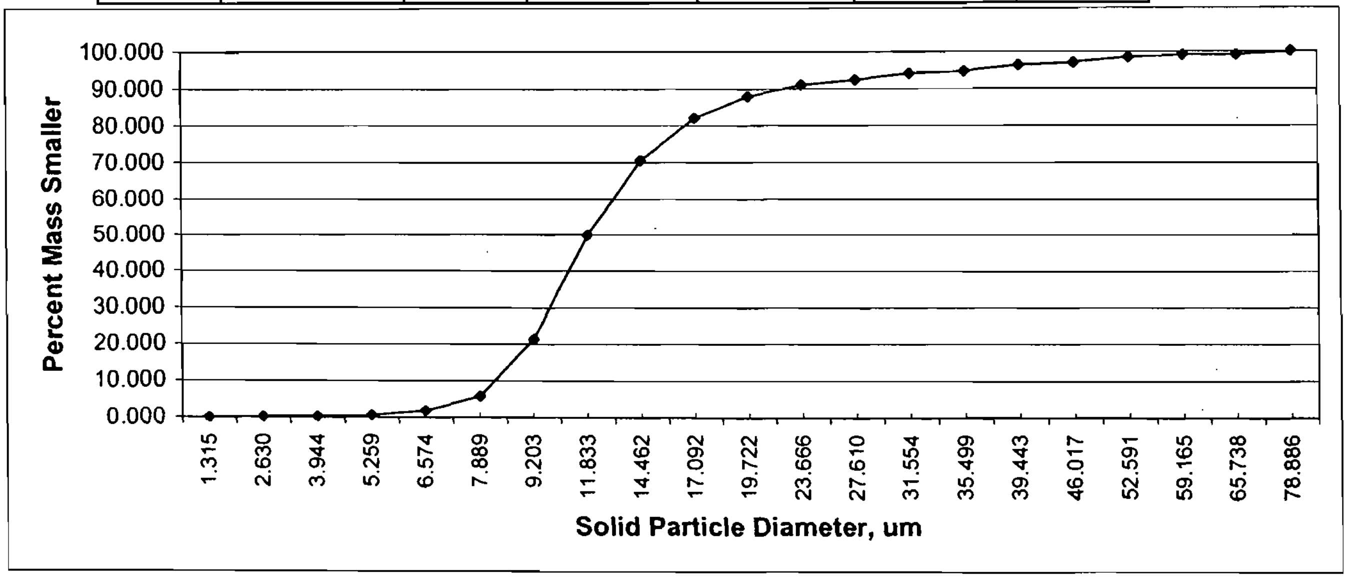


Table #. Resultant Solid Particulate Size Destribution (TDS = 6000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	3.14E-06	1.43	1.397	0.000
20	4188.8	4.19E-03	2.51E-05	11.42	2.794	0.196
30	14137.2	1.41E-02	8.48E-05	38.56	4.191	0.226
40	33510.3	3.35E-02	2.01E-04	91.39	5.589	0.514
50	65449.8	6.54E-02	3.93E-04	178.50	6.986	1.816
60	113097.3	1.13E-01	6.79E-04	308.45	8.383	5.702
70	179594.4	1.80E-01	1.08E-03	489.80	9.780	21.348
90	381703.5	3.82E-01	2.29E-03	1041.01	12.574	49.812
110	696910.0	6.97E-01	4.18E-03	1900.66	15.369	70.509
130	1150346.5	1.15E+00	6.90E-03	3137.31	18.163	82.023
150	1767145.9	1.77E+00	1.06E-02	4819.49	20.957	88.012
180	3053628.1	3.05E+00	1.83E-02	8328.08	25.149	91.032
210	4849048.3	4.85E+00	2.91E-02	13224.68	29.340	92.468
240	7238229.5	7.24E+00	4.34E-02	19740.63	33.532	94.091
270	10305994.7	1.03E+01	6.18E-02	28107.26	37.723	94.689
300	14137166.9	1.41E+01	8.48E-02	38555.91	41.914	96.288
350	22449297.5	2.24E+01	1.35E-01	61225.36	48.900	97.011
400	33510321.6	3.35E+01	2.01E-01	91391.79	55.886	98.340
450	47712938.4	4.77E+01	2.86E-01	130126.20	62.872	99.071
500	65449846.9	6.54E+01	3.93E-01	178499.58	69.857	99.071
600	113097335.5	1.13E+02	6.79E-01	308447.28	83.829	100.000

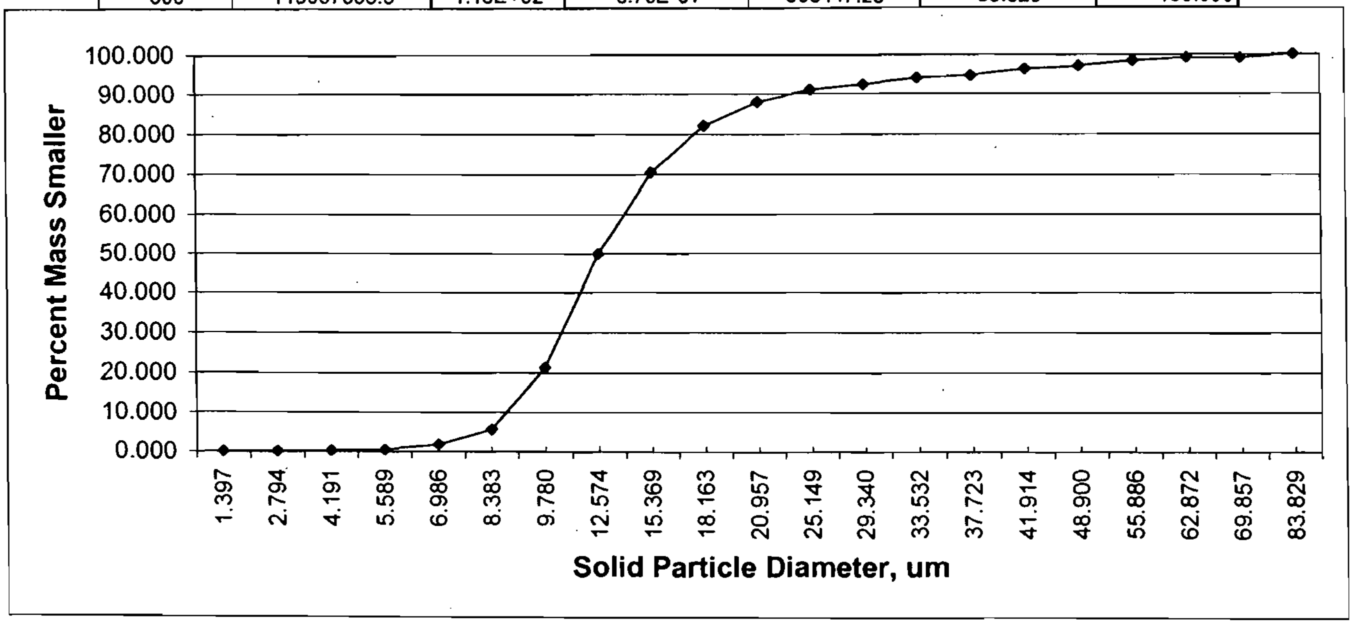


Table #. Resultant Solid Particulate Size Destribution (TDS = 7000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	3.67E-06	1.67	1.471	0.000
20	4188.8	4.19E-03	2.93E-05	13.33	2.942	0.196
30	14137.2	1.41E-02	9.90E-05	44.98	4.412	0.226
40	33510.3	3.35E-02	2.35E-04	106.62	5.883	0.514
50	65449.8	6.54E-02	4.58E-04	208.25	7.354	1.816
60	113097.3	1.13E-01	7.92E-04	359.86	8.825	5.702
70	179594.4	1.80E-01	1.26E-03	571.44	10.296	21.348
90	381703.5	3.82E-01	2.67E-03	1214.51	13.237	49.812
110	696910.0	6.97E-01	4.88E-03	2217.44	16.179	70.509
130	1150346.5	1.15E+00	8.05E-03	3660.19	19.121	82.023
150	1767145.9	1.77E+00	1.24E-02	5622.74	22.062	88.012
180	3053628.1	3.05E+00	2.14E-02	9716.09	26.475	91.032
210	4849048.3	4.85E+00	3.39E-02	15428.79	30.887	92.468
240	7238229.5	7.24E+00	5.07E-02	23030.73	35.300	94.091
270	10305994.7	1.03E+01	7.21E-02	32791.80	39.712	94.689
300	14137166.9	1.41E+01	9.90E-02	44981.89	44.124	96.288
350	22449297.5	2.24E+01	1.57E-01	71429.58	51.479	97.011
400	33510321.6	3.35E+01	2.35E-01	106623.75	58.833	98.340
450	47712938.4	4.77E+01	3.34E-01	151813.89	66.187	99.071
500	65449846.9	6.54E+01	4.58E-01	208249.51	73.541	99.071
600	113097335.5	1.13E+02	7.92E-01	359855.16	88.249	100.000

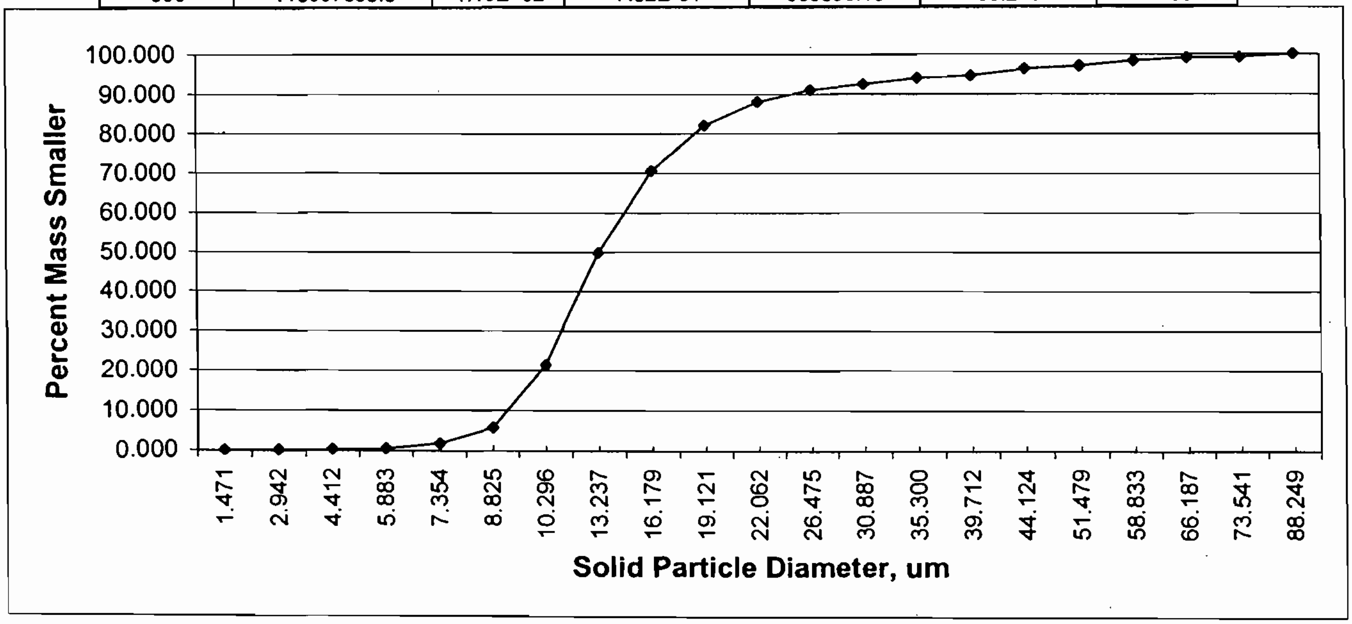


Table #. Resultant Solid Particulate Size Destribution (TDS = 7700 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	4.03E-06	1.83	1.518	0.000
20	4188.8	4.19E-03	3.23E-05	14.66	3.037	0.196
30	14137.2	1.41E-02	1.09E-04	49.48	4.555	0.226
40	33510.3	3.35E-02	2.58E-04	117.29	6.073	0.514
50	65449.8	6.54E-02	5.04E-04	229.07	7.591	1.816
60	113097.3	1.13E-01	8.71E-04	395.84	9.110	5.702
70	179594.4	1.80E-01	1.38E-03	628.58	10.628	21.348
90	381703.5	3.82E-01	2.94E-03	1335.96	13.665	49.812
110	696910.0	6.97E-01	5.37E-03	2439.18	16.701	70.509
130	1150346.5	1.15E+00	8.86E-03	4026.21	19.738	82.023
150	1767145.9	1.77E+00	1.36E-02	6185.01	22.774	88.012
180	3053628.1	3.05E+00	2.35E-02	10687.70	27.329	91.032
210	4849048.3	4.85E+00	3.73E-02	16971.67	31.884	92.468
240	7238229.5	7.24E+00	5.57E-02	25333.80	36.439	94.091
270	10305994.7	1.03E+01	7.94E-02	36070.98	40.994	94.689
300	14137166.9	1.41E+01	1.09E-01	49480.08	45.549	96.288
350	22449297.5	2.24E+01	1.73E-01	78572.54	53.140	97.011
400	33510321.6	3.35E+01	2.58E-01	117286.13	60.732	98.340
450	47712938.4	4.77E+01	3.67E-01	166995.28	68.323	99.071
500	65449846.9	6.54E+01	5.04E-01	229074.46	75.915	99.071
600	113097335.5	1.13E+02	8.71E-01	395840.67	91.098	100.000

Table #. Resultant Solid Particulate Size Destribution (TDS = 8000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	4.19E-06	1.90	1.538	0.000
20	4188.8	4.19E-03	3.35E-05	15.23	3.076	0.196
30	14137.2	1.41E-02	1.13E-04	51.41	4.613	0.226
40	33510.3	3.35E-02	2.68E-04	121.86	6.151	0.514
50	65449.8	6.54E-02	5.24E-04	238.00	7.689	1.816
60	113097.3	1.13E-01	9.05E-04	411.26	9.227	5.702
70	179594.4	1.80E-01	1.44E-03	653.07	10.764	21.348
90	381703.5	3.82E-01	3.05E-03	1388.01	13.840	49.812
110	696910.0	6.97E-01	5.58E-03	2534.22	16.915	70.509
130	1150346.5	1.15E+00	9.20E-03	4183.08	19.991	82.023
150	1767145.9	1.77E+00	1.41E-02	6425.98	23.066	88.012
180	3053628.1	3.05E+00	2.44E-02	11104.10	27.680	91.032
210	4849048.3	4.85E+00	3.88E-02	17632.90	32.293	92.468
240	7238229.5	7.24E+00	5.79E-02	26320.83	36.906	94.091
270	10305994.7	1.03E+01	8.24E-02	37476.34	41.520	94.689
300	14137166.9	1.41E+01	1.13E-01	51407.88	46.133	96.288
350	22449297.5	2.24E+01	1.80E-01	81633.81	53.822	97.011
400	33510321.6	3.35E+01	2.68E-01	121855.72	61.510	98.340
450	47712938.4	4.77E+01	3.82E-01	173501.59	69.199	99.071
500	65449846.9	6.54E+01	5.24E-01	237999.44	76.888	99.071
600	113097335.5	1.13E+02	9.05E-01	411263.04	92.266	100.000

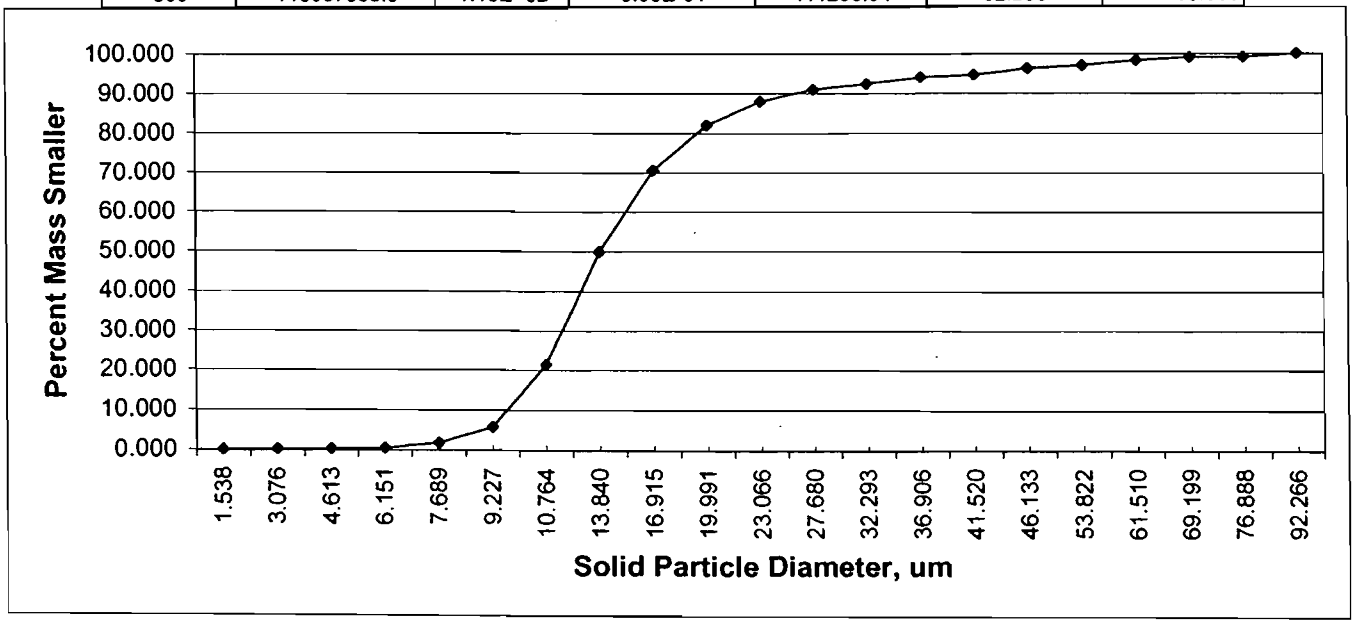


Table #. Resultant Solid Particulate Size Destribution (TDS = 9000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	4.71E-06	2.14	1.599	0.000
20	4188.8	4.19E-03	3.77E-05	17.14	3.199	0.196
30	14137.2	1.41E-02	1.27E-04	57.83	4.798	0.226
40	33510.3	3.35E-02	3.02E-04	137.09	6.397	0.514
50	65449.8	6.54E-02	5.89E-04	267.75	7.997	1.816
60	113097.3	1.13E-01	1.02E-03	462.67	9.596	5.702
70	179594.4	1.80E-01	1.62E-03	734.70	11.195	21.348
90	381703.5	3.82E-01	3.44E-03	1561.51	14.394	49.812
110	696910.0	6.97E-01	6.27E-03	2851.00	17.593	70.509
130	1150346.5	1.15E+00	1.04E-02	4705.96	20.791	82.023
150	1767145.9	1.77E+00	1.59E-02	7229.23	23.990	88.012
180	3053628.1	3.05E+00	2.75E-02	12492.11	28.788	91.032
210	4849048.3	4.85E+00	4.36E-02	19837.02	33.586	92.468
240	7238229.5	7.24E+00	6.51E-02	29610.94	38.384	94.091
270	10305994.7	1.03E+01	9.28E-02	42160.89	43.182	94.689
300	14137166.9	1.41E+01	1.27E-01	57833.86	47.980	96.288
350	22449297.5	2.24E+01	2.02E-01	91838.04	55.977	97.011
400	33510321.6	3.35E+01	3.02E-01	137087.68	63.973	98.340
450	47712938.4	4.77E+01	4.29E-01	195189.29	71.970	99.071
500	65449846.9	6.54E+01	5.89E-01	267749.37	79.967	99.071
600	113097335.5	1.13E+02	1.02E+00	462670.92	95.960	100.000

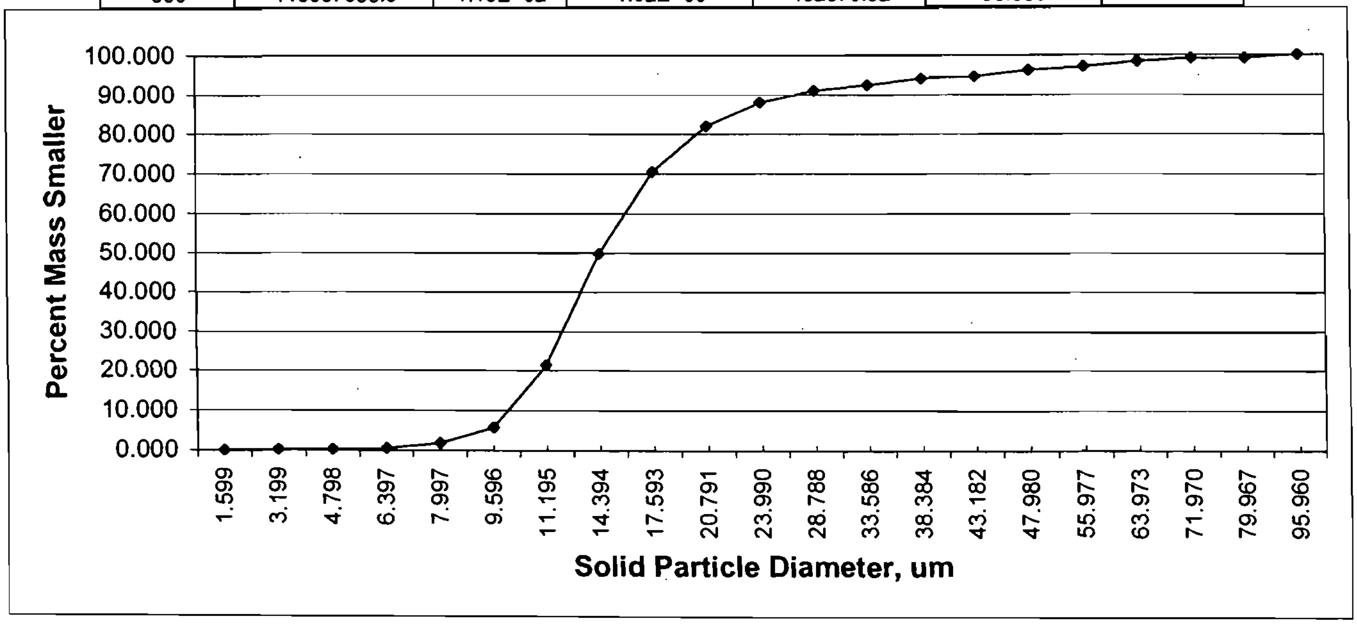


Table #. Resultant Solid Particulate Size Destribution (TDS = 10000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	5.24E-06	2.38	1.657	0.000
20	4188.8	4.19E-03	4.19E-05	19.04	3.313	0.196
30	14137.2	1.41E-02	1.41E-04	64.26	4.970	0.226
40	33510.3	3.35E-02	3.35E-04	152.32	6.626	0.514
50	65449.8	6.54E-02	6.54E-04	297.50	8.283	1.816
60	113097.3	1.13E-01	1.13E-03	514.08	9.939	5.702
70	179594.4	1.80E-01	1.80E-03	816.34	11.596	21.348
90	381703.5	3.82E-01	3.82E-03	1735.02	14.909	49.812
110	696910.0	6.97E-01	6.97E-03	3167.77	18.222	70.509
130	1150346.5	1.15E+00	1.15E-02	5228.85	21.535	82.023
150	1767145.9	1.77E+00	1.77E-02	8032.48	24.848	88.012
180	3053628.1	3.05E+00	3.05E-02	13880.13	29.817	91.032
210	4849048.3	4.85E+00	4.85E-02	22041.13	34.787	92.468
240	7238229.5	7.24E+00	7.24E-02	32901.04	39.756	94.091
270	10305994.7	1.03E+01	1.03E-01	46845.43	44.726	94.689
300	14137166.9	1.41E+01	1.41E-01	64259.85	49.695	96.288
350	22449297.5	2.24E+01	2.24E-01	102042.26	57.978	97.011
400	33510321.6	3.35E+01	3.35E-01	152319.64	66.260	98.340
450	47712938.4	4.77E+01	4.77E-01	216876.99	74.543	99.071
500	65449846.9	6.54E+01	6.54E-01	297499.30	82.825	99.071
600	113097335.5	1.13E+02	1.13E+00	514078.80	99.390	100.000

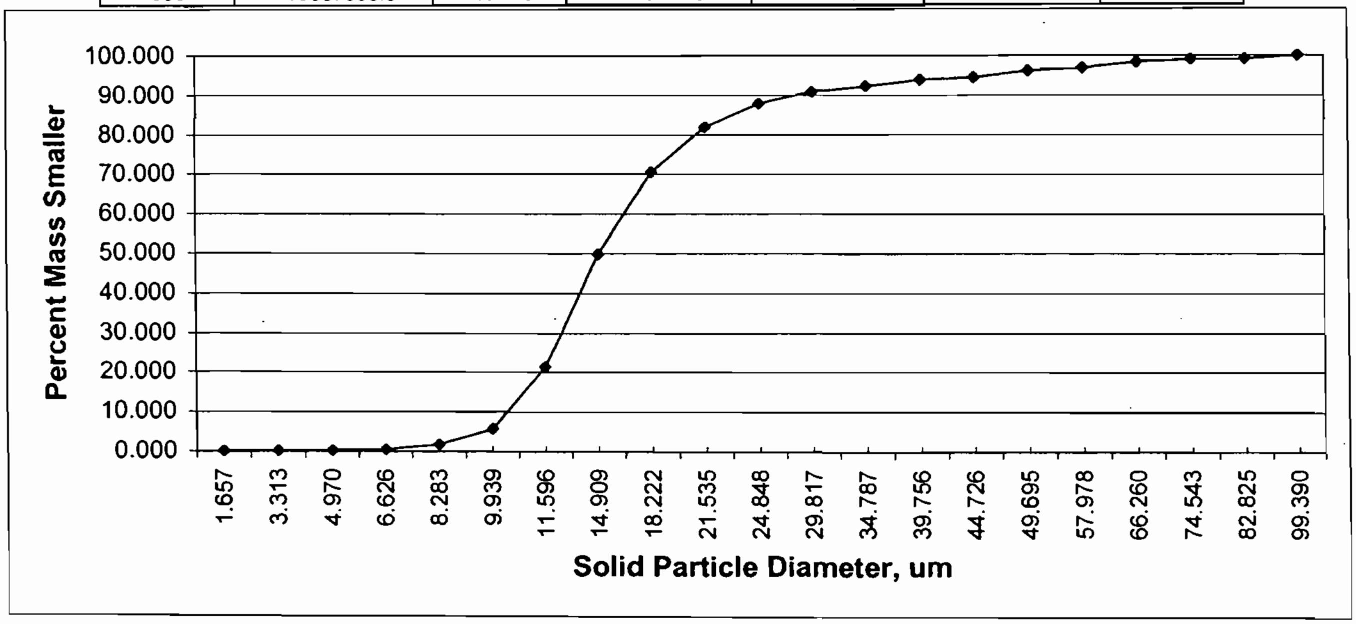


Table #. Resultant Solid Particulate Size Destribution (TDS = 11000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	5.76E-06	2.62	1.710	0.000
20	4188.8	4.19E-03	4.61E-05	20.94	3.420	0.196
30	14137.2	1.41E-02	1.56E-04	70.69	5.130	0.226
40	33510.3	3.35E-02	3.69E-04	167.55	6.840	0.514
50	65449.8	6.54E-02	7.20E-04	327.25	8.550	1.816
60	113097.3	1.13E-01	1.24E-03	565.49	10.260	5.702
70	179594.4	1.80E-01	1.98E-03	897.97	11.970	21.348
90	381703.5	3.82E-01	4.20E-03	1908.52	15.390	49.812
110	696910.0	6.97E-01	7.67E-03	3484.55	18.810	70.509
130	1150346.5	1.15E+00	1.27E-02	5751.73	22.230	82.023
150	1767145.9	1.77E+00	1.94E-02	8835.73	25.650	88.012
180	3053628.1	3.05E+00	3.36E-02	15268.14	30.780	91.032
210	4849048.3	4.85E+00	5.33E-02	24245.24	35.909	92.468
240	7238229.5	7.24E+00	7.96E-02	36191.15	41.039	94.091
270	10305994.7	1.03E+01	1.13E-01	51529.97	46.169	94.689
300	14137166.9	1.41E+01	1.56E-01	70685.83	51.299	96.288
350	22449297.5	2.24E+01	2.47E-01	112246.49	59.849	97.011
400	33510321.6	3.35E+01	3.69E-01	167551.61	68.399	98.340
450	47712938.4	4.77E+01	5.25E-01	238564.69	76.949	99.071
500	65449846.9	6.54E+01	7.20E-01	327249.23	85.499	99.071
600	113097335.5	1.13E+02	1.24E+00	565486.68	102.599	100.000

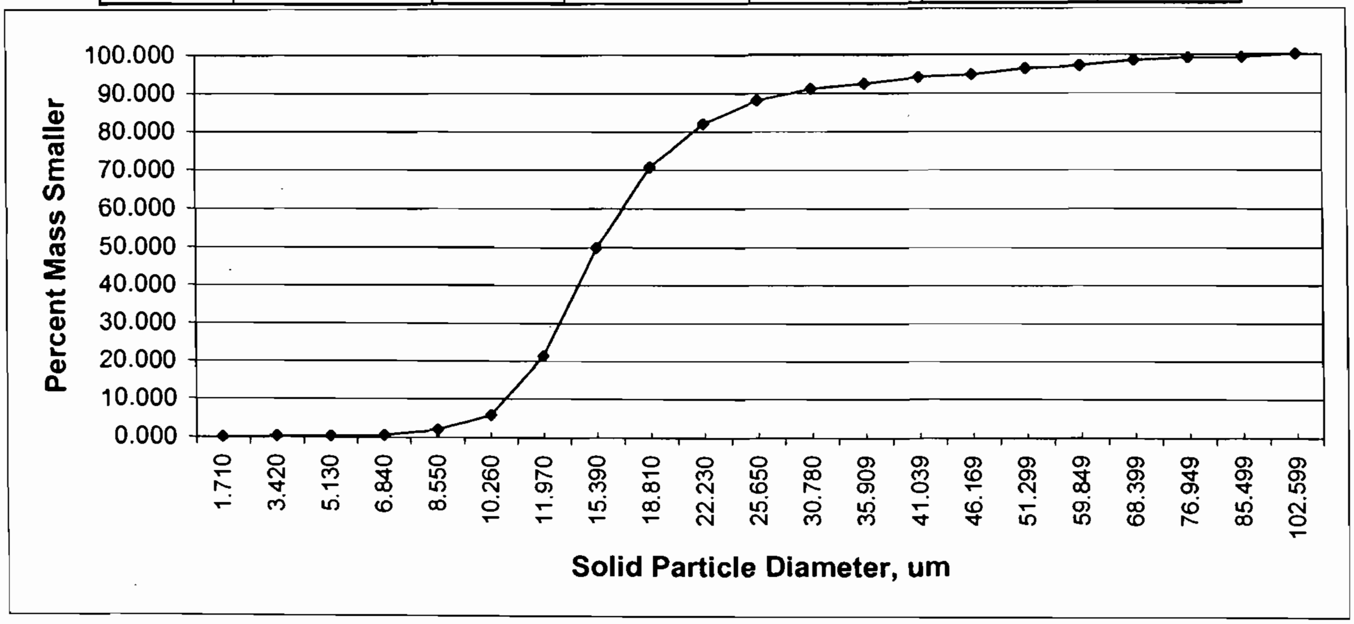


Table #. Resultant Solid Particulate Size Destribution (TDS = 12000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	6.28E-06	2.86	1.760	0.000
20	4188.8	4.19E-03	5.03E-05	22.85	3.521	0.196
30	14137.2	1.41E-02	1.70E-04	77.11	5.281	0.226
40	33510.3	3.35E-02	4.02E-04	182.78	7.041	0.514
50	65449.8	6.54E-02	7.85E-04	357.00	8.801	1.816
60	113097.3	1.13E-01	1.36E-03	616.89	10.562	5.702
70	179594.4	1.80E-01	2.16E-03	979.61	12.322	21.348
90	381703.5	3.82E-01	4.58E-03	2082.02	15.843	49.812
110	696910.0	6.97E-01	8.36E-03	3801.33	19.363	70.509
130	1150346.5	1.15E+00	1.38E-02	6274.62	22.884	82.023
150	1767145.9	1.77E+00	2.12E-02	9638.98	26.404	88.012
180	3053628.1	3.05E+00	3.66E-02	16656.15	31.685	91.032
210	4849048.3	4.85E+00	5.82E-02	26449.35	36.966	92.468
240	7238229.5	7.24E+00	8.69E-02	39481.25	42.247	94.091
270	10305994.7	1.03E+01	1.24E-01	56214.52	47.528	94.689
300	14137166.9	1.41E+01	1.70E-01	77111.82	52.809	96.288
350	22449297.5	2.24E+01	2.69E-01	122450.71	61.610	97.011
400	33510321.6	3.35E+01	4.02E-01	182783.57	70.412	98.340
450	47712938.4	4.77E+01	5.73E-01	260252.39	79.213	99.071
500	65449846.9	6.54E+01	7.85E-01	356999.17	88.015	99.071
600	113097335.5	1.13E+02	1.36E+00	616894.56	105.618	100.000

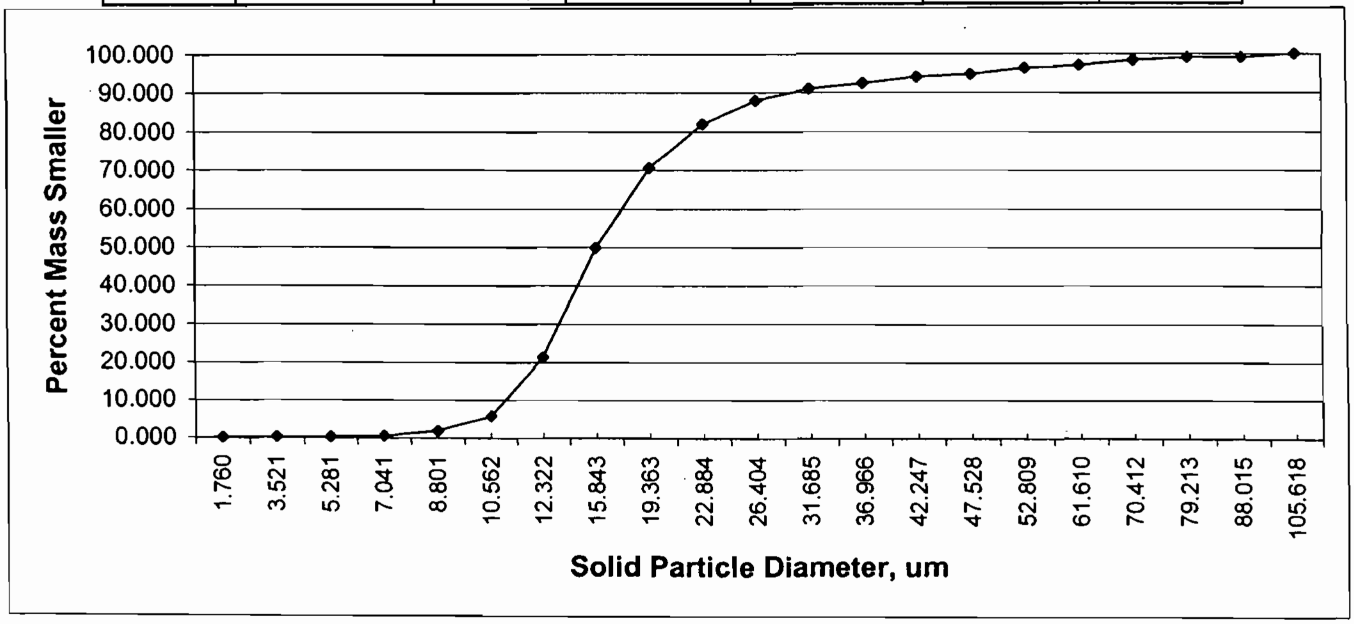


Table #. Resultant Solid Particulate Size Destribution (TDS = 30000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	1.57E-05	7.14	2.389	0.000
20	4188.8	4.19E-03	1.26E-04	57.12	4.778	0.196
30	14137.2	1.41E-02	4.24E-04	192.78	7.167	0.226
40	33510.3	3.35E-02	1.01E-03	456.96	9.556	0.514
50	65449.8	6.54E-02	1.96E-03	892.50	11.945	1.816
60	113097.3	1.13E-01	3.39E-03	1542.24	14.335	5.702
70	179594.4	1.80E-01	5.39E-03	2449.01	16.724	21.348
90	381703.5	3.82E-01	1.15E-02	5205.05	21.502	49.812
110	696910.0	6.97E-01	2.09E-02	9503.32	26.280	70.509
130	1150346.5	1.15E+00	3.45E-02	15686.54	31.058	82.023
150	1767145.9	1.77E+00	5.30E-02	24097.44	35.836	88.012
180	3053628.1	3.05E+00	9.16E-02	41640.38	43.004	91.032
210	4849048.3	4.85E+00	1.45E-01	66123.39	50.171	92.468
240	7238229.5	7.24E+00	2.17E-01	98703.13	57.338	94.091
270	10305994.7	1.03E+01	3.09E-01	140536.29	64.505	94.689
300	14137166.9	1.41E+01	4.24E-01	192779.55	71.673	96.288
350	22449297.5	2.24E+01	6.73E-01	306126.78	83.618	97.011
400	33510321.6	3.35E+01	1.01E+00	456958.93	95.564	98.340
450	47712938.4	4.77E+01	1.43E+00	650630.98	107.509	99.071
500	65449846.9	6.54E+01	1.96E+00	892497.91	119.455	99.071
600	113097335.5	1.13E+02	3.39E+00	1542236.39	143.346	100.000

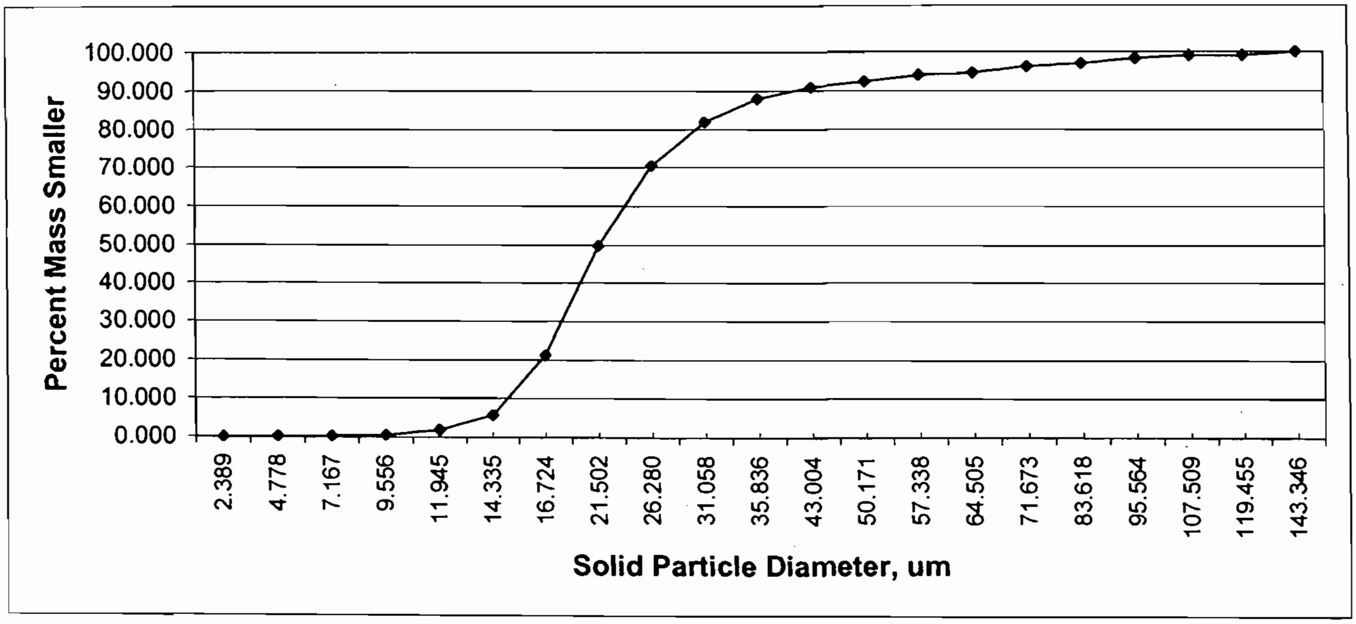
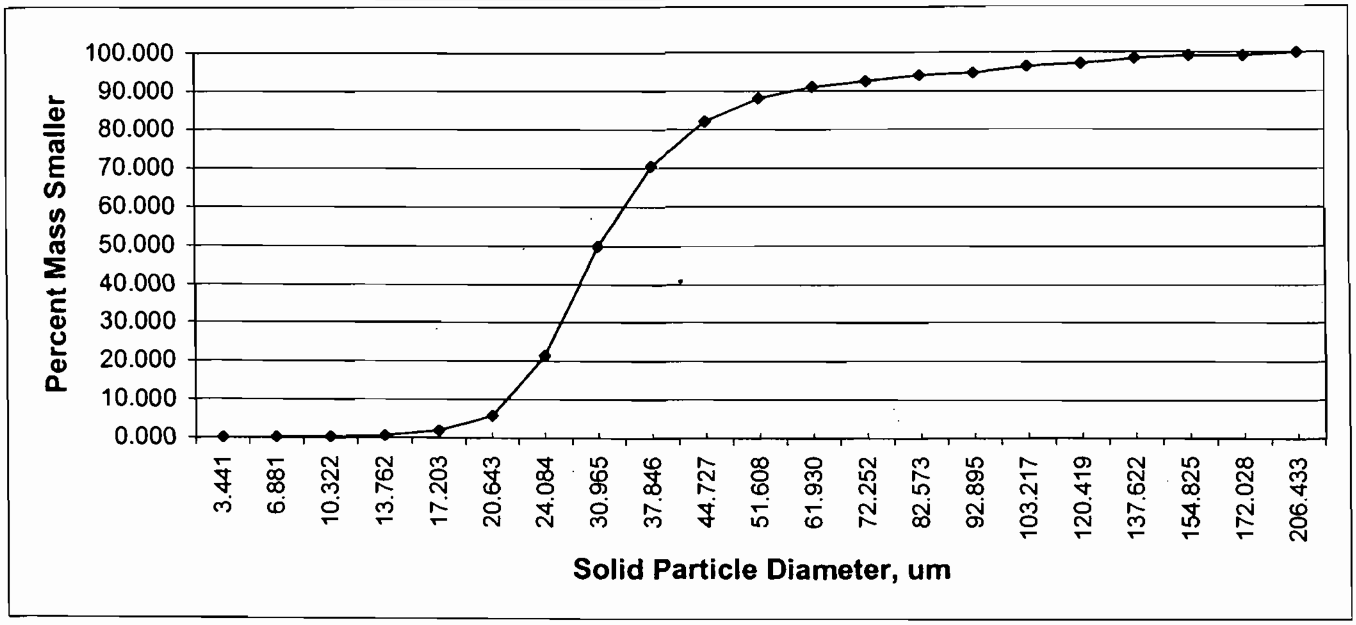


Table #. Resultant Solid Particulate Size Destribution (TDS = 30000 ppmw)

EPRI Droplet Diameter (um)	Droplet Volume (um3)	Droplet Mass (ug)	Particulate Mass (Solids) (ug)	Solid Particulate Volume (um3)	Solid Particulate Diameter (um)	EPRI % Mass Smaller
10	523.6	5.24E-04	4.69E-05	21.32	3.441	0.000
20	4188.8	4.19E-03	3.75E-04	170.60	6.881	0.196
30	14137.2	1.41E-02	1.27E-03	575.77	10.322	0.226
40	33510.3	3.35E-02	3.00E-03	1364.78	13.762	0.514
50	65449.8	6.54E-02	5.86E-03	2665.59	17.203	1.816
60	113097.3	1.13E-01	1.01E-02	4606.15	20.643	5.702
70	179594.4	1.80E-01	1.61E-02	7314.39	24.084	21.348
90	381703.5	3.82E-01	3.42E-02	15545.74	30.965	49.812
110	696910.0	6.97E-01	6.24E-02	28383.24	37.846	70.509
130	1150346.5	1.15E+00	1.03E-01	46850.48	44.727	82.023
150	1767145.9	1.77E+00	1.58E-01	71971.03	51.608	88.012
180	3053628.1	3.05E+00	2.74E-01	124365.94	61.930	91.032
210	4849048.3	4.85E+00	4.34E-01	197488.51	72.252	92.468
240	7238229.5	7.24E+00	6.49E-01	294793.35	82.573	94.091
270	10305994.7	1.03E+01	9.23E-01	419735.06	92.895	94.689
300	14137166.9	1.41E+01	1.27E+00	575768.25	103.217	96.288
350	22449297.5	2.24E+01	2.01E+00	914298.66	120.419	97.011
400	33510321.6	3.35E+01	3.00E+00	1364784.01	137.622	98.340
450	47712938.4	4.77E+01	4.28E+00	1943217.86	154.825	99.071
500	65449846.9	6.54E+01	5.86E+00	2665593.77	172.028	99.071
600	113097335.5	1.13E+02	1.01E+01	4606146.03	206.433	100.000



Calculating Realistic PM_{10} Emissions from Cooling Towers

Abstract No. 216 Session No. AM-1b

Joel Reisman and Gordon Frisbie
Greystone Environmental Consultants, Inc., 650 University Avenue, Suite 100, Sacramento, California 95825

ABSTRACT

Particulate matter less than 10 micrometers in diameter (PM_{10}) emissions from wet cooling towers may be calculated using the methodology presented in EPA's AP-42[1], which assumes that all total dissolved solids (TDS) emitted in "drift" particles (liquid water entrained in the air stream and carried out of the tower through the induced draft fan stack.) are PM_{10}. However, for wet cooling towers with medium to high TDS levels, this method is overly conservative, and predicts significantly higher PM_{10} emissions than would actually occur, even for towers equipped with very high efficiency drift eliminators (e.g., 0.0006% drift rate). Such over-prediction may result in unrealistically high PM_{10} modeled concentrations and/or the need to purchase expensive Emission Reduction Credits (ERCs) in PM_{10} non-attainment areas. Since these towers have fairly low emission points (10 to 15 m above ground), over-predicting PM_{10} emission rates can easily result in exceeding federal Prevention of Significant Deterioration (PSD) significance levels at a project's fenceline. This paper presents a method for computing realistic PM_{10} emissions from cooling towers with medium to high TDS levels.

INTRODUCTION

Cooling towers are heat exchangers that are used to dissipate large heat loads to the atmosphere. Wet, or evaporative, cooling towers rely on the latent heat of water evaporation to exchange heat between the process and the air passing through the cooling tower. The cooling water may be an integral part of the process or may provide cooling via heat exchangers, for example, steam condensers. Wet cooling towers provide direct contact between the cooling water and air passing through the tower, and as part of normal operation, a very small amount of the circulating water may be entrained in the air stream and be carried out of the tower as "drift" droplets. Because the drift droplets contain the same chemical impurities as the water circulating through the tower, the particulate matter constituent of the drift droplets may be classified as an emission. The magnitude of the drift loss is influenced by the number and size of droplets produced within the tower, which are determined by the tower fill design, tower design, the air and water patterns, and design of the drift eliminators.

AP-42 METHOD OF CALCULATING DRIFT PARTICULATE

EPA's AP-42[1] provides available particulate emission factors for wet cooling towers, however, these values only have an emission factor rating of "E" (the lowest level of confidence acceptable). They are also rather high, compared to typical present-day manufacturers' guaranteed drift rates, which are on the order of 0.0006%. (Drift emissions are typically expressed as a percentage of the cooling tower water circulation rate). AP-42 states that "a *conservatively high* PM_{10} emission factor can be obtained by (a) multiplying the total liquid drift factor by the TDS fraction in the circulating water, and (b) assuming that once the water evaporates, all remaining solid particles are within the PM_{10} range." (Italics per EPA).

If TDS data for the cooling tower are not available, a source-specific TDS content can be estimated by obtaining the TDS for the make-up water and multiplying it by the cooling tower cycles of concentration. [The cycles of concentration is the ratio of a measured parameter for the cooling tower water (such as conductivity, calcium, chlorides, or phosphate) to that parameter for the make-up water.]

Using AP-42 guidance, the total particulate emissions (PM) (after the pure water has evaporated) can be expressed as:

$$PM = \text{Water Circulation Rate} \times \text{Drift Rate} \times \text{TDS} \qquad [1]$$

For example, for a typical power plant wet cooling tower with a water circulation rate of 146,000 gallons per minute (gpm), drift rate of 0.0006%, and TDS of 7,700 parts per million by weight (ppmw):

$$PM = 146{,}000 \text{ gpm} \times 8.34 \text{ lb water/gal} \times 0.0006/100 \times 7{,}700 \text{ lb solids}/10^6 \text{ lb water} \times 60 \text{ min/hr} = \underline{3.38 \text{ lb/hr}}$$

On an annual basis, this is equivalent to almost 15 tons per year (tpy). Even for a state-of-the-art drift eliminator system, this is not a small number, especially if assumed to all be equal to PM_{10}, a regulated criteria pollutant. However, as the following analysis demonstrates, only a very small fraction is actually PM_{10}.

COMPUTING THE PM_{10} FRACTION

Based on a representative drift droplet size distribution and TDS in the water, the amount of solid mass in each drop size can be calculated. That is, for a given initial droplet size, assuming that the mass of dissolved solids condenses to a spherical particle after all the water evaporates, and assuming the density of the TDS is equivalent to a representative salt (e.g., sodium chloride), the diameter of the final solid particle can be calculated. Thus, using the drift droplet size distribution, the percentage of drift mass containing particles small enough to produce PM_{10} can be calculated. This method is conservative as the final particle is assumed to be perfectly spherical; hence as small a particle as can exist.

The droplet size distribution of the drift emitted from the tower is critical to performing the analysis. Brentwood Industries, a drift eliminator manufacturer, was contacted and agreed to provide drift eliminator test data from a test conducted by Environmental Systems Corporation (ESC) at the Electric Power Research Institute (EPRI) test facility in Houston, Texas in 1988 (Aull[2], 1999). The data consist of water droplet size distributions for a drift eliminator that achieved a tested drift rate of 0.0003 percent. As we are using a 0.0006 percent drift rate, it is reasonable to expect that the 0.0003 percent drift rate would produce smaller droplets, therefore, this size distribution data can be assumed to be conservative for predicting the fraction of PM_{10} in the total cooling tower PM emissions.

In calculating PM_{10} emissions the following assumptions were made:

- Each water droplet was assumed to evaporate shortly after being emitted into ambient air, into a single, solid, spherical particle.
- Drift water droplets have a density (ρ_w) of water; $1.0\ g/cm^3$ or $1.0 * 10^{-6}\ \mu g/\mu m^3$.
- The solid particles were assumed to have the same density (ρ_{TDS}) as sodium chloride, (i.e., $2.2\ g/cm^3$).

Using the formula for the volume of a sphere, $V = 4\pi r^3/3$, and the density of pure water, $\rho_w = 1.0\ g/cm^3$, the following equations can be used to derive the solid particulate diameter, D_p, as a function of the TDS, the density of the solids, and the initial drift droplet diameter, D_d :

Volume of drift droplet = $(4/3)\pi(D_d/2)^3$ [2]

Mass of solids in drift droplet = (TDS)(ρ_w)(Volume of drift droplet) [3]

substituting,

Mass of solids in drift = $(TDS)(\rho_w)(4/3)\pi(D_d/2)^3$ [4]

Assuming the solids remain and coalesce after the water evaporates, the mass of solids can also be expressed as:

Mass of solids = (ρ_{TDS}) (solid particle volume) = $(\rho_{TDS})(4/3)\pi(D_p/2)^3$ [5]

Equations [4] and [5] are equivalent:

$$(\rho_{TDS})(4/3)\pi(D_p/2)^3 = (TDS)(\rho_w)(4/3)\pi(D_d/2)^3 \quad [6]$$

Solving for D_p:

$$D_p = D_d\ [(TDS)(\rho_w/\rho_{TDS})]^{1/3} \quad [7]$$

Where,

TDS is in units of ppmw
D_p = diameter of solid particle, micrometers (μm)
D_d = diameter of drift droplet, μm

Using formulas [2] – [7] and the particle size distribution test data, Table 1 can be constructed for drift from a wet cooling tower having the same characteristics as our example; 7,700 ppmw TDS and a 0.0006% drift rate. The first and last columns of this table are the particle size distribution derived from test results provided by Brentwood Industries. Using straight-line interpolation for a solid particle size 10 μm in diameter, we conclude that approximately 14.9 percent of the mass emissions are equal to or smaller than PM_{10}. The balance of the solid particulate are particulate greater than 10 μm. Hence, PM_{10} emissions from this tower would be equal to PM emissions x 0.149, or 3.38 lb/hr x 0.149 = 0.50 lb/hr. The process is repeated in Table 2, with all parameters equal except that the TDS is 11,000 ppmw. The result is that approximately 5.11 percent are smaller at 11,000 ppm. Thus, while total PM emissions are larger by virtue of a higher TDS, overall PM_{10} emissions are actually lower, because more of the solid particles are larger than 10 μm.

Table 1. Resultant Solid Particulate Size Distribution (TDS = 7700 ppmw)

EPRI Droplet Diameter (μm)	Droplet Volume (μm^3) [2][1]	Droplet Mass (μg) [3]	Particle Mass (Solids) (μg) [4]	Solid Particle Volume (μm^3)	Solid Particle Diameter (μm) [7]	EPRI % Mass Smaller
10	524	5.24E-04	4.03E-06	1.83	1.518	0.000
20	4189	4.19E-03	3.23E-05	14.66	3.037	0.196
30	14137	1.41E-02	1.09E-04	49.48	4.555	0.226
40	33510	3.35E-02	2.58E-04	117.29	6.073	0.514
50	65450	6.54E-02	5.04E-04	229.07	7.591	1.816
60	113097	1.13E-01	8.71E-04	395.84	9.110	5.702
70	179594	1.80E-01	1.38E-03	628.58	10.628	21.348
90	381704	3.82E-01	2.94E-03	1335.96	13.665	49.812
110	696910	6.97E-01	5.37E-03	2439.18	16.701	70.509
130	1150347	1.15E+00	8.86E-03	4026.21	19.738	82.023
150	1767146	1.77E+00	1.36E-02	6185.01	22.774	88.012
180	3053628	3.05E+00	2.35E-02	10687.70	27.329	91.032
210	4849048	4.85E+00	3.73E-02	16971.67	31.884	92.468
240	7238229	7.24E+00	5.57E-02	25333.80	36.439	94.091
270	10305995	1.03E+01	7.94E-02	36070.98	40.994	94.689
300	14137167	1.41E+01	1.09E-01	49480.08	45.549	96.288
350	22449298	2.24E+01	1.73E-01	78572.54	53.140	97.011
400	33510322	3.35E+01	2.58E-01	117286.13	60.732	98.340
450	47712938	4.77E+01	3.67E-01	166995.28	68.323	99.071
500	65449847	6.54E+01	5.04E-01	229074.46	75.915	99.071
600	113097336	1.13E+02	8.71E-01	395840.67	91.098	100.000

[1] Bracketed numbers refer to equation number in text.

The percentage of PM_{10}/PM was calculated for cooling tower TDS values from 1000 to 12000 ppmw and the results are plotted in Figure 1. Using these data, Figure 2 presents predicted PM_{10} emission rates for the 146,000 gpm example tower. As shown in this figure, the PM emission rate increases in a straight line as TDS increases, however, the PM_{10} emission rate increases to a maximum at around a TDS of 4000 ppmw, and then begins to decline. The reason is that at higher TDS, the drift droplets contain more solids and therefore, upon evaporation, result in larger solid particles for any given initial droplet size.

CONCLUSION

The emission factors and methodology given in EPA's AP-42[1] Chapter 13.4 *Wet Cooling Towers*, do not account for the droplet size distribution of the drift exiting the tower. This is a critical factor, as more than 85% of the mass of particulate in the drift from most cooling towers will result in solid particles larger than PM_{10} once the water has evaporated. Particles larger than PM_{10} are no longer a regulated air pollutant, because their impact on human health has been shown to be insignificant. Using reasonable, conservative assumptions and a realistic drift droplet size distribution, a method is now available for calculating realistic PM_{10} emission rates from wet mechanical draft cooling towers equipped with modern, high-efficiency drift eliminators and operating at medium to high levels of TDS in the circulating water.

Table 2. Resultant Solid Particulate Size Distribution (TDS = 11000 ppmw)

EPRI Droplet Diameter (μm)	Droplet Volume (μm^3) [2][1]	Droplet Mass (μg) [3]	Particle Mass (Solids) (μg) [4]	Solid Particle Volume (μm^3)	Solid Particle Diameter (μm) [7]	EPRI % Mass Smaller
10	524	5.24E-04	5.76E-06	2.62	1.710	0.000
20	4189	4.19E-03	4.61E-05	20.94	3.420	0.196
30	14137	1.41E-02	1.56E-04	70.69	5.130	0.226
40	33510	3.35E-02	3.69E-04	167.55	6.840	0.514
50	65450	6.54E-02	7.20E-04	327.25	8.550	1.816
60	113097	1.13E-01	1.24E-03	565.49	10.260	5.702
70	179594	1.80E-01	1.98E-03	897.97	11.970	21.348
90	381704	3.82E-01	4.20E-03	1908.52	15.390	49.812
110	696910	6.97E-01	7.67E-03	3484.55	18.810	70.509
130	1150347	1.15E+00	1.27E-02	5751.73	22.230	82.023
150	1767146	1.77E+00	1.94E-02	8835.73	25.650	88.012
180	3053628	3.05E+00	3.36E-02	15268.14	30.780	91.032
210	4849048	4.85E+00	5.33E-02	24245.24	35.909	92.468
240	7238229	7.24E+00	7.96E-02	36191.15	41.039	94.091
270	10305995	1.03E+01	1.13E-01	51529.97	46.169	94.689
300	14137167	1.41E+01	1.56E-01	70685.83	51.299	96.288
350	22449298	2.24E+01	2.47E-01	112246.49	59.849	97.011
400	33510322	3.35E+01	3.69E-01	167551.61	68.399	98.340
450	47712938	4.77E+01	5.25E-01	238564.69	76.949	99.071
500	65449847	6.54E+01	7.20E-01	327249.23	85.499	99.071
600	113097336	1.13E+02	1.24E+00	565486.68	102.599	100.000

Figure 1: Percentage of Drift PM that Evaporates to PM10

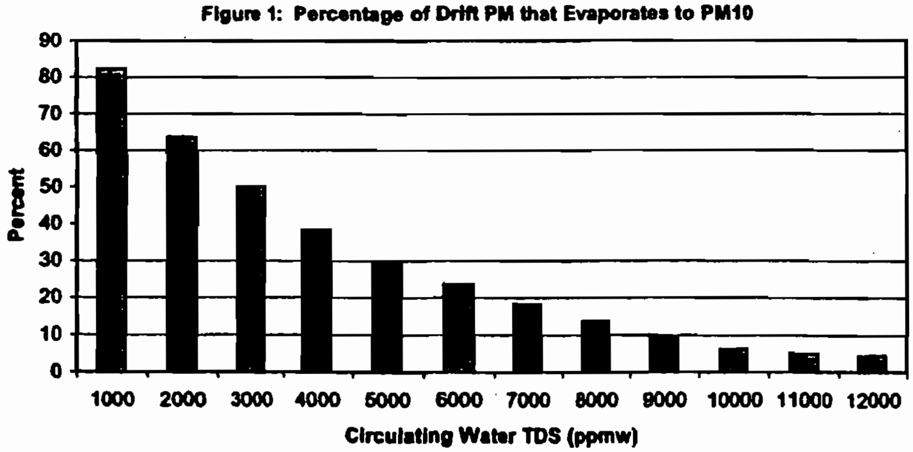
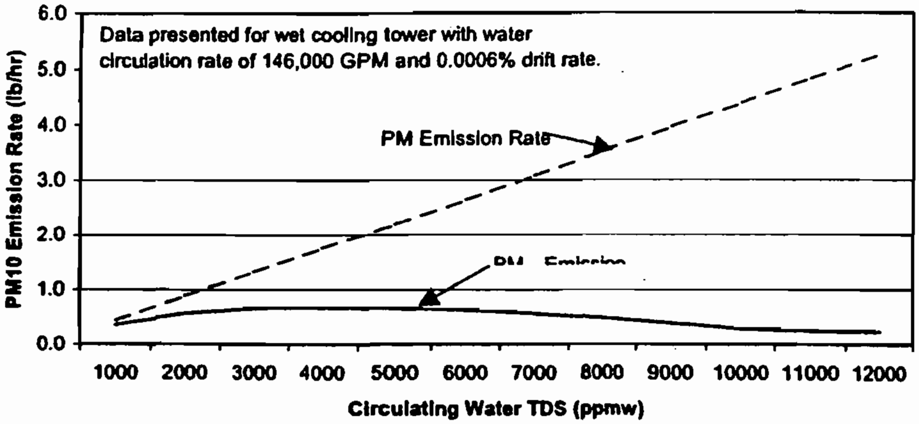


Figure 2: PM_{10} Emission Rate vs. TDS



REFERENCES

1. EPA, 1995. Compilation of Air pollutant Emission Factors, AP-42 Fifth edition, Volume I: *Stationary Point and Area Sources*, Chapter 13.4 Wet Cooling Towers, http://www.epa.gov/ttn/chief/ap42/, United States Environmental Protection Agency, Office of Air Quality Planning and Standards, January.

2. Aull, 1999. Memorandum from R. Aull, Brentwood Industries to J. Reisman, Greystone, December 7, 1999.

KEY WORDS

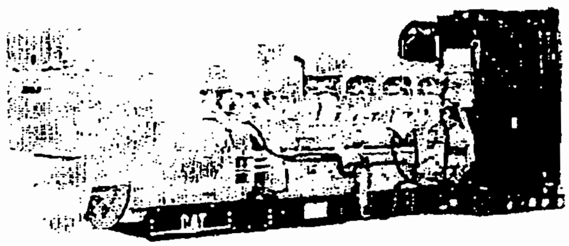
Drift
Drift eliminators
Cooling tower
PM_{10} emissions
TDS

EMERGENCY GENERATOR INFORMATION

Best Available Copy

DIESEL
GENERATOR SET

CATERPILLAR



Shown with
Optional Equipment

STANDBY 2250 eKW
LOAD MANAGEMENT 2000 eKW

60 Hz

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES

UL 2200

- UL 2200 Listed configuration available

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested

SINGLE-SOURCE SUPPLIER

- Complete systems designed at Caterpillar ISO certified facilities
- ***Certified Prototype Tested*** with torsional analysis

WORLDWIDE PRODUCT SUPPORT

- Worldwide parts availability through the Caterpillar dealer network
- With over 1,200 dealer outlets operating in 166 countries, you're never far from the Caterpillar part you need.
- 99.5% of parts orders filled within 48 hours. The best product support record in the industry.
- Caterpillar dealer service technicians are trained to service every aspect of your electric power generation system.
- Preventive maintenance agreements
- The Cat Scheduled Oil Sampling (S•O•S℠) program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT® 3516B DIESEL ENGINE FAMILY

- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight

CAT SR4B GENERATOR

- Designed to match performance and output characteristics of Caterpillar diesel engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Single point access to accessory connections

CAT CONTROL PANELS

- Controls, designed to meet individual customer needs:
  EMCP II+ provides full-featured power metering and protective relaying
- UL 508A Listed
- Floor standing switchgear available

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WHERE THE WORLD TURNS FOR POWER

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT
(Optional equipment listed may not be available on all packages)

System	Standard	Optional
Air Inlet	Regular-duty single element canister type air cleaner with service indicator	Dual element and heavy duty air cleaners Air inlet adapters Air inlet shutoffs
Cooling	Jacket water pump Aftercooler water pump	Radiator or heat exchanger systems available upon request to match application requirements
Exhaust	Dry exhaust manifold Flange faced outlet(s)	Stainless steel exhaust flex Mufflers Elbows, flanges, expanders and Y adapters
Fuel	Secondary fuel filters Fuel cooler Fuel priming pump Flexible fuel lines	Primary fuel filter Primary fuel filter with water separator Duplex fuel filter
Generator	3 phase, brushless, statically regulated Permanent magnet exciter Digital Voltage Regulator — 3 phase sensing Class H insulation system Class F temperature rise Bus bar connections Winding temperature detectors Anti-condensation space heaters	Medium voltage and high voltage generators Oversized and premium feature generators 2/3 pitch generators Self excited generators (for standby applications) Bearing temperature RTD's Air inlet filters Extension box for cable access Circuit breakers with shunt trip and auxiliary contacts, 3 pole UL 489 Listed or 4 pole IEC 947-2 rated European bus bars Digital Voltage Regulator with KVAR/PF control
Governor	Electronic isochronous control	Load share module
Control Panels and Instrumentation	EMCP II + (generator mounted, rear facing)	Customer Interface Module Customer Communications Module Synchronizing Module Local alarm modules Programmable relay control module Relay driver module Engine failure relay Auto starting aid & switch Remote annunciator modules Pyrometer and thermocouples (exhaust)
Lube	Lubricating oil Gear type lube oil pump Integral lube oil cooler Oil filter, filler and dipstick Oil drain line and valve Fumes disposal	Electric prelube pump Air prelube pump Sump pump with manual prelube Deep sump oil pan Duplex oil filter (RH service only) Oil level regulator
Mounting	330 mm/13 in structural steel rails Spring-type anti-vibration mounts (shipped loose)	Isolator removal
Starting/ Charging	24 volt electric starting motor(s) 45 amp charging alternator Battery with rack and cables Battery disconnect switch	Dual and heavy duty electric starting motors Oversized batteries Battery charger Ether starting aid Jacket water coolant heater Air starting motor with control and silencer
Other	RH service	Switchgear (floor standing) Automatic transfer switches Enclosures Engine barring device (manual) EU Certification CSA Certification UL 2200 Listing*

*Standard and optional equipment may vary for UL 2200 Listed packages

STANDBY 2250 eKW
LOAD MANAGEMENT 2000 eKW
60 Hz

CATERPILLAR

TECHNICAL DATA

		Standby	Load Management
Generator Set — 1800 rpm/60 Hz/480 Volt		DM4643	DM4644
Package Performance			
Power rating @ 0.8 PF	ekW	2250	2000
	kVA	2813	2500
Fuel Consumption			
100% load with fan	L/hr	588.6	514.2
	Gal/hr	155.5	135.9
75% load with fan	L/hr	433.8	391.6
	Gal/hr	114.6	103.5
50% load with fan	L/hr	305.9	276.3
	Gal/hr	80.8	73.0
Cooling System			
Ambient air temperature	Deg C	Cooling system data is dependent upon component selection	Cooling system data is dependent upon component selection
	Deg F		
Air flow restriction (system)	kPa		
	in water		
Air flow (maximum @ rated speed for standard radiator arrangement)	m³/min		
	cfm		
Engine coolant capacity with radiator	L		
	Gal		
Engine coolant capacity without radiator	L	233	233
	Gal	61.6	61.6
Exhaust System			
Combustion air inlet flow rate	m³/min	182.7	173.1
	cfm	6451	6112
Exhaust stack gas temperature	Deg C	497	453
	Deg F	927	847
Exhaust gas flow rate	m³/min	492.2	438.1
	cfm	17,380	15,469
Exhaust flange size (internal diameter) (qty. of 2)	mm	203.0	203.0
	in	8.0	8.0
Exhaust system backpressure (maximum allowable)	kPa	6.7	6.7
	in water	27.0	27.0
Heat Rejection			
Heat rejection to coolant (total)	kW	842	765
	Btu/min	47,884	43,505
Heat rejection to aftercooler	kW	599	506
	Btu/min	34,065	28,776
Heat rejection to exhaust (total)	kW	2248	1919
	Btu/min	127,842	109,133
Heat rejection to atmosphere from engine	kW	167	145
	Btu/min	9497	8246
Heat rejection to atmosphere from generator	kW	77.48	67.05
	Btu/min	4407	3814
Alternator*			
Motor starting capability @ 30% voltage dip	kVA	5163	5163
Frame		826	826
Temperature rise	Deg C	130	105
Lube System			
Refill volume with filter change for standard sump	L	401.3	401.3
	Qts	424	424
Emissions**			
NOx	g/bhp-hr	8.74	9.21
	mg/N•m³ @ 5% O_2	4104	4417
CO	g/bhp-hr	0.32	0.19
	mg/N•m³ @ 5% O_2	148	90
HC	g/bhp-hr	0.14	0.16
	mg/N•m³ @ 5% O_2	64	78
PM	g/bhp-hr	0.078	0.076
	mg/N•m³ @ 5% O_2	37	36

*UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics.
**Emissions data measurement is consistent with those described in EPA CFR40 Part 86, Subpart D and ISO8178-1 for measuring HC, CO, PM, NOx.

SPECIFICATIONS

CAT SR4B GENERATOR

Type .... Salient pole, brushless, permanent magnet excited, static regulated
Connection .... Three phase wye
IP rating .... Drip proof IP22
Insulation:
— Standard package .... Class H windings with tropicalization and antiabrasion treatment
— UL 2200 package .... UL 1446 Recognized Class F
Overspeed capability
Prototype tested .... 150% of rated
Production tested .... 125% of rated
Wave form .... < 5% deviation
Harmonic distortion .... < 5% THD
Telephone influence factor .... < 50
Voltage regulator .... Digital Voltage Regulator (DVR) with 3 phase sensing, UL 508A Listed
Voltage regulation .... < ± 1/2% (steady state) < ± 1% (no load to full load at steady state conditions)
Voltage gain .... Adjustable to compensate for line loss
Paralleling capability .... Standard

CAT ENGINE

3516B, 4-stroke-cycle watercooled diesel
Bore — mm (in) 170 (6.7)
Stroke — mm (in) 190 (7.5)
Displacement — L (cu in) 69 (4210)
Compression ratio 14:1
Aspiration .... Turbocharged and Aftercooled
Fuel system .... Direct unit injection
Governor type .... Caterpillar ADEM control system

CAT EMCP II+ CONTROL PANEL

24 Volt DC Control
NEMA 1, IEP23 dustproof enclosure
Lockable hinged door
Generator terminal box mounted
Single location customer connection
UL 508A Listed
Panel illuminating lights
Auto start/stop control
Voltage adjust potentiometer
True RMS AC metering
Digital indications for:
- Rpm
- Operating hours
- Oil pressure
- Coolant temperature
- DC volts
- L-L volts, L-N volts, Phase amps, Hz
- KW, kVA, kVAR, kWhr, %kW, PF

Shutdowns with indicating lights for:
- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency stop
- Failure to start (overcrank)

Programmable protective relaying functions
- Under and over voltage
- Under and over frequency
- Reverse power
- Over current (phase and total)
- KW level

3 spare indicator LED's (programmable)
3 spare alarm/shutdown inputs

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications:

- ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA101P, IEC34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG 1-22, VDE0530, 89/392/EEC, 89/336/EEC

Standby — Output available with varying load for the duration of the interruption of the normal source power. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514.

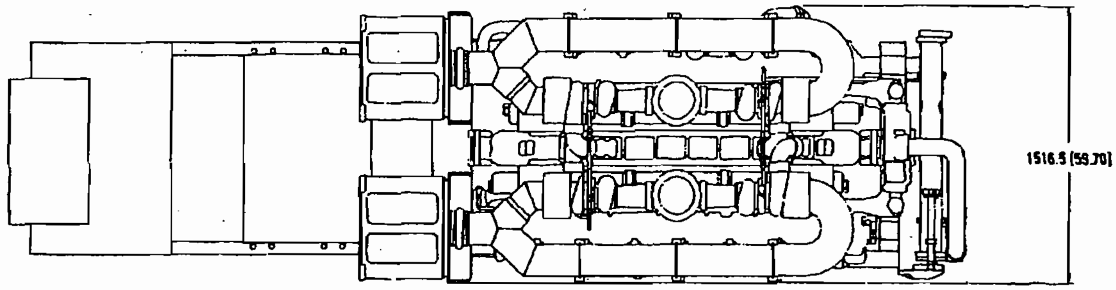
Load Management — Paralleled with utility grid (100% load factor) with <500 operating hours per year.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

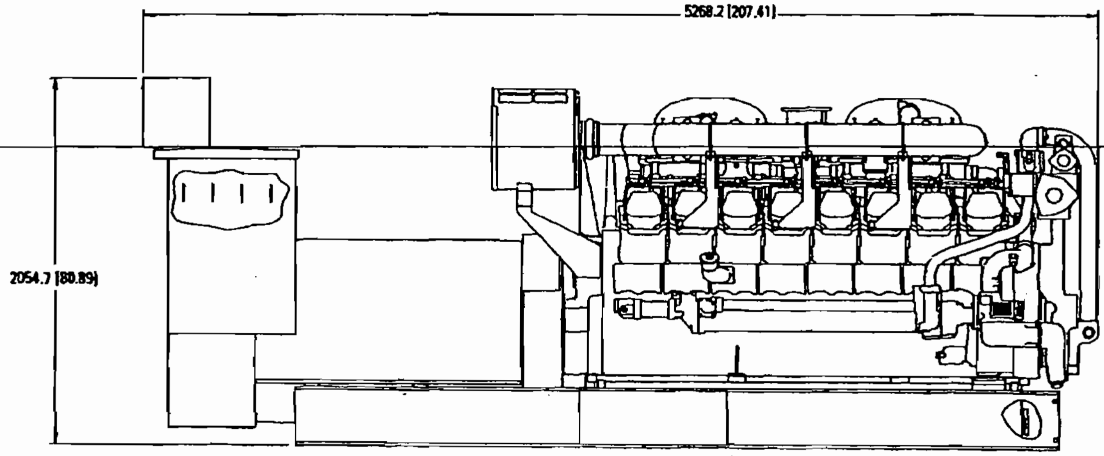
Fuel rates are based on fuel oil of 35° API (16° C or 60° F) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

STANDBY/LOAD MANAGEMENT GENERATOR SET PACKAGE — TOP VIEW



STANDBY/LOAD MANAGEMENT GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions		
Length	5268.2 mm	207.41 in
Width	1516.5 mm	59.70 in
Height	2054.7 mm	80.89 in

Note: General configuration not to be used for installation. See general dimension drawings for detail.

STANDBY 2250 eKW
LOAD MANAGEMENT
2000 eKW
60 Hz

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CATERPILLAR FACILITIES
ISO 9001 CERTIFIED

TMI Reference No.: DM4643, DM4644

U.S. sourced

LEHX0773 (02-01)

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GENERATOR DATA

NOVEMBER 04, 2004

Selected Model

Engine: 3516	**Generator Frame:** 828	**Genset Rating (kW):** 2250	**Line Voltage:** 4160
Fuel: Diesel	**Generator Arrangement:** 1442006	**Genset Rating (kVA):** 2813.0	**Phase Voltage:** 2402
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 390.4
Duty: STANDBY	**Connection:** SER STAR	**Application:** CPS	**Status:** Current

Version: 38264 /0 /38180 /9445

Spec Information

Generator Specification

Frame: 828 **Type:** SR4B	**No. of Bearings:** 2
Winding Type: FORM WOUND	**Flywheel:** 21
Connection: SER STAR	**Housing:** 00
Phases: 3	**No. of Leads:** 6
Poles: 4	**Wires per Lead:** 1
Sync Speed: 1800	**Generator Pitch:** 0.6667

Generator Efficiency

Per Unit Load	kW	Efficiency %
0.25	562.5	93.4
0.5	1125.0	95.9
0.75	1687.5	96.6
1.0	2250.0	96.7

Reactances	Per Unit	Ohms
SUBTRANSIENT - DIRECT AXIS X''_d	0.1780	1.0960
SUBTRANSIENT - QUADRATURE AXIS X''_q	0.1690	1.0390
TRANSIENT - SATURATED X'_d	0.2650	1.6310
SYNCHRONOUS - DIRECT AXIS X_d	3.3980	20.9090
SYNCHRONOUS - QUADRATURE AXIS X_q	1.6210	9.9730
NEGATIVE SEQUENCE X_2	0.1730	1.0670
ZERO SEQUENCE X_0	0.0120	0.0740

Time Constants	Seconds
OPEN CIRCUIT TRANSIENT - DIRECT AXIS T'_{d0}	6.5590
SHORT CIRCUIT TRANSIENT - DIRECT AXIS T'_d	0.5116
OPEN CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_{d0}	0.0154
SHORT CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_d	0.0126
OPEN CIRCUIT SUBSTRANSIENT - QUADRATURE AXIS T''_{q0}	0.0122
SHORT CIRCUIT SUBSTRANSIENT - QUADRATURE AXIS T''_q	0.0103
EXCITER TIME CONSTANT T_e	0.2225
ARMATURE SHORT CIRCUIT T_a	0.0686

Short Circuit Ratio: 0.36 | Stator Resistance = 0.0694 Ohms | Field Resistance = 1.179 Ohms

Voltage Regulation

Voltage level adustment: +/-	5.0%
Voltage regulation, steady state: +/-	0.5%
Voltage regulation with 3% speed change: +/-	0.5%
Waveform deviation line - line, no load: less than	3.0%
Telephone influence factor: less than	50

Generator Excitation

	No Load	Full Load, (rated) pf Series	Parallel
Excitation voltage:	7.14 Volts	28.91 Volts	Volts
Excitation current	1.88 Amps	7.61 Amps	Amps

Selected Model

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Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 390.4
Duty: STANDBY	**Connection:** SER STAR	**Application:** CPS	**Status:** Current

Version: 38264 /0 /38180 /9445

Generator Mechanical Information

Center of Gravity

Dimension X	-993.1 mm	-39.1 IN.
Dimension Y	0.0 mm	0.0 IN.
Dimension Z	0.0 mm	0.0 IN.

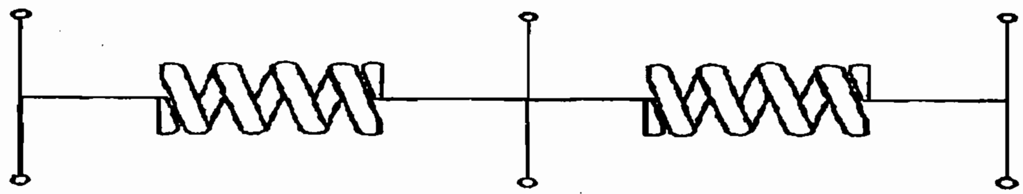
- If an "X" is shown, that is the rear face of block. Forward (towards the fan) is positive.
- If a "Y" is shown, it is the crank centerline. Positive is up.
- If a "Z" dimension is shown, it is also the crank centerline, but viewed from above. Distances from the crank center line and to the right of the package are positive.

Generator WT = 5580 kg 12,302 LB • Rotor WT = 2102 kg 4,634 LB • Stator WT = 3478 kg 7,668 LB

Rotor Balance = 0.0508 mm deflection PTP

Overspeed Capacity = 150% of synchronous speed

Generator Torsional Data



J1 = Coupling and Fan **J2 = Rotor** **J3 = Exciter End**

TOTAL J = J1 + J2 + J3

K1 = Shaft Stiffness between J1 + J2 (Diameter 1) **K2 = Shaft Stiffness between J2 + J3 (Diameter 2)**

J1	K1	Min Shaft Dia 1	J2	K2	Min Shaft Dia 2	J3
607.8 LB IN. s^2	0.0 MLB IN./rad	0.0 IN.	7,868.3 LB IN. s^2	0.0 MLB IN./rad	0.0 IN.	26.6 LB IN. s^2
68.67 N m s^2	0.0 MN m/rad	0 mm	889.0 N m s^2	0.0 MN m/rad	0 mm	3.0 N m s^2

Total J

8,505.6 LB IN. s^2

961.0 N m s^2

Selected Model

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Duty: STANDBY	**Connection:** SER STAR	**Application:** CPS	**Status:** Current

Version: 38264 /0 /38180 /9445

Generator Cooling Requirements - Temperature - Insulation Data

Cooling Requirements:		**Temperature Data: (Ambient 40 ^{0}C)**	
Heat Dissipated: 76.8 kW		**Stator Rise:**	105.0 ^{0}C
Air Flow:	0.0 m^3/min	**Rotor Rise:**	105.0 ^{0}C

Insulation Class: H

Insulation Reg. as shipped: 100.0 MΩ minimum at 40 ^{0}C

Thermal Limits of Generator

Frequency:	60 Hz
Line to Line Voltage:	4160 Volts
B BR 80/40	2568.0 kVA
Marine 90/50	2754.0 kVA
F BR -105/40	3094.0 kVA
H BR - 125/40	3438.0 kVA
F PR - 130/40	3438.0 kVA

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Selected Model

Engine: 3516 **Generator Frame:** 828 **Genset Rating (kW):** 2250 **Line Voltage:** 4160
Fuel: Diesel **Generator Arrangement:** 1442006 **Genset Rating (kVA):** 2813.0 **Phase Voltage:** 2402
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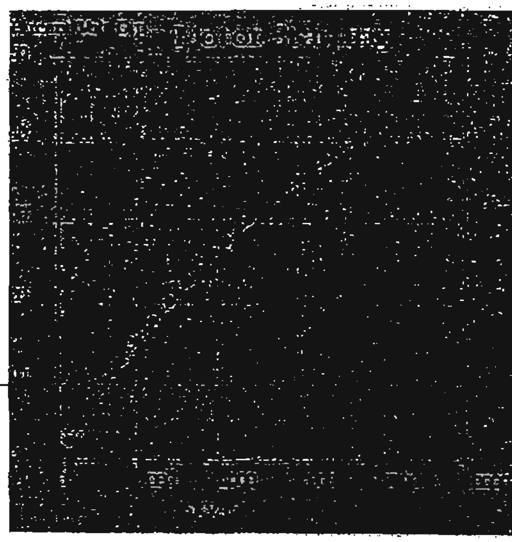
Duty: STANDBY **Connection:** SER STAR **Application:** CPS **Status:** Current

Version: 38264 /0 /38180 /9445

Starting Capability & Current Decrement

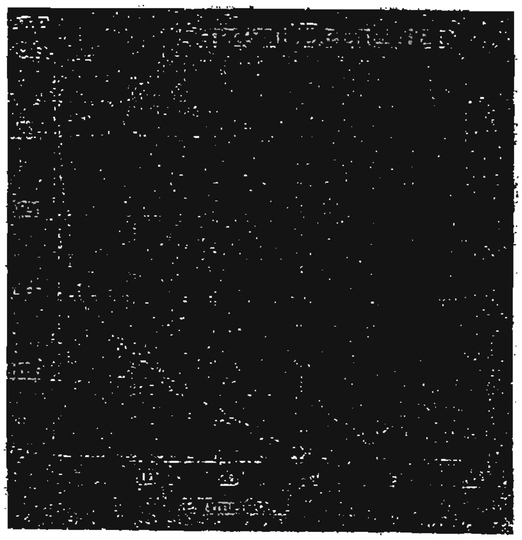
Motor Starting Capability (0.4 pf)

SKVA	Percent Volt Dip
283	2.5
582	5.0
896	7.5
1,228	10.0
1,579	12.5
1,951	15.0
2,345	17.5
2,764	20.0
3,210	22.5
3,685	25.0
4,194	27.5
4,738	30.0
5,323	32.5
5,953	35.0
6,634	37.5
7,371	40.0



Current Decrement Data

E Time Cycle	AMP
0.0	2,181
1.0	1,621
2.0	1,439
3.0	1,361
4.0	1,312
5.0	1,271
7.5	1,181
10.0	1,098
12.5	1,022
15.0	952
20.0	828
25.0	723
30.0	633
35.0	677
40.0	768
45.0	856



Instantaneous 3 Phase Fault Current: 2181 Amps **Instantaneous Line - Line Fault Current:** 1914 Amps
Instantaneous Line - Neutral Fault Current: 3205 Amps

Selected Model

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Fuel: Diesel	**Generator Arrangement:** 1442006	**Genset Rating (kVA):** 2813.0	**Phase Voltage:** 2402
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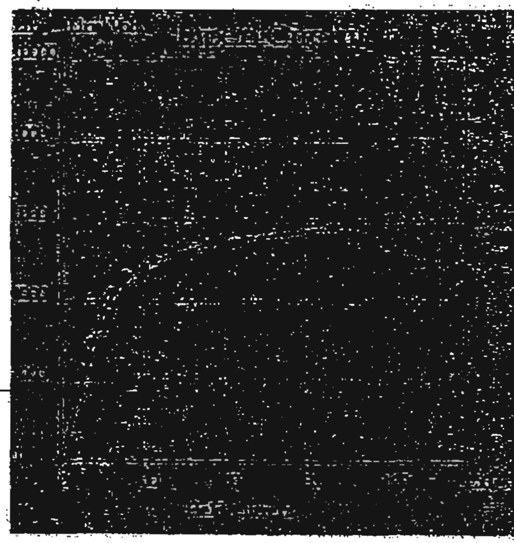
Duty: STANDBY	**Connection:** SER STAR	**Application:** CPS	**Status:** Current

Version: 38264 /0 /38180 /9445

Generator Output Characteristic Curves

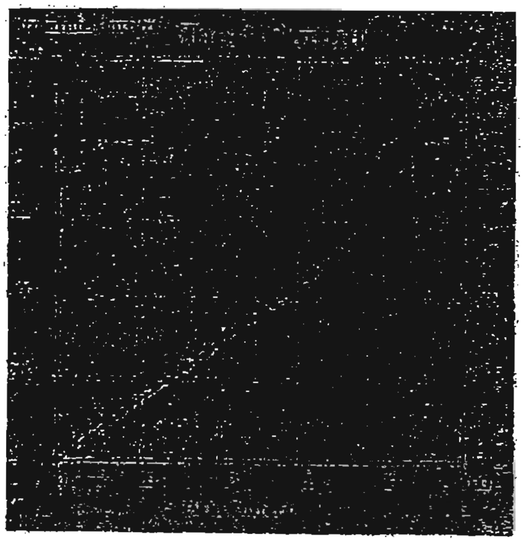
Open Circuit Curve

Field Current	Line - Line Volt
0.0	0
9.9	2,496
11.6	2,912
13.6	3,328
15.9	3,744
19.1	4,160
24.5	4,576
34.6	4,992
55.2	5,408
101.8	5,824



Short Circuit Curve

Field Current	Armature Current
0.0	0
31.8	234
37.1	273
42.4	312
47.7	351
53.0	390
58.3	429
63.6	468
68.9	507
74.2	546



Selected Model

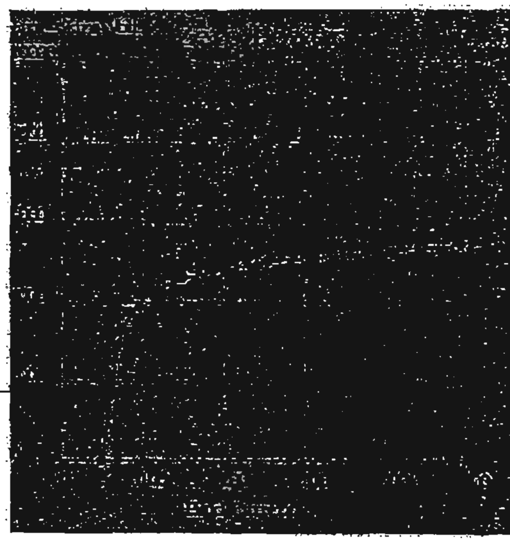
Engine: 3516	**Generator Frame:** 828	**Genset Rating (kW):** 2250	**Line Voltage:** 4160
Fuel: Diesel	**Generator Arrangement:** 1442006	**Genset Rating (kVA):** 2813.0	**Phase Voltage:** 2402
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 390.4
Duty: STANDBY	**Connection:** SER STAR	**Application:** CPS	**Status:** Current

Version: 38264 /0 /38180 /9445

Generator Output Characteristic Curves

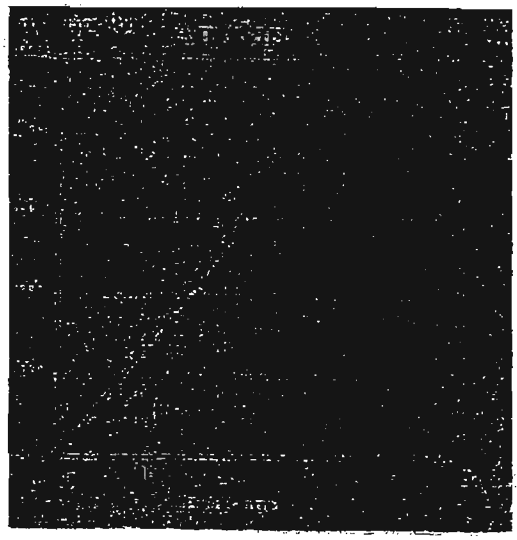
Zero Power Factor Curve

Field Current	Line - Line Volt
53.0	0
65.9	2,080
68.3	2,496
71.6	2,912
77.0	3,328
87.2	3,744
108.4	4,160
154.9	4,576
259.5	4,992
497.1	5,408



Air Gap Curve

Field Current	Line - Line Volt
0.0	0
9.8	2,496
11.4	2,912
13.0	3,328
14.6	3,744
16.3	4,160
17.9	4,576
19.5	4,992
21.2	5,408
22.8	5,824

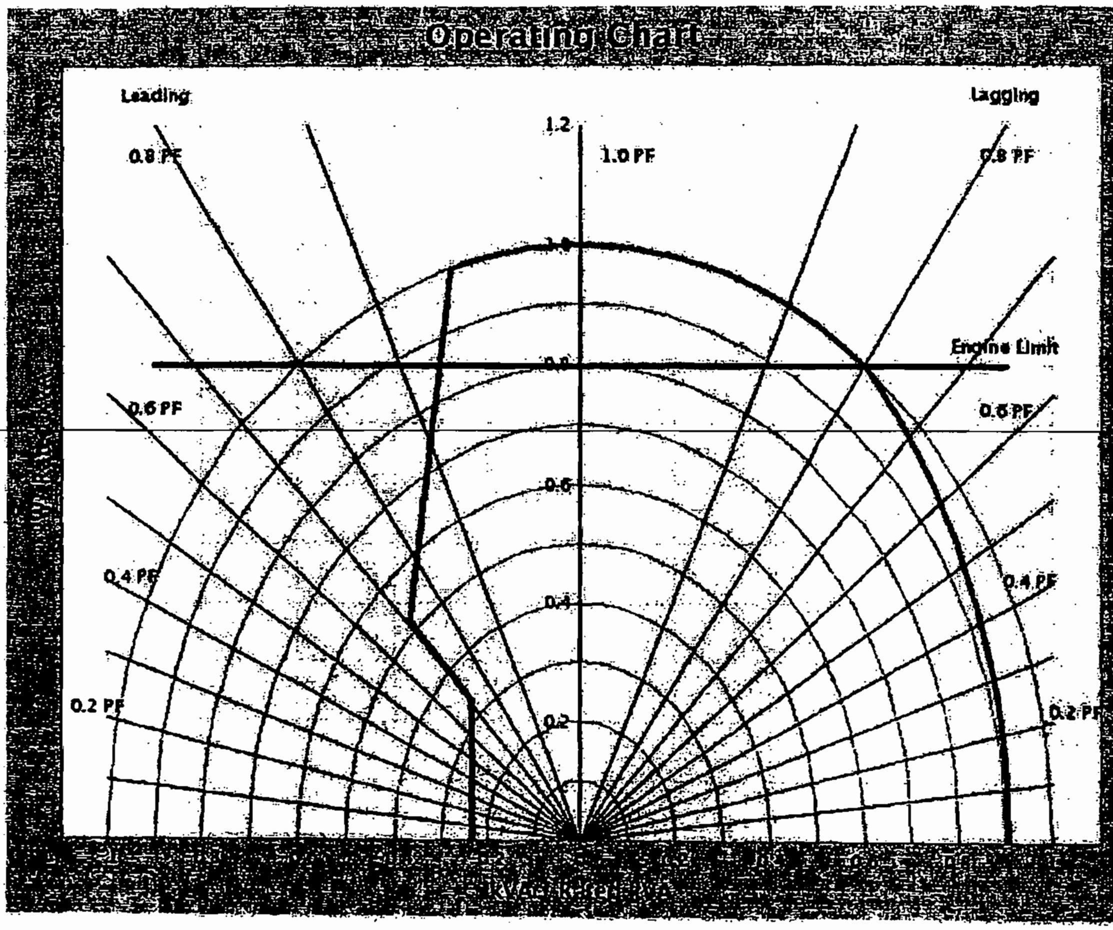


Selected Model

Engine: 3516	**Generator Frame:** 828	**Genset Rating (kW):** 2250	**Line Voltage:** 4160
Fuel: Diesel	**Generator Arrangement:** 1442006	**Genset Rating (kVA):** 2813.0	**Phase Voltage:** 2402
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 390.4
Duty: STANDBY	**Connection:** SER STAR	**Application:** CPS	**Status:** Current

Version: 38264 /0 /38180 /9445

Reactive Capability Curve



Selected Model

Engine: 3516	**Generator Frame:** 828	**Genset Rating (kW):** 2250	**Line Voltage:** 4160
Fuel: Diesel	**Generator Arrangement:** 1442006	**Genset Rating (kVA):** 2813.0	**Phase Voltage:** 2402
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 390.4
Duty: STANDBY	**Connection:** SER STAR	**Application:** CPS	**Status:** Current

Version: 38264 /0 /38180 /9445

General Information

DM7802
GENERATOR GENERAL INFORMATION

I. GENERATOR MOTOR STARTING CAPABILITY CURVES
A. The MOTOR STARTING CURVES ARE REPRESENTATIVE OF THE DATA OBTAINED BY THE FOLLOWING PROCEDURE:
1. THE CATERPILLAR GENERATOR IS DRIVEN BY A SYNCHRONOUS DRIVER.
2. VARIOUS SIZE THREE PHASE INDUCTION MOTORS (NEMA CODE F) ARE STARTED ACROSS THE LINE LEADS OF THE UNLOADED GENERATOR.
3. THE RESULTING VOLTAGE DIPS ARE RECORDED WITH AN OSCILLOSCOPE.
4. MOTOR HORSEPOWER HAS BEEN CONVERTED TO STARTING KILOVOLT AMPERES (SKVA).
5. RECORDED VOLTAGE DIPS HAVE BEEN EXPRESSED AS A OF GENERATOR RATED VOLTAGE.

II. USE OF THE MOTOR STARTING CAPABILITY CURVES.
A. CALCULATE THE SKVA REQUIRED BY THE MOTOR FOR FULL VOLTAGE STARTING ACROSS THE LINE IF THE VALUE IS NOT LISTED ON THE MOTOR DATA PLATE.
1. MOTORS CONFORMING TO NEMA STANDARDS
MULTIPLY THE MOTOR HORSEPOWER BY THE NEMA SKVA/HP FIGURE. FOR NEMA CODE F,USE 5.3 SKVA/HP; FOR NEMA CODE G, USE 6.0 SKVA/HP.
2. ALL OTHER MOTORS:
MULTIPLY THE RATED VOLTAGE BY THE LOCKED ROTOR AMPERE AND BY 0.001732. (IF THE LOCKED ROTOR AMPERES ARE NOT LISTED, MULTIPLY THE FULL LOAD (RUNNING) AMPERES BY
B. USE THE ABOVE SKVA WITH THE MOTOR STARTING TABLE.
1. ACROSS LINE STARTING:
READ ACROSS THE ROW OF "ACROSS THE LINE STARTING SKVA IF THE DESIRED VALUE OF SKVA IS NOT GIVEN, CALCULATE THE DIP BY FINDING THE PROPER SKVA INTERVAL AND INTERPOLATING AS FOLLOWS:
SKVA1 IS THE SKVA TABLE ENTRY JUST SMALLER THAN THE DESIRED SKVA, DIP1 IS THE DIP FOR SKVA2, AND SKVA2 IS THE SKVA TABLE ENTRY JUST GREATER THAN THE DESIRED SKVA. THE DIP (IN PERCENT) AT THE DESIRED SKVA IS:
DIP = DIP1 + (SKVA - SKVA1) * 2.5 / (SKVA2 - SKVA1)
NOTE:VOLTAGE DIPS GREATER THAN 35% MAY CAUSE MAGNETIC CONTACTORS TO DROP OUT.

2. REDUCED VOLTAGE STARTING:
REFER TO THE FOLLOWING TABLE. MULTIPLY THE CALCULATE ACROSS LINE SKVA BY THE MULTIPLIER LISTED FOR THE SPECIFIC STARTING METHOD. APPLY THE RESULT TO THE STARTING TABLE AS IN II A, TO CALCULATE THE EXPECTED VOLTAGE DIP:

TYPE OF REDUCED VOLTAGE STARTING	MULTIPLY LINE SKVA BY
80% TAP	.80
65% TAP	.65
50% TAP	.50
45% TAP	.45
WYe start,delta run	.33

AUTOTRANSFORMER	
80% TAP	.68
65% TAP	.46
50% TAP	.29

NOTE: REDUCE VOLTAGE STARTING LOWERS THE MAXIMUN REQUIRED MOTOR skVA.

3. Part winding starting:
Most common is half-winding start, full-winding run. Multiply the full motor, accross line starting skVA by 0.6. Apply the result to the selected curve as in ii. A above. Read the expected voltage dip, for the required skVA.

III.DEFINITION:

A. GENERATOR TERMS

MODEL: Engine Sales model
ENG TYPE: DI = Direct Injection,
NA = Naturally aspirated, etc
HZ: Runnung frequency, hertz
RATING TYPE: PP, SB (prime power or standby)
KW: Base rating electrical kilowatts (ekW)
VOLTS: Rating terminal, line to line
GEN ARR: Cat generator arrangement part number
GEN FRAME: Generator frame size designation
CONN: Generator output connection
(star, wye, delta, ect.)
POLES: Number of pole pieces on rotor.
(eg. A 4 pole generator run at 1800) RPM will produce 60 Hz alternating current. A 6 pole generator run at 1200 RPM will produce 60 Hz alternating current.)

B. GENERATOR TEMPERATURE RISE:
The indicated temperature rise indicated the NEMA limits for standby or prime power applications. These rises are used for calculating the losses and efficiencies and are not necessarily indicative of the actual temperature rise of a given machine.

C. CENTER OF GRAVITY
The specified center of gravity is for the generator only. It is measured from the generator/engine flywheel housing interface and from the centerline of the rotor shaft.

D. GENERATOR DECREMENT CURRENT CURVES

The generator decrement current curve gives the symmetrical current supplied by the generator for a three phase bolted fault at the generator terminals. Generators equipped with the series boost attachment or generators with PM excitation system will supply 300% of rated current for at least 10 seconds.

E. GENERATOR EFFICIENCY CURVES
The efficiency curve is representative of the overall generator efficiency over the normal range of the electrical load and at the specified parameters. This is not the overall engine generator set efficiency curve.

CATERPILLAR

Caterpillar Confidential: Green
Content Owner: Alan Scott
Current Date: Thu Nov 04 16:46:23 2004
Web Master: e-business Solutions

GEN SET PACKAGE PERFORMANCE DATA [516DE1P] NOVEMBER 04, 2004

Performance Number: DM7047 **Change Level:** 00

Sales Model: 3516BDITA
Combustion: DI
Aspr: TA
Engine Power:
2250 W/F EKW 2310 W/O F EKW
3,210 HP
Speed: 1,800 RPM
After Cooler: SCAC
Manifold Type: DRY
Governor Type: ADEM
After Cooler Temp(F): 140
Turbo Quantity: 4
Engine App: GP
Turbo Arrangement: Parallel
Hertz: 60
Engine Rating: PGS
Strategy:
Rating Type: STANDBY
Certification: N-C 1970 - 2100

General Performance Data

GEN W/F EKW	PERCENT LOAD	ENGINE POWER BHP	ENGINE BMEP PSI	FUEL RATE LB/BHP-HR	FUEL RATE GPH	INTAKE MFLD TEMP DEG F	INTAKE MFLD P IN-HG	INTAKE AIR FLOW CFM	EXH MFLD TEMP DEG F	EXH STACK TEMP DEG F	EXH GAS FLOW CFM
2,250.0	100	3,196.1	334	0.341	155.5	187.5	88.5	6,452.0	1,269.3	927.0	17,381.9
2,025.0	90	2,878.6	301	0.334	137.5	181.2	81.0	6,144.8	1,173.4	852.3	15,626.8
1,800.0	80	2,563.8	268	0.332	121.8	175.3	72.9	5,774.0	1,101.4	804.4	14,125.9
1,687.5	75	2,407.0	251	0.333	114.6	172.2	68.8	5,576.2	1,073.8	788.4	13,451.4
1,575.0	70	2,250.2	235	0.336	107.9	169.7	64.7	5,374.9	1,051.3	775.0	12,833.4
1,350.0	60	1,938.4	203	0.342	94.6	165.4	56.4	4,937.0	1,009.2	756.5	11,597.3
1,125.0	50	1,627.7	170	0.348	80.8	160.3	45.8	4,350.8	968.0	748.2	10,184.8
900.0	40	1,323.1	138	0.355	67.1	155.3	35.4	3,771.6	927.5	740.1	8,719.2
675.0	30	1,013.9	106	0.366	53.0	151.0	25.1	3,181.9	863.4	714.7	7,165.4
562.5	25	857.7	90	0.374	45.8	149.0	20.0	2,881.7	821.5	693.9	6,377.8
450.0	20	700.4	73	0.386	38.6	147.4	15.0	2,581.5	772.9	667.8	5,586.8
225.0	10	382.3	40	0.442	24.2	145.6	7.6	2,041.2	624.2	561.9	4,001.2

Heat Rejection Data

GEN W/F EKW	PERCENT LOAD	REJ TO JW BTU/MN	REJ TO ATMOS BTU/MN	REJ TO EXHAUST BTU/MN	EXH RCOV TO 350F BTU/MN	FROM OIL CLR BTU/MN	FROM AFT CLR BTU/MN	WORK ENERGY BTU/MN	LHV ENERGY BTU/MN	HHV ENERGY BTU/MN
2,250.0	100	47,884	9,497	127,843	70,576	16,663	34,065	135,521	333,144	354,868
2,025.0	90	43,904	8,360	110,612	57,894	14,729	29,231	122,100	294,927	314,149
1,800.0	80	40,264	7,621	97,361	48,851	13,080	24,795	108,735	261,772	278,833
1,687.5	75	38,558	7,393	91,731	45,325	12,284	22,748	102,081	246,417	262,511
1,575.0	70	36,795	7,222	86,442	42,311	11,601	20,644	95,428	231,460	246,588
1,350.0	60	33,383	6,824	76,035	36,965	10,123	16,663	82,177	201,945	215,139
1,125.0	50	29,800	6,483	65,628	31,847	8,644	12,796	69,040	172,429	183,690
900.0	40	26,103	6,085	55,391	26,956	7,222	9,156	56,131	143,426	152,809
675.0	30	22,009	5,687	44,643	21,156	5,687	5,801	42,994	113,740	121,133
562.5	25	19,791	5,516	39,070	18,028	4,891	4,265	36,397	98,612	105,039
450.0	20	17,516	5,289	33,439	14,843	4,152	2,843	29,686	83,314	88,717
225.0	10	12,511	4,777	21,440	7,677	2,616	398	16,208	51,979	55,334

EXHAUST Sound Data: 6.6 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
2,250.0	100	118	108	123	119	111	109	110	110	108
2,025.0	90	116	107	121	117	109	108	109	109	107
1,800.0	80	115	106	120	116	108	107	108	108	106
1,687.5	75	115	105	120	116	108	106	108	107	106
1,575.0	70	114	105	119	115	107	106	107	107	105
1,350.0	60	113	103	118	114	106	104	106	106	104
1,125.0	50	112	102	117	113	105	103	104	104	102
900.0	40	110	101	115	111	103	102	103	103	101
675.0	30	109	99	114	110	102	100	101	101	99
562.5	25	108	98	113	109	101	99	100	100	98
450.0	20	107	97	112	108	100	98	99	99	97
225.0	10	104	95	109	105	97	96	97	97	95

EXHAUST Sound Data: 23.0 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
2,250.0	100	104	96	112	106	98	96	97	97	94
2,025.0	90	103	94	111	105	97	95	96	96	93
1,800.0	80	102	93	110	104	96	94	95	95	92
1,687.5	75	101	93	109	104	95	93	94	94	91
1,575.0	70	101	92	109	103	94	93	94	93	91
1,350.0	60	100	91	108	102	93	92	92	92	89
1,125.0	50	98	90	106	100	92	90	91	91	88
900.0	40	97	88	105	99	90	89	90	89	87
675.0	30	95	87	103	97	89	87	88	88	85
562.5	25	94	86	102	96	88	86	87	87	84
450.0	20	93	85	101	95	87	85	86	86	83
225.0	10	91	82	99	93	84	83	84	83	81

EXHAUST Sound Data: 49.2 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
2,250.0	100	98	89	106	100	91	90	90	90	87
2,025.0	90	96	88	104	99	90	88	89	89	86
1,800.0	80	95	87	103	98	89	87	88	88	85
1,687.5	75	95	86	103	97	88	87	88	87	85
1,575.0	70	94	86	102	96	88	86	87	87	84
1,350.0	60	93	84	101	95	87	85	86	86	83
1,125.0	50	92	83	100	94	85	84	84	84	81
900.0	40	90	82	98	92	84	82	83	83	80
675.0	30	89	80	97	91	82	81	81	81	78
562.5	25	88	79	96	90	81	80	80	80	77
450.0	20	87	78	95	89	80	79	79	79	76
225.0	10	84	76	92	86	78	76	77	77	74

MECHANICAL Sound Data: 3.3 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
2,250.0	100	111	113	123	114	105	101	101	99	103
2,025.0	90	111	113	123	114	105	101	101	99	103
1,800.0	80	111	113	123	114	105	101	101	99	103
1,687.5	75	111	113	123	114	105	101	101	99	103
1,575.0	70	111	113	123	114	105	101	101	99	103
1,350.0	60	111	113	123	114	105	101	101	99	103
1,125.0	50	111	113	123	114	105	101	101	99	103
900.0	40	111	113	123	114	105	101	101	99	103
675.0	30	111	113	123	114	105	101	101	99	103
562.5	25	111	113	123	114	105	101	101	99	103
450.0	20	111	113	123	114	105	101	101	99	103
225.0	10	111	113	123	114	105	101	101	99	103

MECHANICAL Sound Data: 23.0 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCJ 8000HZ DB
2,250.0	100	98	100	109	100	92	89	90	87	91
2,025.0	90	98	100	109	100	92	89	90	87	91
1,800.0	80	98	100	109	100	92	89	90	87	91
1,687.5	75	98	100	109	100	92	89	90	87	91
1,575.0	70	98	100	109	100	92	89	90	87	91
1,350.0	60	98	100	109	100	92	89	90	87	91
1,125.0	50	98	100	109	100	92	89	90	87	91
900.0	40	98	100	109	100	92	89	90	87	91
675.0	30	98	100	109	100	92	89	90	87	91
562.5	25	98	100	109	100	92	89	90	87	91
450.0	20	98	100	109	100	92	89	90	87	91
225.0	10	98	100	109	100	92	89	90	87	91

MECHANICAL Sound Data: 49.2 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
2,250.0	100	92	94	103	94	86	84	84	82	86
2,025.0	90	92	94	103	94	86	84	84	82	86
1,800.0	80	92	94	103	94	86	84	84	82	86
1,687.5	75	92	94	103	94	86	84	84	82	86
1,575.0	70	92	94	103	94	86	84	84	82	86
1,350.0	60	92	94	103	94	86	84	84	82	86
1,125.0	50	92	94	103	94	86	84	84	82	86
900.0	40	92	94	103	94	86	84	84	82	86
675.0	30	92	94	103	94	86	84	84	82	86
562.5	25	92	94	103	94	86	84	84	82	86
450.0	20	92	94	103	94	86	84	84	82	86
225.0	10	92	94	103	94	86	84	84	82	86

EMISSIONS DATA

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N-C            1970 - 2100 ****************************************************** N1
This engine rating is not emission certified by any domestic or foreign
agency.
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EXHAUST STACK DIAMETER	8 IN
WET EXHAUST MASS	29,475.77 LB/HR
WET EXHAUST FLOW (983 DEG F STACK TEMP)	17,396.02 CFM
WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	6,148.00 STD CFM
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	5,632.69 STD CFM
FUEL FLOW RATE	155 GAL/HR

RATED SPEED "Not to exceed data"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT	DRY SMOKE OPACITY PERCENT	BOSCH SMOKE NUMBER
2,250.0	100	3,196.1	61.62	2.22	0.96	.550	9.60	1.6	1.28
1,687.5	75	2,407.0	46.92	0.94	0.98	.510	11.30	1.4	1.28
1,125.0	50	1,627.7	22.52	1.24	0.87	.470	12.30	2.1	1.28
562.5	25	857.7	11.13	1.42	0.59	.330	13.60	2.2	1.28
225.0	10	382.3	7.05	1.92	0.51	.200	15.50	1.6	1.28

RATED SPEED "Nominal Data"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	TOTAL CO2 LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT	DRY SMOKE OPACITY PERCENT	BOSCH SMOKE NUMBER
2,250.0	100	3,196.1	51.35	1.23	0.72	3,361.8	0.390	9.60	1.6	1.28
1,687.5	75	2,407.0	39.10	0.52	0.73	2,389.8	0.360	11.30	1.4	1.28
1,125.0	50	1,627.7	18.76	0.69	0.65	1,675.1	0.330	12.30	2.1	1.28
562.5	25	857.7	9.28	0.79	0.44	949.4	0.240	13.60	2.2	1.28
225.0	10	382.3	5.88	1.07	0.38	490.4	0.140	15.50	1.6	1.28

Altitude Capability Data

Ambient Operating Temp. Altitude	50 F	68 F	86 F	104 F	122 F	NORMAL
0 F	3,210 hp	3,210 hp	3,210 hp	3,210 hp	3,210 hp	3,210 hp
984 F	3,210 hp	3,210 hp	3,210 hp	3,154 hp	3,056 hp	3,210 hp
1,640 F	3,210 hp	3,210 hp	3,181 hp	3,079 hp	2,984 hp	3,210 hp
3,281 F	3,206 hp	3,096 hp	2,994 hp	2,899 hp	2,809 hp	3,056 hp
4,921 F	3,016 hp	2,914 hp	2,817 hp	2,728 hp	2,643 hp	2,907 hp
6,562 F	2,836 hp	2,740 hp	2,649 hp	2,564 hp	2,485 hp	2,764 hp
8,202 F	2,665 hp	2,573 hp	2,489 hp	2,408 hp	2,335 hp	2,626 hp
9,843 F	2,501 hp	2,417 hp	2,336 hp	2,262 hp	2,191 hp	2,493 hp
10,499 F	2,439 hp	2,355 hp	2,278 hp	2,205 hp	2,136 hp	2,442 hp

Identification Reference and Notes

Engine Arrangement:	2603688	Lube Oil Press @ Rated Spd(PSI):	55.8
Effective Serial No:	GZS00001	Piston Speed @ Rated Eng SPD (FT/Min):	2,173.2
Primary Engine Test Spec:	0K5873	Max Operating Altitude(FT):	1,640.4
Performance Parm Ref:	TM5739	PEEC Elect Control Module Ref	
Performance Data Ref:	DM7047	PEEC Personality Cont Mod Ref	
~~Aux Coolant Pump Perf Ref:~~	~~DM1286~~		
Cooling System Perf Ref:	DM1299	Turbocbarger Model	BTV8501-1.23
Certification Ref:	N-C	Fuel Injector	1008774
Certification Year:	1970	Timing-Static (DEG):	--
Compression Ratio:	14.0	Timing-Static Advance (DEG):	--
Combustion System:	DI	Timing-Static (MM):	--
Aftercooler Temperature (F):	140	Unit Injector Timing (MM):	64.3
Crankcase Blowby Rate(CFH):	3,210.1	Torque Rise (percent)	--
Fuel Rate (Rated RPM) No Load (Gal/HR):	16.2	Peak Torque Speed RPM	--
Lube Oil Press @ Low Idle Spd(PSI):	20.0	Peak Torque (LB/FT):	--

Reference Number: DM7047 N-C 19702100N1

Parameters Reference: TM5739

GEN SET - PACKAGED - DIESEL
TOLERANCES:
AMBIENT AIR CONDITIONS AND FUEL USED WILL AFFECT THESE VALUES. EACH OF THE VALUES MAY VARY IN ACCORDANCE WITH THE FOLLOWING TOLERANCES.

ENGINE POWER	+/-	3%
EXHAUST STACK TEMPERATURE	+/-	8%
GENERATOR POWER	+/-	5%
INLET AIR FLOW	+/-	5%
INTAKE MANIFOLD PRESSURE - GAGE	+/-	10%
EXHAUST FLOW	+/-	6%
SPECIFIC FUEL CONSUMPTION	+/-	3%
FUEL RATE	+/-	5%
HEAT REJECTION	+/-	5%
HEAT REJECTION EXHAUST ONLY	+/-	10%

CONDITIONS:
ENGINE PERFORMANCE IS CORRECTED TO INLET AIR STANDARD CONDITIONS OF 99 KPA (29.31 IN HG) AND 25 DEG C (77 DEG F).

THESE VALUES CORRESPOND TO THE STANDARD ATMOSPHERIC PRESSURE AND TEMPERATURE IN ACCORDANCE WITH SAE J1995. ALSO INCLUDED IS A CORRECTION TO STANDARD FUEL GRAVITY OF 35 DEGREES API HAVING A LOWER HEATING VALUE OF 42,780 KJ/KG (18,390 BTU/LB) WHEN USED AT 29 DEG C (84.2 DEG F) WHERE THE DENSITY IS 838.9 G/L (7.002 LB/GAL).

THE CORRECTED PERFORMANCE VALUES SHOWN FOR CATERPILLAR ENGINES WILL APPROXIMATE THE VALUES OBTAINED WHEN THE OBSERVED PERFORMANCE DATA IS CORRECTED TO SAE J1995, ISO 3046-2 & 8665 & 2288 & 9249 & 1585, EEC 80/1269 AND DIN70020 STANDARD REFERENCE CONDITIONS.

ENGINES ARE EQUIPPED WITH STANDARD ACCESSORIES; LUBE OIL, FUEL PUMP AND JACKET WATER PUMP. THE POWER REQUIRED TO DRIVE AUXILIARIES MUST BE DEDUCTED FROM THE GROSS OUTPUT TO ARRIVE AT THE NET POWER AVAILABLE FOR THE EXTERNAL (FLYWHEEL) LOAD. TYPICAL AUXILIARIES INCLUDE COOLING FANS, AIR COMPRESSORS, AND CHARGING ALTERNATORS.

RATINGS MUST BE REDUCED TO COMPENSATE FOR ALTITUDE AND/OR AMBIENT TEMPERATURE CONDITIONS ACCORDING TO THE APPLICABLE DATA SHOWN ON THE PERFORMANCE DATA SET.

GEN SET - PACKAGED - DIESEL
ALTITUDE:
ALTITUDE CAPABILITY - THE RECOMMENDED REDUCED POWER VALUES FOR SUSTAINED ENGINE OPERATION AT SPECIFIC ALTITUDE LEVELS AND AMBIENT TEMPERATURES.

COLUMN "N" DATA - THE FLYWHEEL POWER OUTPUT AT NORMAL AMBIENT TEMPERATURE.

AMBIENT TEMPERATURE - TO BE MEASURED AT THE AIR CLEANER AIR INLET DURING NORMAL ENGINE OPERATION.
NORMAL TEMPERATURE - THE NORMAL TEMPERATURE AT VARIOUS SPECIFIC ALTITUDE LEVELS IS FOUND ON TM2001.

THE GENERATOR POWER CURVE TABULAR DATA REPRESENTS THE NET ELECTRICAL POWER OUTPUT OF THE GENERATOR.

DEFINITIONS:

STANDBY - MAXIMUM OUTPUT AVAILABLE FOR NON PROGRAMMED POWER OUTAGES. THE EXPECTED USAGE SHOULD BE APPROXIMATELY 30 HOURS PER YEAR AND THE AVERAGE DEMAND, DURING THE OUTAGE, SHOULD NOT EXCEED THE CORRESPONDING INDUSTRIAL ENGINE CONTINUOUS RATING. STANDBY RATINGS MAY BE USED IN PEAK SHAVING AND DURING INTERRUPTIBLE UTILITY SERVICE IF THE FOLLOWING CRITERIA ARE MET.

500	HOURS/YEAR OR LESS
60%	MAXIMUM AVERAGE LOAD FACTOR
80%	LOAD PEAK DEMAND
100%	LOAD USED ONLY FOR EMERGENCIES

PRIME POWER - OUTPUT AVAILABLE FOR PEAK DEMAND OF A VARIABLE ELECTRIC LOAD INCLUDING PEAK SHAVING AND PROGRAMMED OUTAGES. THE AVERAGE DEMAND DURING ANY 24 HOUR PERIOD SHOULD NOT EXCEED THE CORRESPONDING INDUSTRIAL ENGINE CONTINUOUS RATING. ALL PRIME POWER RATINGS, EXCEPT D SERIES, HAVE 10% OVERLOAD FOR EMERGENCY USE.

CONTINUOUS - OUTPUT WHICH MAY BE UTILIZED CONTINUOUSLY WITHOUT LOAD CYCLING. ALL 3600 ENGINE CONTINUOUS RATINGS HAVE 10% OVERLOAD CAPABILITY.

CATERPILLAR

Caterpillar Confidential: Green

Content Owner: Alan Scott

Current Date: Thu Nov 04 16:52:18 2004

Web Master: e-business Solutions

TEST SPEC [516DE1P] NOVEMBER 04, 2004

Refrenece Number: 0K5873 **Effective Serial Number:** GZS00002

Model: 3516B DI TA SCAC **Make from Spec:**

Test Spec Data

Description	Measure	Nominal	Ceiling	Floor
Corr Full Load Power	hp	3,272	3,370	3,174
Full Load Speed	RPM	1800	1810	1790
High Idle Speed	RPM	1818	1836	1800
Low Idle Speed	RPM	900	910	890
FL Static Fuel Setting	in	1.047		
FT Static Fuel Setting	in	1.067		
FLS (Intercept)		0		
FTS (Slope)		0		
Corrected Fuel Rate	GAL/HR	159.6	170.8	148.5
CSFC	LB/HP.H	0.345	0.363	0.326
Adjusted Boost	IN_HG	81.4	93.7	69.2
Torque Check Speed	RPM	1700	1710	1690
~~Corr Torq Rise at TC RPM~~	~~%~~	~~6.5~~		
Corr Torque at TC RPM	LB/FT	10,170	10,879	9,455
C Fuel Rate at TC RPM	GAL/HR	158.3	169.4	147.2
CSFC at TC RPM	LB/HP.H	0.340	0.357	0.322
ADJ Boost at TC RPM	IN_HG	84.4	93.3	69.0
Power Loss/Cyl	% C FL PWR			
Specific Blowby	CU FT/HP.H			
Temp Jacket Water Pump Inlet	F	192	197	186
Delta T Jacket Water (out-in)	F	46	55	37
Inlet Manifold Temp	F			
Water Temp to Scac	F	86	91	80
Scac Water Flow	GAL/MIN			
Oil Pressure	PSI	53	87	40
Oil Pressure Low Idle	PSI	47	87	33
Fuel Pressure	PSI	60	83	41
Inlet Fuel Pressure	PSI		6	
Inlet Fuel Temp	F	86	91	80
Inlet Air Pressure	IN_HG		31	26
Inlet Air Restriction	IN_HG		1.18	
Inlet Air Temperature	F		122	50
Fuel Density	DEG API		36.0	34.0
Boost Constant				
Governor Setting Constant				
Governor Setting Torque	% RTD TRQ	90.0	91.0	89.0
High Idle Stability	RPM			
Low Idle Stability	RPM			
Set Point RPM	RPM	1820	1830	1810

Engine Reference Information

Description	Measure	Variables
FL Static/FT Static Fuel Settings	in	1.047 / 1.067
Fuel Valve Part Number		
Unit Injector Part Number		2501314
Timing Dimension	in	2.533
Torque Control Group Number		Change Level:
Fuel Pump/Gov Grp Part Number		
Fuel Pump Type		EUI
Flyweight Part Number/Attitude		
Turbo AS. Part Number and Nozzle Size		2454339 / BTV8501-1.23
Advertised Power / Governor Speed		3,210hp 1,800 RPM
Compression Ratio		14.0
Torque Rise Cam Part Number		
Manifold Type		DRY
Engine Flash File Part Number		2598393

Torque Control Group
Spring Data

Part No	Thickness	Quantity

No data found...

Torque Control Group
Spacer Data

Part No	Thickness	Quantity

No data found...

Timing Data
Mechanical Advance Part Number: Chg. Level:
Advance: 0.0 DEG
Dog Leg Differentials: RPM: -- KW: --

Description	Measure	Spec	Minimum	Maximum
Timing Static @ 0 RPM BTDC	DEG			

Governor Type PEEC

Application/Performance Data

Description	Measure	Variable
Application Identification		224 GS PACKAGED
Engine Sales Model and Series		3516 B
Combustion System type		DI
Aspiration Type		TA
Engine Source Factory Ref Number		88
Power Setting PL/PP Ref Number		LL5629
Engine Perf Data Ref No and Change Level		DM7047
Multi Engine Torq/Rating		
Emissions Family		
Generator Rating W/O Fan	EKW	2310
Generator	HZ	60
Brakesaver test		
Certified Engine Rating	hp	
Engineering Model Ref		GS303
Low Idle In-Veh Speed	RPM	

Altitude Derating Information

Description	Measure	Data:
Altitude - Maximum	FT	
Engine Power with Fan(ADV)	hp	
Engine Power without Fan(Test)	hp	
High Idle Speed	RPM	
FL Static Fuel Setting	in	
FT Static Fuel Setting	in	1.067
Corrected Fuel Rate	GAL/HR	159.6
FL Boost Pressure	IN_HG	

Spec Number vs. Arrangement Number Cross Reference

Arrangement	Arrangement	Arrangement	Arrangement	Arrangement
2603688				

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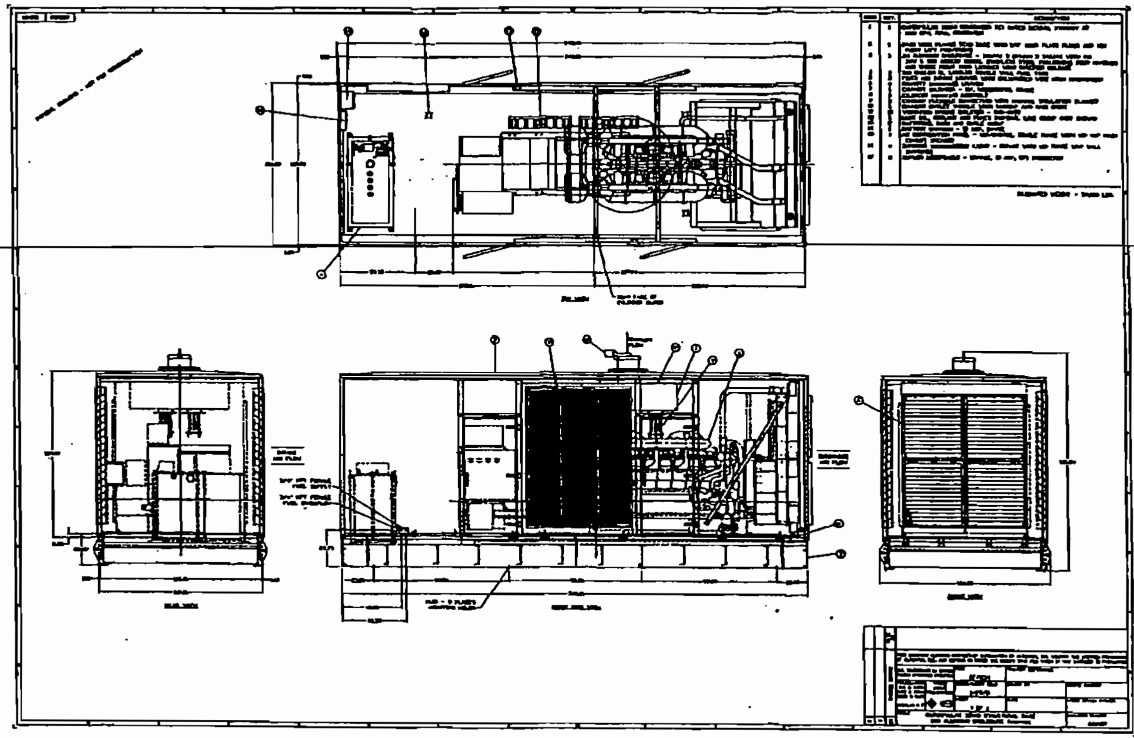

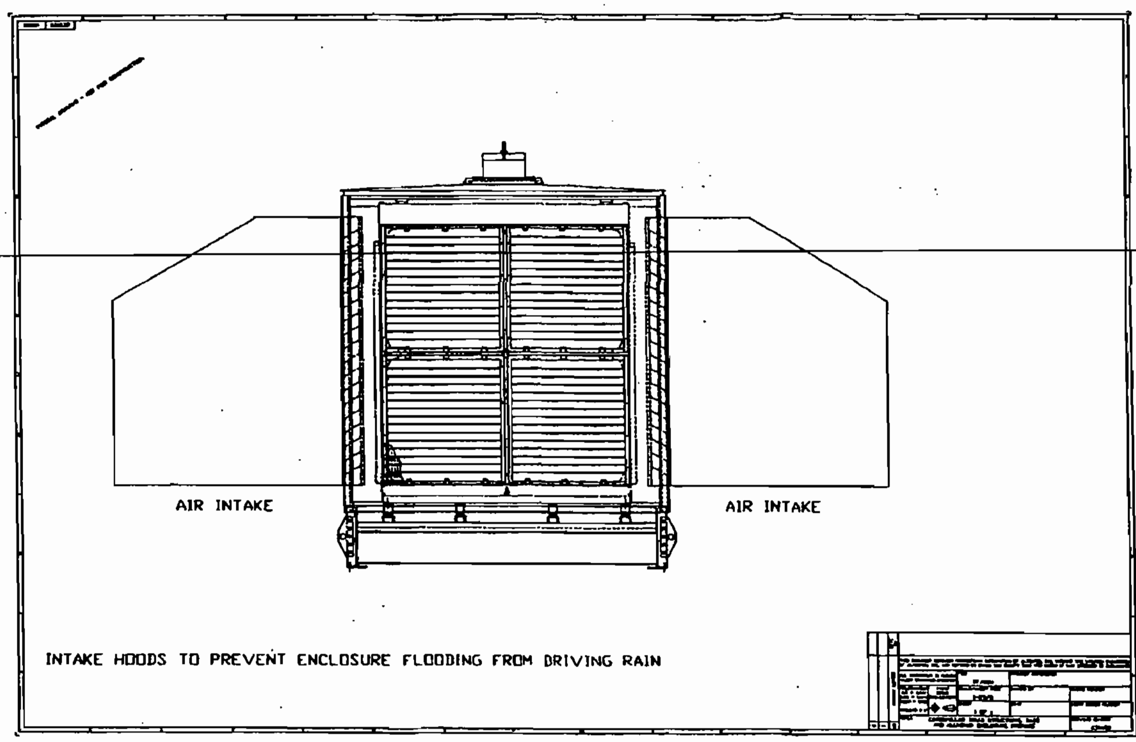
AIR INTAKE
AIR INTAKE
INTAKE HOODS TO PREVENT ENCLOSURE FLOODING FROM DRIVING RAIN

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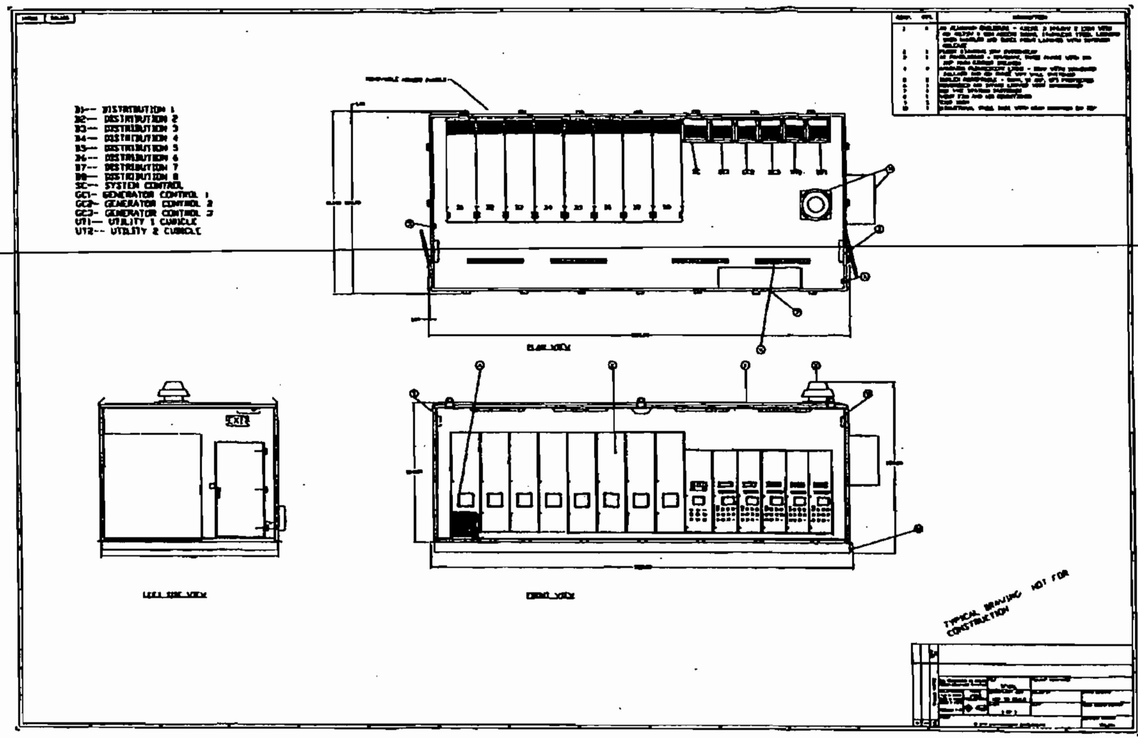

APPENDIX B

BEST AVAILABLE CONTROL TECHNOLOGY FOR THE PROPOSED COMBUSTION TURBINES

APPENDIX B

BEST AVAILABLE CONTROL TECHNOLOGY FOR THE PROPOSED COMBUSTION TURBINES

B.1 NEW SOURCE PERFORMANCE STANDARDS

BACT is a case-by-case emission limitation for each applicable pollutant, based on the maximum degree of emission reduction after taking into account the energy, environmental, and economic impacts, and other costs. The BACT cannot be any less stringent than any applicable new source performance standards (NSPS) and consideration must be given to the applicable NSPS in the determination of BACT. This requirement also applies for any applicable National Emission Standard for Hazardous Air Pollutants promulgated under 40 CFR Part 61. For CTs the NSPS was previously contained in 40 CFR Part 60, Subpart GG Standards of Performance for Stationary Gas Turbines (see Table B-1). The Subpart GG NSPS for CTs have a NO_x emission limit of 75 parts per million by volume, dry (ppmvd) corrected for heat rate and 15-percent O_2. The Subpart Da NSPS for the duct burner has a NO_x emission limit is 1.6 lb/MW-hr.

On February 18, 2005, EPA proposed new NSPS for Stationary Combustion Turbines that will commence construction after February 18, 2005. These NSPS, Subpart KKKK, will replace Subparts GG and Da for combustion turbines (CTs) in combined cycle mode. When finalized, the Subpart KKKK requirements will supersede the Subpart GG requirements and apply to combustion turbines with a gross capacity of greater than 1 MW. For the West County Energy Center, the proposed Subpart KKKK requirements applicable to CTs greater than 30 MW would apply. These NO_x emission rates are approximately equivalent to 10 ppmvd corrected to 15-percent O_2 when firing natural gas and 30 ppmvd corrected to 15-percent O_2 when firing light oil. For SO_2 emissions, the proposed Subpart KKKK requirements limit emissions to 0.58 lb/MW-hr or a fuel sulfur content of 0.05 percent.

The combined CT and duct burner emissions rate when firing natural gas with SCR of 2.5 ppmvd corrected to 15-percent O_2 is equivalent to about 0.08 lb/MW-hr or about 5 times lower than the proposed Subpart KKKK NSPS. When firing light oil, the proposed NO_x emission rate of 10 ppmvd corrected to 15-percent O_2 is equivalent to about 0.3 lb/MW-hr or about 4 times lower than the proposed Subpart KKKK NSPS.

B.2 BEST AVAILABLE CONTROL TECHNOLOGY

The "top-down" analysis for determining BACT, as provided for in EPA's Draft 1990 New Source Review Workshop Manual was considered in evaluating BACT for the Project. The procedure involves five steps: identification of control technologies, elimination of technically infeasible control technologies, a ranking of the control technologies, an evaluation of the effective control technologies, and the selection of BACT.

The identification of control technologies is developed from the information obtained from BACT/lowest achievable emission rate (LAER) Information System (BLIS) database maintained at EPA's National Computer Center located at Research Triangle Park, North Carolina. While these data are comprehensive it is often not up to date with the most recent BACT/LAER decisions and separate contact with state agencies is required. LAER is distinctly different from BACT in that there is no consideration of economic, energy, or environmental impacts; if a control technology has previously been installed, it must be required as LAER. LAER is defined as follows:

> Lowest achievable emission rate means, for any source, the more stringent rate of emissions based on the following: (i) The most stringent emissions limitation which is contained in the implementation plan of any State of such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or (ii) The most stringent emissions limitation which is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new modified stationary source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance (40 CFR 51, Appendix S.II, A.18).

The elimination of infeasible technologies is based on those engineering aspects that would preclude a technology's use due to physical, chemical or other engineering consideration. Control technologies that are technically feasible are ranked by control effectiveness, with determination of the environmental, economic and energy costs; and benefits of the control technologies. This information forms the basis for the case-by-case consideration of environmental, energy, and economic impacts. The "top" feasible control alternative is selected unless it can be rejected based on economic, environmental, or energy considerations. This section of Appendix B presents information related to the proposed BACT emission limitation.

B.2.1 NITROGEN OXIDES

Identification of NO_x Control Technologies

NO_x emissions from combustion of fossil fuels consist of thermal NO_x and fuel-bound NO_x. Thermal NO_x is formed from the reaction of oxygen and nitrogen in the combustion air at combustion temperatures. Formation of thermal NO_x depends on the flame temperature, residence time, combustion pressure, and air-to-fuel ratios in the primary combustion zone. The design and operation of the combustion chamber dictates these conditions. Fuel-bound NO_x is created by the oxidation of volatilized nitrogen in the fuel. Nitrogen content in the fuel is the primary factor in its formation.

Table B-2 presents a listing of the BACT/LAER decisions made by state environmental agencies and EPA regional offices for gas turbines including duct firing. This table was developed from the information obtained from the BLIS database maintained at EPA's National Computer Center located at Research Triangle Park, North Carolina.

Historically, the most stringent NO_x controls for CTs established as BACT/LAER by state agencies were combustion controls with selective catalytic reduction (SCR) and combustion controls alone. SCR is a post-combustion control, while advanced dry low-NO_x (DLN) combustors minimize the formation of NO_x in the combustion process. When SCR has been employed, DLN combustion technology is used to minimize the NO_x emissions formed in the combustion process.

Wet injection was the first combustion technology introduced for CTs (pre-1980s) and was the primary method of reducing NO_x emissions from CTs prior to the 1990s. Indeed, this method of control was first mandated by the NSPS to reduce NO_x levels to 75 ppmvd (corrected to 15-percent O_2 and heat rate). Development of improved wet injection combustors reduced NO_x concentrations to 25 ppmvd (corrected to 15-percent O_2) when burning natural gas. Wet injection is still the only means of reducing NO_x formation in the combustion process when firing oil.

The DLN combustion technology has been developed and made available since the early 1990s for gas turbines to achieve emission levels of 25 ppmvd corrected to 15-percent O_2. More recently, however, CT manufacturers have developed DLN combustors that can reduce NO_x concentrations to 9 ppmvd (corrected to 15-percent O_2) when firing natural gas.

SCR is an available and demonstrated control technology for NO_x control or combined cycle units, which has been installed or permitted in over 100 projects. Beginning in the late 1980s and early

1990s, SCR was initially installed on cogeneration facilities with capacities of 50 MW or less. Most of these projects were in California. Many of these initial SCR projects were located in the Southern California NO_2 nonattainment area where SCR was required not as BACT but as LAER, a more stringent requirement. As noted previously, there are distinct regulatory and policy differences between LAER and BACT. As discussed in Section 3.0, BACT involves an evaluation of the economic, environmental, and energy impacts of alternative control technologies. In contrast, LAER only considers the technical aspects of control.

Beginning in the mid-1990s, projects with SCR have been installed throughout the US. A majority of these projects are for natural gas-fired combined cycle facilities. The size of these projects ranges from 22 MW to over 1,000 MW. While many of the facilities have distillate oil as backup fuel, distillate oil generally is restricted by permit to 1,000 hours or less per CT.

Reported and permitted NO_x removal efficiencies of SCR range from 40 to over 80 percent of NO_x in the exhaust gas stream. The most common BACT emission limiting standard over the last 3 years has ranged from 2.5 to 3.5 ppmvd corrected to 15 percent O_2 or less for natural gas firing when using DLN and SCR. The most common emission limiting standard established as LAER is 2.5 ppmvd corrected to 15-percent O_2 or less for natural gas firing and using SCR.

Other available control technologies that have become available for controlling NO_x emissions from CTs include $SCONO_x$™ and XONON™. $SCONO_x$™ is an add-on control using absorption and chemical conversion to remove NO_x formed from combustion, while XONON™ is a catalytic combustion system integral to the turbine. Other potential technologies used in combustion process for NO_x removal include: NO_xOUT, Thermal $DeNO_x$, and NSCR.

<u>Technology Descriptions and Feasibility</u>

Wet Injection

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. At this point, operation of the CT becomes inefficient and unreliable, and significant increases in products of incomplete combustion results (i.e., CO and VOC emissions). In "F" Class turbines using wet injection with gas firing, the NO_x emission rates in the range of 30 ppm have been demonstrated. However, wet injection is no longer offered for gas firing in "F" Class turbines. Wet injection is the only current feasible means of reducing NO_x emissions in the combustion process when firing oil.

DLN Combustor

In the past several years, CT manufacturers have offered and installed machines with DLN combustors. These combustors, which are offered on conventional machines manufactured by General Electric (GE), Siemens Westinghouse, Mitsubishi Heavy Industries (MHI), and ABB, can achieve NO_x concentrations of 35 ppmvd or less when firing natural gas. All these vendors have offered DLN combustors on advanced heavy-duty industrial turbines. Thermal NO_x formation is inhibited by using combustion techniques where the natural gas and combustion air are premixed before ignition. For the CT being considered for the project, the combustion chamber design includes the use of DLN combustor technology when firing natural gas. The NO_x emission level when firing natural gas at baseload conditions is 9, 25, and 35 ppmvd (corrected to 15-percent O_2) for GE-7FA, GE-7FB, and Frame G CTs, respectively, levels which are guaranteed by the selected vendor for the project.

Selective Catalytic Reduction (SCR)

Selective Catalytic Reduction (SCR) uses ammonia (NH_3) to react with NO_x in the gas stream in the presence of a catalyst. NH_3, which is diluted with air to about 5 percent by volume, is introduced into the gas stream at reaction temperatures between 600°F and 750°F. The reactions are as follows:

$$4NH_3 + 4NO + O_2 = 4N_2 + 6H_2O$$
$$4NH_3 + 2NO_2 + O_2 = 3N_2 + 6H_2O$$

SCR operating experience, as applied to gas turbines, consists primarily of baseload natural gas-fired installations either of cogeneration or combined cycle configuration. Exhaust gas temperatures of simple cycle CTs generally are in the range of 1,000°F, which exceeds the optimum range for SCR with base metal catalysts. All current SCR applications have the catalyst placed in the HRSG to achieve proper reaction conditions. This allows a relatively constant temperature for the reaction of NH_3 and NO_x on the catalyst surface.

The use of SCR has been primarily limited to combined-cycle facilities that burn natural gas with small amounts of fuel oil. Initially, the traditional metal catalysts used in SCR systems were contaminated by sulfur-containing fuels. For most fuel oil-burning facilities, catalyst operation was discontinued or the exhaust bypasses the SCR system. This was due to the formation of ammonium salts (ammonium sulfate and bisulfate) resulting from the reaction of NH_3 and sulfur combustion products. Ammonium bisulfate can be corrosive and could cause damage to the HRSG surfaces that follow the catalyst, as well as to the stack. Corrosion protection for these areas would be required with concomitant cost and technical requirements. Ammonium sulfate is also emitted as particulate matter. While the formation of ammonium salts is primarily associated with oil firing, sulfur combustion products from natural gas also could form small amounts of ammonium salts. Ceramic and specially designed catalysts have been designed to overcome the problems with base-metal catalysts. The sulfur in No. 2 distillate oil has also been reduced from 0.5 percent available in the early 1990s to 0.05 percent. Beginning in 2007, the sulfur content for transportation diesel fuel has been mandated by EPA to be reduced to 0.0005 percent. This ultra low-sulfur light oil will be available. In addition, HRSG designs can accommodate the impacts of the formation of ammonium salts.

For combined cycle units, SCR is an available, technically feasible, and demonstrated technology.

SCONO$_x$™ Process

SCONO$_x$™ is a NO_x and CO control system exclusively offered by Goal Line Environmental Technologies (GLET). GLET is a partnership formed by Sunlaw Energy Corporation and Advanced Catalyst Systems, Inc. In 1998, ABB acquired the exclusive license for the technology in the United States for control applications larger than 100 MW.

The SCONO$_x$™ system employs a single catalyst to simultaneously oxidize CO to CO_2 and NO to NO_2. NO_2 formed by the oxidation of NO is subsequently absorbed onto the catalyst surface through the use of a potassium carbonate absorber coating. The SCONO$_x$™ oxidation/absorption cycle reactions are:

$$CO + \tfrac{1}{2} O_2 \rightarrow CO_2 \qquad (1)$$

$$NO + \tfrac{1}{2} O_2 \rightarrow NO_2 \qquad (2)$$

$$2NO_2 + K_2CO_3 \rightarrow CO_2 + KNO_2 + KNO_3 \qquad (3)$$

CO_2 produced by reaction (1) and (2) is released to the atmosphere as part of the CT/HRSG exhaust gas stream.

As shown in Reaction (3), the potassium carbonate catalyst coating reacts with NO_2 to form potassium nitrites and nitrates. Prior to saturation of the potassium carbonate coating, the catalyst must be regenerated. This regeneration is accomplished by passing a dilute hydrogen-reducing gas across the surface of the catalyst in the absence of O_2. Hydrogen in the reducing gas reacts with the nitrites and nitrates to form water and elemental nitrogen. CO_2 in the regeneration gas reacts with potassium nitrites and nitrates to form potassium carbonate; this compound is the catalyst absorber coating present on the surface of the catalyst at the start of the oxidation/absorption cycle. The $SCONO_x$™ regeneration cycle reaction is:

$$KNO_2 + KNO_3 + 4\ H_2 + CO_2 \rightarrow K_2CO_3 + 4\ H_2O_{(g)}) + N_2 \qquad (4)$$

Water vapor and elemental nitrogen are released to the atmosphere as part of the CT/HRSG exhaust stream. Following regeneration, the $SCONO_x$™ catalyst has a fresh coating of potassium carbonate, allowing the oxidation/absorption cycle to begin again. There is no net gain or loss of potassium carbonate after both the oxidation/absorption and regeneration cycles have been completed.

Since the regeneration cycle must take place in an oxygen-free environment, the section of catalyst undergoing regeneration is isolated from the exhaust gas stream using a set of louvers. Each catalyst section is equipped with a set of upstream and downstream louvers. During the regeneration cycle, these louvers close and valves open allowing fresh regeneration gas to enter and spent regeneration gas to exit the catalyst section being regenerated. At any given time, 75 percent of the catalyst sections will be in the oxidation/absorption cycle, while 25 percent will be in regeneration mode. A regeneration cycle is typically set to last for 3 to 5 minutes.

Regeneration gas is produced by reacting natural gas with O_2 present in ambient air. The $SCONO_x$™ system uses a gas generator produced by Surface Combustion. This unit uses a two-stage process to produce hydrogen and carbon dioxide. In the first stage, natural gas and ambient air are reacted across a partial oxidation catalyst at 1,900°F to form CO and hydrogen. Steam is added and the gas mixture is then passed across a low temperature shift catalyst, forming CO_2 and additional hydrogen. The resulting gas stream is diluted to less than 4 percent hydrogen using steam or another inert gas. The regeneration gas reactions are:

$$CH_4 + \tfrac{1}{2}\ O_2 + 1.88\ N_2 \rightarrow CO + 2\ H_2 + 1.88\ N_2 \qquad (5)$$

$$CO + 2\ H_2 + H_2O + 1.88\ NO_2 \rightarrow CO_2 + 3\ H_2 + 1.88\ N_2 \qquad (6)$$

The SCONO$_x$™ operates at a temperature range of 300 to 700°F and, therefore, must be installed in the appropriate temperature section of a HRSG. For SCONO$_x$™ systems installed in locations of the HRSG above 500°F, a separate regeneration gas generator is not required. Instead, regeneration gas is produced by introducing natural gas directly across the SCONO$_x$™ catalyst that reforms the natural gas.

The SCONO$_x$™ system catalyst is subject to reduced performance and deactivation due to exposure to sulfur oxides. For this reason, an additional catalytic oxidation/absorption system (SCOSO$_x$™) to remove sulfur compounds is installed upstream of the SCONO$_x$™ catalyst. During regeneration of the SCONO$_x$™ catalyst, either hydrogen sulfide or SO_2 is released to the atmosphere as part of the CT/HRSG exhaust gas stream. The absorption portion of the SCOSO$_x$™ process is proprietary. SCOSO$_x$™ oxidation/absorption and regeneration reactions are:

$$CO + \tfrac{1}{2}\, O_2 \rightarrow CO_2 \qquad (7)$$

$$SO_2 + \tfrac{1}{2}\, O_2 \rightarrow SO_3 \qquad (8)$$

$$SO_3 + \text{SORBER} \rightarrow [SO_3 + \text{SORBER}] \qquad (9)$$

$$[SO_3 + \text{SORBER}] + 4\, H_2 \rightarrow H_2S + 3\, H_2O \qquad (10)$$

Utility materials needed for the operation of the SCONO$_x$™ control system include ambient air, natural gas, water, steam, and electricity. The primary utility material is natural gas used for regeneration gas production. Steam is used as the carrier/dilution gas for the regeneration gas. Electricity is required to operate the computer control system, control valves, and louver actuators.

Commercial experience to date with the SCONO$_x$™ control system is limited to one small combined cycle power plant located in Los Angeles. This power plant, owned by GLET partner Sunlaw Energy Corporation, utilizes a GE LM2500 turbine (30-MW size) equipped with water injection to control NO$_x$ emissions to approximately 25 ppmvd. The SCONO$_x$™ control system was installed at the Sunlaw Energy facility in December 1996 and has achieved a NO$_x$ exhaust concentration of 3.5 ppmvd resulting in an approximate 85-percent NO$_x$ removal efficiency.

A second SCONO$_x$™ system was installed at the Genetics Institute Facility in Andover, Massachusetts, in late 1998. The system is installed on a 5-MW Caterpillar Solar Turbine with a Deltak boiler. The NO$_x$ emission limit is 2.5 ppmvd at 15-percent O_2. ABB Environmental reports that the system is operating successfully, although there have been incidents of high NO_x emissions that ABB Environmental attributes to combustion control problems and not to the SCONO$_x$™ system.

XONON™ Catalytic Combustor

Catalytic combustors are being developed for low emission applications on turbines where the catalyst is internal to the combustion system. The XONON™ Combustion System is a catalytic combustion system developed by Catalytica Combustion Systems, Inc., that can achieve low emission levels of NO_x, CO, and VOCs. The XONON™ system combusts the fuel over a catalyst, reducing the temperature of combustion and providing for more complete combustion of the fuel. The system is referred to as "flameless combustion" where temperatures are below those where limited NO_x formation occurs. However, the exhaust temperatures, from a CT standpoint, are still sufficient for the expansion of the gases through the turbine for power generation. Emission levels of NO_x at less than 2 ppm have been reported for the 1.5-MW Kawasaki gas turbine located at Sun Valley Power. XONON™ is currently only being commercialized for turbines in the 1- to 15-MW range.

NO$_x$OUT Process

The NO$_x$OUT process originated from the initial research by the Electric Power Research Institute (EPRI) in 1976 on the use of urea to reduce NO_x. EPRI licensed the proprietary process to Fuel Tech, Inc., for commercialization. In the NO$_x$OUT process, aqueous urea is injected into the flue gas stream ideally within a temperature range of 1,600°F to 1,900°F. In the presence of oxygen, the following reaction results:

$$CO(NH_2)_2 + 2NO + \frac{1}{2} O_2 \rightarrow 2N_2 + CO_2 + 2H_2O$$

The amount of urea required is most cost-effective when the treatment rate is 0.5 to 2 moles of urea per mole of NO_x. In addition to the original EPRI urea patents, Fuel Tech claims to have a number of proprietary catalysts capable of expanding the effective temperature range of the reaction to between 1,600°F and 1,950°F. Advantages of the system are as follows:

1. Low capital and operating costs as a result of use of urea injection; and
2. The proprietary catalysts used are nontoxic and nonhazardous, thus eliminating potential disposal problems.

Disadvantages of the system are as follows:

1. Formation of ammonia from excess urea treatment rates and/or improper use of reagent catalysts, and
2. Sulfur trioxide (SO_3), if present, will react with ammonia created from the urea to form ammonium bisulfate, potentially plugging the cold-end equipment downstream.

Commercial application of the NO_xOUT system is limited and the NO_xOUT system has not been demonstrated on any CT/HRSG unit.

The NO_xOUT process is not technically feasible for the proposed project because of the high application temperature of 1,600°F to 1,950°F. The maximum exhaust gas temperature of the "F" Class CT is about 1,100°F. Raising the exhaust temperature the required amount essentially would require installation of a heater. This would be economically prohibitive and would result in an increase in fuel consumption, an increase in the volume of gases that must be treated by the control system, and an increase in uncontrolled air emissions, including NO_x.

Thermal DeNO$_x$

Thermal DeNO$_x$ is Exxon Research and Engineering Company's patented process for NO_x reduction. The process is a high-temperature selective noncatalytic reduction (SNCR) of NO_x using ammonia as the reducing agent. Thermal DeNO$_x$ requires the exhaust gas temperature to be above 1,800°F. However, use of ammonia plus hydrogen lowers the temperature requirement to about 1,000°F. For some applications, this must be achieved by additional firing in the exhaust stream before ammonia injection.

The only known commercial applications of Thermal DeNO$_x$ are on heavy industrial boilers, large furnaces, and incinerators that consistently produce exhaust gas temperatures above 1,800°F. There are no known applications on or experience with CTs. Temperatures of 1,800°F require alloy materials constructed with very large piping and components since the exhaust gas volume would be increased by several times. As with the NO_xOUT process, high capital, operating, and maintenance costs are expected because of material requirements, an additional duct burner system, and fuel consumption. Uncontrolled emissions would increase because of the additional fuel burning.

Thus, the Thermal DeNO$_x$ process will not be considered for the proposed project since its high application temperature makes it technically infeasible. The maximum exhaust gas temperature of an

"F" Class CT is typically 1,100°F; the cost to raise the exhaust gas to such a high temperature is prohibitively expensive.

Nonselective Catalytic Reduction

Certain manufacturers, such as Engelhard, market a nonselective catalytic reduction system (NSCR) for NO_x control on reciprocating engines. The NSCR process requires a low-oxygen content in the exhaust gas stream and high temperature (700 to 1,400°F) in order to be effective. CTs have the required temperature but also have high oxygen levels (greater than 12 percent) and, therefore, cannot use the NSCR process. As a result, NSCR is not a technically feasible add-on NO_x control device for CTs.

Technology Demonstration and Feasibility

The combustion controls using DLN combustors for the CT and low-NO_x burners for duct firing are available, demonstrated, and technically feasible for CTs in either simple cycle or combined cycle configuration. The DLN combustion technology alone can achieve as low as 9 ppm (corrected to 15-percent O_2 dry conditions) when firing natural gas.

The technical evaluation of NO_xOUT, Thermal DeNO_x, NSCR, and indicate that these processes have not been applied to combined cycle systems and are technically infeasible for the project because of process constraints (e.g., temperature). The SCONO$_x$™ control technology is available but not considered to be technically feasible because it has not been commercially demonstrated on large "F" and "G" Class CTs. The CTs planned for the project are one of the following: General Electric Frame 7FA or 7FB units, Siemens Westinghouse Frame G units, or Mitsubishi Frame G Units. Each of the planned CTs has a nominal generating capacity of 170, 190, 250, and 250 MW, respectively, which are at least seven times larger than the nominal 25-MW GE LM2500 utilized at the Sunlaw Energy Corporation Los Angeles facility. Technical problems associated with scale-up of the SCONO$_x$™ technology are unknown given the large differences in machine flow rates. Additional concerns with the SCONO$_x$™ control technology include process complexity (multiple catalytic oxidation/absorption/regeneration systems), reliance on only one supplier, relatively brief operating history of the technology, and distillate oil firing. While the XONON™ catalytic combustion system is applied directly to the CT, application on a large combined cycle unit has not been demonstrated. For these reasons, the SCONO$_x$™ and XONON™ are still considered in the commercial demonstration stage. SCR is commercially available, technically feasible, and demonstrated for combined cycle units.

For combined cycle operation, the combination of DLN combustion technology and water injection with SCR is a technically feasible alternative that can achieve a maximum degree of emission reduction. The combined technology is capable of achieving a NO_x emission levels of 2.5 ppm when firing natural gas (corrected to 15-percent O_2 dry conditions) 10 ppm when firing light oil (corrected to 15-percent O_2 dry conditions).

Below is a summary of the technical availability, demonstration and feasibility for the proposed project:

	Combined Cycle
Technology	Status
Selective Catalytic Reduction	Available, Demonstrated and Feasible
DLN Combustors	Available, Demonstrated and Feasible for gas firing
Wet Injection	Available, Demonstrated or Feasible for oil firing
$SCONO_x$	Available, Not Demonstrated
XOXON™	Not Demonstrated
Thermal De NO_x	Not Available or Feasible
NO_x Out	Not Available or Feasible
NSCR	Not Available or Feasible

SCR Cost Estimates

Tables B-3 through B-8 present the total capital and annualized costs of SCR and $SCONO_x$™ applied to each CT/HRSG option. The costs were developed using EPA Cost Control Manual (EPA; 1990, 1993) and vendor-based estimates for each control system. Standard EPA-recommended cost factors were used. A capital recovery period of 15 years was used for the capital costs.

Comparison of Economic, Environmental, and Energy Impacts

Tables B-9 through B-11 present a comparison of the economic, environmental, and energy impacts associated with the control alternatives. Tables B-12 through B-14 present the potential emissions resulting from the formation of ammonium salts (i.e., particulate matter), ammonia slip, and secondary emissions.

B.2.2 CARBON MONOXIDE

Identification of CO Control Technologies

CO emissions are a result of incomplete or partial combustion of fossil fuel. Combustion design and catalytic oxidation are the control alternatives that are viable for the project. Table B-15 presents a listing of LAER/BACT decisions for CO emissions from CTs. Combustion design is the more common control technique used in CTs. Sufficient time, temperature, and turbulence are required within the combustion zone to maximize combustion efficiency and minimize the emissions of CO. Combustion efficiency is dependent upon combustor design.

Catalytic oxidation is a post-combustion control that has been employed in CO nonattainment areas where regulations have required CO emission levels to be less than those associated with combustion controls alone. These installations have been required to use LAER technology and typically have CO limits less than 10 ppmvd (corrected to dry conditions).

Technology Description

In an oxidation catalyst control system, CO emissions are reduced by allowing unburned CO to react with oxygen at the surface of a precious metal catalyst, such as platinum. Combustion of CO starts at about 300°F, with an efficiency of 90 percent occurring at temperatures above 600°F. Catalytic oxidation occurs at temperatures 50 percent lower than that of thermal oxidation, which reduces the amount of thermal energy required. For CTs, the oxidation catalyst can be located directly after the CT. Catalyst size depends upon the exhaust flow, temperature, and desired efficiency.

Oxidation Catalyst Costs

Tables B-16 through B-21 present the capital and annualized costs for an oxidation catalyst installed in the HRSG of each CT/HRSG option.

Comparison of Economic, Environmental, and Energy Impacts

Tables B-22 through B-24 present a comparison of the economic, environmental, and energy impacts associated with the top control alternatives for each combined cycle unit. Tables B-25 through B-27 presents the potential emissions resulting from secondary emissions. Secondary emissions result from generation lost due to the back pressure of the oxidation catalyst. The maximum CO impacts are less than 0.5 percent of the applicable ambient air quality standards. There would also be no secondary benefits, such as reducing acidic deposition, to reducing CO.

Table B-1. Federal NSPS for Electric Utility Stationary Gas Turbines

Pollutant	Emission Limitation[a]
Nitrogen Oxides[b]	0.0075 percent by volume (75 ppm) at 15 percent O_2 on a dry basis adjusted for heat rate and fuel nitrogen

[a] Applicable to electric utility gas turbines with a heat input at peak load of greater than 100 x 10^6 Btu/hr.

[b] Standard is multiplied by 14.4/Y; where Y is the manufacturer's rated heat rate in kilojoules per watt at rated load or actual measured heat rate based on the lower heating value of fuel measured at actual peak load; Y cannot be greater than 14.4. Standard is adjusted upward (additive) by the percent of nitrogen in the fuel:

Fuel-Bound Nitrogen (percent by weight)	Allowed Increase NO_x Percent by Volume
$N \leq 0.015$	0
$0.015 < N \leq 0.1$	0.04(N)
$0.1 < N \leq 0.25$	0.004+0.0067(N-0.1)
$N > 0.25$	0.005

where: N = the nitrogen content of the fuel (percent by weight).

Source: 40 CFR 60 Subpart GG.

Table B-2. Summary of BACT Determinations for NO_x for Combined Cycle CTs, 1999-2001

Facility	State	Final Permit Issued	MW	# of CTs	# of DB	Turbine Model	Fuel	Mode	Hours	NO_x Limit	Control Method	Avg. Time	Comments
Alabama Power, Plant Barry	AL	Aug-99	200	1	1	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm / 0.013 lb/MMBtu	DLN/SCR		
Mobile Energy, LLC - Hog Bayou	AL	Jan-99	200	1	1	GE 7FA (168 MW)	NG; FO	CC	8,760; 675 FO	3.5 ppm NG; 41 ppm w/ FO	DLN/SCR;WI		
Alabama Power - Theodore Cogeneration Facility	AL	Mar-99	210	1	1	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm/ 0.013 lb/MMBtu	DLN/SCR		
Tenaska Alabama Partners	AL	Nov-99	846	3	3	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	3.95 ppm NG; 11.3 ppm FO	DLN/SCR; WI/SCR		
Georgia Power - Goat Rock	AL	Apr-00	-	8	8	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm/ 0.013 lb/MMBtu	DLN/SCR		
Georgia Power - Goat Rock (revision of above PSD application)	AL	Apr-01	2,460	8	8	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm/ 0.013 lb/MMBtu	DLN/SCR		
Alabama Electric Cooperative - Gantt Plant	AL	Mar-00	500	2	2	SW 501F (166 MW)	NG	CC	8,760	3.5 ppm / 0.013 lb/MMBtu	DLN/SCR		
South Eastern Energy Corp.	AL	Jan-01	1,500	6	6 if CC	GE 7FA or SW 501F	NG	SC or CC	8,760	9 or 25 or 3.5 ppm	DLN if SC/SCR if CC		For NO_x and CO: SC w/GE or SC w/SW501F or CC (either)
Calpine Solutia - Decatur	AL	Jun-00	700	3	3	SW501F (180 MW)	NG	CC	8,760	3.5 ppm/ 0.013 lb/MMBtu	SCR		
Calpine BP Amoco	AL	Jun-00	700	3	3	SW501F (180 MW)	NG	CC	8,760	3.5 ppm/ 0.013 lb/MMBtu	SCR		
Tenaska Alabama II Generating Station	AL	Feb-01	900	3	3	GE 7FA or Mitsubishi M501F	NG; FO	CC	8,760; 720 FO	0.013/0.048 lb/mmbtu NG/FO - GE; 0.013/0.046 lb/mmbtu NG/FO - Mit	SCR/WI		
Hillabee Energy Center	AL	Jan-01	700	2	2	SW501G (229 MW)	NG	CC	8,760	3.5 ppm	DLN/SCR		PA = Power Augmentation, DB= Duct Burning
Duke Energy - Alexander City	AL	Feb-01	1,260	10	2	GE 7FA & 7EA	NG	CC & SC	8,760 CC; 2,500 SC	3.5 ppm (0.013 lb/mmBtu) CC; 9/12 ppm (0.033 lb/mmBtu) SC	SCR - CC, DLN-SC	annual/ 1-hr	8 SC units and 2 CC units
GenPower - Kelly, LLC	AL	Jan-01	1,260	4	4	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	SCR		
Blount County Energy	AL	Jan-01	800	3	3	"F" Class (170 MW)	NG	CC	8,760	0.013 lb/mmBtu (30.7 lb/hr)	SCR	3-hr	
Alabama Power - Autaugaville	AL	Jan-01	1,260	4	4	"F" Class (170 MW)	NG	CC	8,760	3.5 ppm (0.013 lb/mmBtu)	SCR		
Tenaska Alabama IV Partners	AL	draft permit	1,840	6	6	Mit 501F (170 MW)	NG; FO	CC	8,760; 720 FO	3.5 ppm NG; 12 ppm FO	SCR		SCONOx - \$6,145/ton NO_x; CatOx- \$1,506/ton CO
Duke Energy Autauga, LLC	AL	applic. under review	630	2	2	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	SCR		SCONOx - \$18760/ton NO_x; CatOx- \$5,006/ton CO
Kissimmee Utility Authority, Cane Island Power Park -Unit 3	FL	draft permit	250	1	0	GE 7FA (167 MW)	NG; FO	CC	8,760; 720 FO	3.5 ppm NG; 15 ppm FO	SCR		
Duke Energy - New Smyrna Beach	FL	draft permit	500	2	0	GE 7FA (165 MW)	NG	CC	8,760	9 ppm or 6 ppm	DLN or SCR		
Lake Worth Generation	FL	Nov-99	244	1	1	GE 7FA (170 MW)	NG; FO	CC	8,760; 1,000 FO	9 ppm NG; 42 ppm FO	DLN; WI		
Hines Energy (FPC)	FL	project dropped	500	2	0	SW 501F (165 MW)	NG; FO	CC	8,760; 1,000 FO	6 ppm NG - full load; 42 ppm FO	SCR; WI		
Gulf Power - Smith Station	FL	Jul-00	340	2	2	GE 7FA (170 MW)	NG	CC	8,760	82.9 lb/hr w/DB, 113.2 lb/hr w/ DB & SA	DLN	30-day	Netting out of PSD for NO_x and CO; SA = steam augmentation
Florida Power & Light - Sanford	FL	Sep-99	2,200	8	0	GE 7FA (170 MW)	NG, FO	CC	8,760; 500 FO	9 ppm NG; 42 ppm FO	DLN; WI		Repowering, 4 units FO
Gainesville Regional Utilities, Kelly Generating Station	FL	Feb-00	133	1	0	GE 7EA (83 MW)	NG; FO	CC	8,760; 1,000 FO	9 ppm NG; 42 ppm FO	DLN; WI		Netting out of PSD review for NO_x
Calpine Osprey Energy Center	FL	Jul-01	527	2	2	SW 501FD (170 MW)	NG	CC	8,760	3.5 ppm	DLN/SCR	24-hr Block	2,800 hr/yr - Power Aug. mode
Hines Energy (FPC)	FL	Jun-01	530	2	0	SW 501FD (170 MW)	NG; FO	CC	8,760; 1,000 FO	3.5 ppm NG; 12 ppm FO	SCR; WI	24-hr Block	SCONOx - \$16,712/ton NO_x.; CatOx - \$2,130/ton CO
CPV - Gulfcoast	FL	Feb-01	250	1	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	3.5 ppm NG; 10 ppm FO	SCR		SCONOx - no cost eval.; CatOx - \$4,350/ton CO

Table B-2. Summary of BACT Determinations for NO_x for Combined Cycle CTs, 1999-2001

Facility	State	Final Permit Issued	MW	# of CTs	# of DB	Turbine Model	Fuel	Mode	Hours	NO_x Limit	Control Method	Avg. Time	Comments
TECO Gannon/Bayside	FL	Mar-01	1,728	7	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 876 FO	3.5 ppm NG; 16.4 ppm FO	SCR		Repowering project: netting out of NO_x, CO, PM_{10} and SO_2 review (subject to VOC reveiw)
South Pond Energy Park	FL	draft permit	600	3	0	GE 7FA (170 MW)	NG; FO	SC/CC	3,390/8,760; 720 FO	10 ppm (9 initial)/3.5 ppm NG; 42/15 ppm FO	DLN/SCR; WI	3-hr	2 SC CT and 1 CC CT also capable of operating in SC mode.
North Pond Energy Park	FL	applic. under review	430	2	0	GE 7FA (170 MW)	NG; FO	SC/CC	3,390/8,760; 720 FO	10 ppm (9 initial)/3.5 ppm NG; 42/15 ppm FO	DLN/SCR; WI	3-hr	1 SC CT and 1 CC CT also capable of operating in SC mode.
Calpine Blue Heron Energy Center	FL	draft permit	1,080	4	4	SW 501F (170 MW)	NG	CC	8,760	3.5 ppm	DLN/SCR		Base/duct burner/power aug./60-70% load; SCONOx - $9,982/ton NO_x; CatOx - $1,553/ton CO
Jacksonville Electric Authority - Brandy Branch (revision)	FL	draft permit	200	0	2	GE 7FA (170 MW)	NG; FO	CC	8760; 288 FO	3.5 ppm NG; 15 ppm FO	SCR		Conversion of 2 SC units to 2 CC units
CPV - Atlantic Power	FL	May-01	250	1	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	3.5 ppm NG; 10 ppm FO	SCR		PA = Power Augmentation
Orlando Utilities - Curtis H Stanton Energy Center	FL	Sep-01	633	2	2	GE 7FA (170 MW)	NG; FO	CC	8,760; 1000 FO	3.5 ppm NG; 10 ppm FO	SCR		
Broward Energy Center	FL	draft permit	775	4	0	GE 7FA (175 MW)	NG	CC/SC	8,760/5,000	3.5 ppm/9 ppm	SCR/DLN	24-hr	* 1 CC w/unfired HRSG & 3 SC; PA = Power Augmentation
Belle Glade Energy Center	FL	draft permit	600	3	0	GE 7FA (175 MW)	NG	CC/SC	8,760/5,000	3.5 ppm/9 ppm	SCR/DLN	24-hr	* 1 CC w/unfired HRSG & 2 SC; PA = Power Augmentation
Manatee Energy Center	FL	draft permit	600	3	0	GE 7FA (175 MW)	NG	CC/SC	8,760/5,000	3.5 ppm/9 ppm	SCR/DLN	24-hr	* 1 CC w/unfired HRSG & 2 SC; PA = Power Augmentation
CPV Pierce Power Generation Facility	FL	Aug-01	250	1	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	2.5 ppm NG; 10 ppm FO	SCR	24-hr	PA limited to 2,000 hr/yr
Fort Pierce Repowering Project	FL	draft permit	180	1	1	SW 501F (180 MW)	NG; FO	CC/SC	8,760; 1,000 FO/2,000; 500 FO	3.5 ppm NG; 12 ppm FO/25 ppm NG; 42 ppm FO	SCR/DLN; WI		CT will operate in both CC and SC modes
TECO Bayside Power Station	FL	draft permit	1,032	4	0	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	SCR		Repowering Project: Netting out of PSD for NO_x, SO_2, VOC, lead and SAM (subject for PM_{10} and CO)
Georgia Power - Wansley (Oglethorpe Power)	GA	Jul-00	2,280	8	8	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm / 0.013 lb/MMBtu	DLN/SCR	30 day	
Duke Energy Murray, LLC	GA	Feb-01	1,240	4	4	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	DLN/SCR		
Duke Energy Buffalo Creek, LLC	GA	applic. under review	620	2	2	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	DLN/SCR		SCONOx - $19,948/ton NO_x; CatOx - $2,469/ton CO
Augusta Energy LLC	GA	draft permit	750	3	3	GE 7FA (170 MW)	NG; FO	CC	8,760; 1,000 FO	3.5 ppm NG; 42 ppm FO	SCR; WI		SCONOx - $17,490/ton NO_x; CatOx - $4,133/ton CO
GenPower McIntosh	GA	applic. under review	528	2	2	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	SCR		
Monroe Power Co.	GA	applic. under review	525	2	0	GE 7FA (170 MW)	NG	SC/CC	8,760	12/3.5 ppm	DLN/SCR		Initially SC, but later converting to CC
Peace Valley Generation Co., LLC	GA	applic. under review	1,550	6	4	F" Class	NG	CC/SC	8,760/2,500	3.5/9 ppm	SCR/DLN;		
Duke Energy Tift	GA	applic. under review	620	2	2	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	SCR		SCONOx - $16,274/ton NO_x; CatOx - $2,095/ton CO
CPV Terrapin, LLC	GA	applic. under review	800	3	3	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	3.5 ppm NG; 5.4 ppm (NG w/DB); 8.0 ppm FO	SCR		
Kinder Morgan Georgia, LLC - Tift Power	GA	applic. under review	560	7	7	1 - GE 7EA & 6 - LM6000	NG	CC	8,760; 3,760 (part load)	9 ppm & 22 ppm	DLN & WI	annual	
Hartwell Development Co.	GA	applic. under review	564	2	0	GE 7FA (176 MW)	NG	CC	8,760	3.5 ppm	SCR		SCONOx - $35,422/ton NO_x; CatOx - $4,964/ton CO

Table B-2. Summary of BACT Determinations for NO_x for Combined Cycle CTs, 1999-2001

Facility	State	Final Permit Issued	MW	# of CTs	# of DB	Turbine Model	Fuel	Mode	Hours	NO_x Limit	Control Method	Avg. Time	Comments
Kentucky Pioneer Energy	KY	Jun-01	540	2	0	GE 7FA (197 MW)	syngas/ NG	CC	8,760	15/20 ppm	Steam Injection	3-hr	
Duke Energy Hinds, L.L.C.	MS	Apr-00	520	2	0	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	DLN/SCR		
Duke Energy Attala, L.L.C.	MS	Apr-00	520	2	0	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	DLN/SCR		
Cogentrix Energy, Southaven Power Project	MS	draft permit	800	3	3	GE 7FA (170 MW)	NG	CC	8,760	4.5 ppm (10.8 ppm w/ DB)	DLN/SCR		
Cogentrix Energy, Caledonia Power Project	MS	Mar-01	800	3	3	GE 7FA (182 MW)	NG	CC	8,760	3.5 ppm (w/DB)	DLN/SCR		Revised application to add SCR
GenPower - McAdams LLC	MS	draft permit	528	2	2	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	DLN/SCR	24-hr	
Lone Oak Energy Center	MS	draft permit	800	3	3	F" Class (180 MW)	NG	CC	8,760	3.5 ppm	SCR		Base/PA/PA+DF/DF
Lee Power Partners	MS	draft permit	1,000	4	4	F" Class (170 MW)	NG	CC	8,760	3.5 ppm	SCR		
LSP-Pike Energy LLC	MS	draft permit	1,100	4	4	F" Class (170 MW)	NG	CC	8,760	4.5 ppm	SCR		
Magnolia Energy	MS	draft permit	900	3	3	F" Class (170 MW)	NG	CC	8,760	3.5 ppm	SCR		
Hines Energy Facility	MS	Jan-00	340	2	?	170 MW each	NG	CC	8,760	3.5 ppm	DLN, SCR		
Reliant Energy - Choctaw Co., LLC	MS	draft permit	844	3	3	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	DLN, SCR	30-day	SCONOx - \$48,663/ton NO_x; CatOx - \$3,550/ton CO
Crossroads Energy Center	MS	applic. under review	580	2	2	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	SCR		SCONOx - \$23,400/ton NO_x; CatOx - \$11,039/ton CO
Choctaw Gas Generation, LLC	MS	applic. under review	700	2	2	SW 501G (250 MW)	NG	CC	8,760	3.5 ppm	SCR		
Duke Energy Homochitto, LLC	MS	applic. under review	630	2	2	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	SCR	24-hr	
Granite Power Partners II (Batesville)	MS	applic. under review	300	1	1	SW 501F (230 MW)	NG	CC	8,760	3.5 ppm	SCR		
Carolina Power & Light, Richmond Co. (2nd revision - new configuration)	NC	applic. under review	2,040	9	0	GE 7FA (170 MW)	NG; FO	CC/SC	8,760/2,000; 1,000 FO	3.5/9 ppm NG; 13/42 ppm FO	SCR/DLN; SCR/WI	24-hr	Reconfiguration of facility: 6 CC and 3 SC CTs
Carolina Power & Light, Rowan Co. (revision)	NC	draft permit	1,110	2	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 1,000 FO	9 ppm NG; 42 ppm FO	DLN; WI		Modification of previous permit to switch 2 SC -> CC
Butler-Warner Generation Plant	NC	applic. under review	500	2	0	GE 7FA (170 MW)	NG; FO	SC & CC	8,760; 500 FO	9 ppm NG; 42 ppm FO	DLN; WI		
GenPower Earleys, LLC	NC	applic. under review	528	2	2	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	SCR		SCONOx - \$21,942/ton NO_x; CatOx - \$3,246ton CO
Santee Cooper, Rainey Generating Station	SC	Apr-00	870	4	0	GE 7FA (170 MW)	NG, FO	2 CC, 2 SC	8,760; 1,000 FO	9 ppm NG; 42 ppm FO	DLN; WI		
SC Electric & Gas - Urquhart	SC	Sep-00	444	2	0	GE 7FA (150 MW)	NG, FO	CC	8,760; 4,380 FO	45 ppm	DLN		Netted out of NO_x, SO_2 and PM_{10} PSD Review
Columbia Energy	SC	Apr-01	515	2	2	GE 7FA (170 MW)	NG, FO	CC	8,760; 1,000 FO	3.5 ppm NG; 12 ppm FO	DLN/SCR; WI		SCONOx - no analysis; CatOx - \$1,611/ton CO
GenPower Anderson	SC	draft permit	640	2	2	GE 7FA (170 MW)	NG	CC	8760	3.5 ppm	DLN/SCR		
Vanderbilt University	TN	May-00	10	2	2	GE PGT5B (5.2 MW)	NG	CC	8,760	25 ppm	DLN		
Memphis Generation LLC	TN	draft permit	1,050	4	0	GE 7FA (170 MW)	NG	CC	8,760	3.5 ppm	SCR		Phase I - 1 CT (up to 7% total plant heat input from refinery fuel gas), Phase II - 3 CTs (up to 2% total plant heat input from refinery fuel gas)
Haywood Energy Center (Calpine)	TN	applic. under review	900	3	3	SW, GE 7FA or GE F7B	NG; FO	CC	8,760	3.5 ppm NG; 42 ppm FO	DLN/SCR; WI		
TVA - Franklin	TN	applic. under review	610	2	2	GE 7FA (195 MW)		CC	8,760	3.5 ppm	SCR		

Abbreviations:

Table B-2. Summary of BACT Determinations for NO_x for Combined Cycle CTs, 1999-2001

Facility	State	Final Permit Issued	MW	# of CTs	# of DB	Turbine Model	Fuel	Mode	Hours	NO_x Limit	Control Method	Avg. Time	Comments
GE = General Electric			NG = Nat. Gas			SC = Simple Cycle			DLN = Dry-Low NO_x			CatOx = Catalytic Oxidation	
SW = Seimens Westinghouse			FO = Fuel Oil			CC = Combined Cycle			WI = Water Injection			GCP = Good Combustion Practices	
			DB = Duct Burner						SCR = Selective Catalytic Reduction				

Source: http://www.epa.gov/region4/air/permits/national_ct_list.xls (2001).

Table B-3. Capital Cost for Selective Catalytic Reduction and SCONOx™ for the GE Frame 7FA Combined Cycle Combustion Turbine
(2.5 ppmvd corrected for gas firing)

Cost Component	Costs for SCR	Costs for SCONOx™	Basis of Cost Component
Direct Capital Costs			
Pollution Control Equipment	$1,186,006	$14,750,000	Vendor Estimates
Ammonia Storage Tank	$126,350	$0	$35 per 1,000 lb mass flow developed from vendor quotes
Flue Gas Ductwork	$44,505	$69,725	Vatavauk,1990
Instrumentation	$50,000	$50,000	Additional NO_x Monitor and System
Taxes	$71,160	$885,000	6% of SCR Associated Equipment and Catalyst
Freight	$59,300	$737,500	5% of SCR Associated Equipment
Total Direct Capital Costs (TDCC)	$1,537,322	$16,492,225	
Direct Installation Costs			
Foundation and supports	$122,986	1,319,378	8% of TDCC and RCC;OAQPS Cost Control Manual
Handling & Erection	$215,225	2,308,912	14% of TDCC and RCC;OAQPS Cost Control Manual
Electrical	$61,493	659,689	4% of TDCC and RCC;OAQPS Cost Control Manual
Piping	$30,746	329,845	2% of TDCC and RCC;OAQPS Cost Control Manual
Insulation for ductwork	$15,373	164,922	1% of TDCC and RCC;OAQPS Cost Control Manual
Painting	$15,373	164,922	1% of TDCC and RCC;OAQPS Cost Control Manual
Site Preparation	$5,000	$5,000	Engineering Estimate
Buildings	$15,000	$15,000	Engineering Estimate
Total Direct Installation Costs (TDIC)	$481,197	$4,967,668	
Total Capital Costs (TCC)	$2,018,519	$21,459,893	Sum of TDCC, TDIC and RCC
Indirect Costs			
Engineering	$153,732	$1,649,223	10% of Total DirectCapital Costs; OAQPS Cost Control Manual
PSM/RMP Plan	$50,000	$0	Engineering Estimate
Construction and Field Expense	$76,866	$824,611	5% of TDCC; OAQPS Cost Control Manual
Contractor Fees	$153,732	$1,649,223	10% of TDCC; OAQPS Cost Control Manual
Start-up	$30,746	$329,845	2% of TDCC; OAQPS Cost Control Manual
Performance Tests	$15,373	$164,922	1% of TDCC; OAQPS Cost Control Manual
Contingencies	$46,120	$494,767	3% of TDCC; OAQPS Cost Control Manual
Total Indirect Capital Cost (TInCC)	$526,570	$5,112,590	
Total Direct, Indirect and Capital Costs (TDICC)	$2,545,089	$26,572,482	Sum of TCC and TInCC

Sources: Foster Wheele, 2002. ABB Alstom, 2000. EPA; 1990, 1992, and 1996 (OAQPS Cost Control Manual).
Golder, 2005. Vatavuk, 1990 (Estimating Costs of Air Pollution Control).

Table B-4. Capital Cost for Selective Catalytic Reduction and SCONOx™ for the GE Frame 7FB Combined Cycle Combustion Turbine (2.5 ppmvd corrected for gas firing)

Cost Component	Costs for SCR	Costs for SCONOx™	Basis of Cost Component	
Direct Capital Costs				
Pollution Control Equipment	$1,610,848	$16,712,000		Vendor Estimates
Ammonia Storage Tank	$126,000	$0	$35	per 1,000 lb mass flow developed from vendor quotes
Flue Gas Ductwork	$44,505	$69,725		Vatavauk,1990
Instrumentation	$50,000	$50,000		Additional NO_x Monitor and System
Taxes	$96,651	$1,002,720	6%	of SCR Associated Equipment and Catalyst
Freight	$80,542	$835,600	5%	of SCR Associated Equipment
Total Direct Capital Costs (TDCC)	$2,008,547	$18,670,045		
Direct Installation Costs				
Foundation and supports	$160,684	1,493,604	8%	of TDCC and RCC;OAQPS Cost Control Manual
Handling & Erection	$281,197	2,613,806	14%	of TDCC and RCC;OAQPS Cost Control Manual
Electrical	$80,342	746,802	4%	of TDCC and RCC;OAQPS Cost Control Manual
Piping	$40,171	373,401	2%	of TDCC and RCC;OAQPS Cost Control Manual
Insulation for ductwork	$20,085	186,700	1%	of TDCC and RCC;OAQPS Cost Control Manual
Painting	$20,085	186,700	1%	of TDCC and RCC;OAQPS Cost Control Manual
Site Preparation	$5,000	$5,000		Engineering Estimate
Buildings	$15,000	$15,000		Engineering Estimate
Total Direct Installation Costs (TDIC)	$622,564	$5,621,014		
Total Capital Costs (TCC)	$2,631,110	$24,291,059	Sum of TDCC, TDIC and RCC	
Indirect Costs				
Engineering	$200,855	$1,867,005	10%	of Total DirectCapital Costs; OAQPS Cost Control Manual
PSM/RMP Plan	$50,000	$0		Engineering Estimate
Construction and Field Expense	$100,427	$933,502	5%	of TDCC; OAQPS Cost Control Manual
Contractor Fees	$200,855	$1,867,005	10%	of TDCC; OAQPS Cost Control Manual
Start-up	$40,171	$373,401	2%	of TDCC; OAQPS Cost Control Manual
Performance Tests	$20,085	$186,700	1%	of TDCC; OAQPS Cost Control Manual
Contingencies	$60,256	$560,101	3%	of TDCC; OAQPS Cost Control Manual
Total Indirect Capital Cost (TInCC)	$672,649	$5,787,714		
Total Direct, Indirect and Capital Costs (TDICC)	$3,303,760	$30,078,773	Sum of TCC and TInCC	

Sources: Foster Wheeler, 2002. ABB Alstom, 2000. EPA; 1990, 1992, and 1996 (OAQPS Cost Control Manual).
Golder, 2005. Vatavuk, 1990 (Estimating Costs of Air Pollution Control).

Table B-5. Capital Cost for Selective Catalytic Reduction and SCONOx™ for the Frame G Combined Cycle Combustion Turbine
(2.5 ppmvd corrected for gas firing)

Cost Component	Costs for SCR	Costs for SCONOx™	Basis of Cost Component
Direct Capital Costs			
Pollution Control Equipment	$3,682,334	$20,711,700	Vendor Estimates
Ammonia Storage Tank	$163,912	$0	$35 per 1,000 lb mass flow developed from vendor quotes
Flue Gas Ductwork	$44,505	$69,725	Vatavauk,1990
Instrumentation	$50,000	$50,000	Additional NO_x Monitor and System
Taxes	$220,940	$1,242,702	6% of SCR Associated Equipment and Catalyst
Freight	$184,117	$1,035,585	5% of SCR Associated Equipment
Total Direct Capital Costs (TDCC)	$4,345,807	$23,109,712	
Direct Installation Costs			
Foundation and supports	$347,665	1,848,777	8% of TDCC and RCC;OAQPS Cost Control Manual
Handling & Erection	$608,413	3,235,360	14% of TDCC and RCC;OAQPS Cost Control Manual
Electrical	$173,832	924,388	4% of TDCC and RCC;OAQPS Cost Control Manual
Piping	$86,916	462,194	2% of TDCC and RCC;OAQPS Cost Control Manual
Insulation for ductwork	$43,458	231,097	1% of TDCC and RCC;OAQPS Cost Control Manual
Painting	$43,458	231,097	1% of TDCC and RCC;OAQPS Cost Control Manual
Site Preparation	$5,000	$5,000	Engineering Estimate
Buildings	$15,000	$15,000	Engineering Estimate
Total Direct Installation Costs (TDIC)	$1,323,742	$6,952,914	
Total Capital Costs (TCC)	$5,669,550	$30,062,626	Sum of TDCC, TDIC and RCC
Indirect Costs			
Engineering	$434,581	$2,310,971	10% of Total DirectCapital Costs; OAQPS Cost Control Manual
PSM/RMP Plan	$50,000	$0	Engineering Estimate
Construction and Field Expense	$217,290	$1,155,486	5% of TDCC; OAQPS Cost Control Manual
Contractor Fees	$434,581	$2,310,971	10% of TDCC; OAQPS Cost Control Manual
Start-up	$86,916	$462,194	2% of TDCC; OAQPS Cost Control Manual
Performance Tests	$43,458	$231,097	1% of TDCC; OAQPS Cost Control Manual
Contingencies	$130,374	$693,291	3% of TDCC; OAQPS Cost Control Manual
Total Indirect Capital Cost (TInCC)	$1,397,200	$7,164,011	
Total Direct, Indirect and Capital Costs (TDICC)	$7,066,750	$37,226,636	Sum of TCC and TInCC

Sources: Engelhard. ABB Alstom, 2000. EPA; 1990, 1992, and 1996 (OAQPS Cost Control Manual).
Golder, 2005. Vatavuk 1990 (Estimating Costs of Air Pollution Control).

Table B-6. Annualized Cost for Selective Catalytic Reduction and SCONOx™ for the GE Frame 7FA in Combined Cycle Operation
(2.5 ppmvd corrected for gas firing)

Cost Component	Costs for SCR	Costs for SCONOx™	Basis of Cost Component
Direct Annual Costs			
Operating Personnel	$21,840	$43,680	28 hours/week at $15/hr for SCR; SCONOx 2 times SCR costs
Supervision	$3,276	$6,552	15% of Operating Personnel;OAQPS Cost Control Manual
Ammonia	$134,285	$0	$580 per ton NH_3 based on 19% Aqueous NH_3
PSM/RMP Update	$15,000	$0	Engineering Estimate
Inventory Cost	$3,841	$5,761	Capital Recovery (10.98%) for 1/3 catalyst for SCR; SCONOx 1.5 times SCR
Catalyst Cost	$104,944	$157,415	3 years catalyst life; Based on Vendor Budget Estimate
Contingency	$8,496	$6,402	3% of Direct Annual Costs
Total Direct Annual Costs (TDAC)	$291,681	$219,811	
Energy Costs			
Electrical	$28,032	$70,080	80kW/h for SCR @ $0.04/kWh times Capacity Factor; 200 kW for SCONOx
MW Loss and Heat Rate Penalty	$387,912	$674,629	0.36 % output for SCR; 0.6% for SCONOx; EPA, 1993
Steam Costs for SCONOx	$0	$690,567	17,795 lb/hr 600 °F, 85 psig, steam (1,329 Btu/lb steam); 90% boiler eff.; $3/mmBtu
Natural Gas for SCONOx	$0	$48,737	80 lb/hr; 0.044 lb/scf; 1,020 Btu/scf; $3/mmBtu
Total Energy Costs (TEC)	$415,944	$1,484,014	
Indirect Annual Costs			
Overhead	95,641	30,139	60% of Operating/Supervision Labor and Ammonia
Property Taxes	25,451	265,725	1% of Total Capital Costs
Insurance	25,451	265,725	1% of Total Capital Costs
Annualized Total Direct Capital	279,451	2,917,659	10.98% Capital Recovery Factor of 7% over 15 years times sum of TDICC
Total Indirect Annual Costs (TIAC)	$425,993	$3,479,247	
Total Annualized Costs	$1,133,618	$5,183,072	Sum of TDAC, TEC and TIAC
Total Cost Effectiveness (9 to 2.5)	$3,828	$17,500	per ton of NO_x Removed
	296.17	296.17	tons NOx removed /year; 2.5 ppmvd corrected to 15% oxygen

Source: Golder, 2005. EPA, 1993 (Alternative Control Techniques Document--NOx Emissions from Stationary Gas Turbines, Page 6-20).

Table B-7. Annualized Cost for Selective Catalytic Reduction and SCONOx™ for the GE Frame 7FB in Combined Cycle Operation
(2.5 ppmvd corrected for gas firing)

Cost Component	Costs for SCR	Costs for SCONOx™	Basis of Cost Component
Direct Annual Costs			
Operating Personnel	$21,840	$43,680	28 hours/week at $15/hr for SCR; SCONOx 2 times SCR costs
Supervision	$3,276	$6,552	15% of Operating Personnel;OAQPS Cost Control Manual
Ammonia	$247,453	$0	$580 per ton NH_3 based on 19% Aqueous NH_3
PSM/RMP Update	$15,000	$0	Engineering Estimate
Inventory Cost	$7,651	$11,477	Capital Recovery (10.98%) for 1/3 catalyst for SCR; SCONOx 1.5 times SCR
Catalyst Cost	$209,052	$313,578	3 years catalyst life; Based on Vendor Budget Estimate
Contingency	$15,128	$11,259	3% of Direct Annual Costs
Total Direct Annual Costs (TDAC)	$519,401	$386,546	
Energy Costs			
Electrical	$28,032	$70,080	80kW/h for SCR @ $0.04/kWh times Capacity Factor; 200 kW for SCONOx
MW Loss and Heat Rate Penalty	$378,345	$657,992	0.34 % output for SCR; 0.6% for SCONOx; EPA, 1993
Steam Costs for SCONOx	$0	$705,663	18,184 lb/hr 600 °F, 85 psig, steam (1,329 Btu/lb steam); 90% boiler eff.; $3/mmBtu
Natural Gas for SCONOx	$0	$49,347	81 lb/hr; 0.044 lb/scf; 1,020 Btu/scf; $3/mmBtu
Total Energy Costs (TEC)	$406,377	$1,483,081	
Indirect Annual Costs			
Overhead	163,541	30,139	60% of Operating/Supervision Labor and Ammonia
Property Taxes	33,038	300,788	1% of Total Capital Costs
Insurance	33,038	300,788	1% of Total Capital Costs
Annualized Total Direct Capital	362,753	3,302,649	10.98% Capital Recovery Factor of 7% over 15 years times sum of TDICC
Total Indirect Annual Costs (TIAC)	$592,369	$3,934,364	
Total Annualized Costs	$1,518,147	$5,803,991	Sum of TDAC, TEC and TIAC
Total Cost Effectiveness (25 to 2.5)	$1,985	$7,589	per ton of NO_x Removed
	764.80	764.80	tons NOx removed /year; 2.5 ppmvd corrected to 15% oxygen

Source: Golder, 2005. EPA, 1993 (Alternative Control Techniques Document--NOx Emissions from Stationary Gas Turbines, Page 6-20).

Table B-8. Annualized Cost for Selective Catalytic Reduction and SCONOx™ for the Frame G in Combined Cycle Operation
(2.5 ppmvd corrected for gas firing)

Cost Component	Costs for SCR	Costs for SCONOx™	Basis of Cost Component
Direct Annual Costs			
Operating Personnel	$21,840	$43,680	28 hours/week at $15/hr for SCR; SCONOx 2 times SCR costs
Supervision	$3,276	$6,552	15% of Operating Personnel;OAQPS Cost Control Manual
Ammonia	$423,502	$0	$580 per ton NH_3 based on 19% Aqueous NH_3
PSM/RMP Update	$15,000	$0	Engineering Estimate
Inventory Cost	$18,563	$27,844	Capital Recovery (10.98%) for 1/3 catalyst for SCR; SCONOx 1.5 times SCR
Catalyst Cost	$507,172	$760,758	3 years catalyst life; Based on Vendor Budget Estimate
Contingency	$29,681	$25,165	3% of Direct Annual Costs
Total Direct Annual Costs (TDAC)	$1,019,033	$863,999	
Energy Costs			
Electrical	$28,032	$70,080	80kW/h for SCR @ $0.04/kWh times Capacity Factor; 200 kW for SCONOx
MW Loss and Heat Rate Penalty	$625,582	$1,087,968	0.42 % output for SCR; 0.6% for SCONOx; EPA, 1993
Steam Costs for SCONOx	$0	$864,810	22,285 lb/hr 600 °F, 85 psig, steam (1,329 Btu/lb steam); 90% boiler eff.; $3/mmBtu
Natural Gas for SCONOx	$0	$60,922	100 lb/hr; 0.044 lb/scf; 1,020 Btu/scf; $3/mmBtu
Total Energy Costs (TEC)	$653,614	$2,083,780	
Indirect Annual Costs			
Overhead	269,171	30,139	60% of Operating/Supervision Labor and Ammonia
Property Taxes	70,668	372,266	1% of Total Capital Costs
Insurance	70,668	372,266	1% of Total Capital Costs
Annualized Total Direct Capital	775,929	4,087,485	10.98% Capital Recovery Factor of 7% over 15 years times sum of TDICC
Total Indirect Annual Costs (TIAC)	$1,186,435	$4,862,157	
Total Annualized Costs	$2,859,082	$7,809,935	Sum of TDAC, TEC and TIAC
Total Cost Effectiveness (35 to 2.5)	$2,022	$5,524	per ton of NO_x Removed
Incremental Cost Effectiveness (3.5 to2.5)	$12,182	$8,859	per incremental ton of NO_x Removed
	1,413.73	1,413.73	tons NOx removed /year; 2.5 ppmvd corrected to 15% oxygen

Source: Golder, 2005. EPA, 1993 (Alternative Control Techniques Document--NOx Emissions from Stationary Gas Turbines, Page 6-20).

Table B-9. Comparison of Alternative BACT Control Technologies for NOx on One CT/HRSG: GE-7FA

	Alternative BACT Control Technologies		
	DLN Only	DLN with SCR (2.5 ppmvd corrected)	DLN with SCONOx™ (2.5 ppmvd corrected)
Technical Assessment	Feasible	Available, Feasible and Demonstrated	Not Demonstrated
Economic Impact [a]			
Capital Costs	included	$2,545,089	$26,572,482
Annualized Costs	included	$1,133,618	$5,183,072
Cost Effectiveness (per ton of Nox removed)			
Total	NA	$3,828	$17,500
Environmental Impact [b]			
Total NOx (TPY)	395	99.0	99.0
NOx Reduction (TPY)	NA	296	296
Ammonia Emissions (TPY)	0	111	0
PM Emissions (TPY)	0	10.0	0
Secondary Emissions (TPY)	0	7.3	43.5
Net Emission Reduction (TPY)	NA	-168	-253
Additional Greenhouse Gas (as CO_2; tons/year)	0	4,021	24,087
Energy Impacts [c]			
Energy Use (kWh/yr)	0	6,176,711	36,996,904
Energy Use (kWh/yr) - Back Pressure	0	5,475,911	10,951,822
Energy Use (kWh/yr) - Other	0	700,800	26,045,082
Energy Use (Equivalent Residential Customers/year)	0	515	3,083
Energy Use (mmBtu/yr) at 10,000 Btu/kWh	0	63,496	380,324
Energy Use (mmcf/yr) at 1,000 Btu/cf for natural gas	0	63	380
Energy Use (percent of combustion turbine output)	0	0.41%	2.43%

[a] See Tables B-3 and B-6 for detailed development of capital costs (including recurring costs) and annualized costs.

[b] See emission data presented in Table B-12.

[c] Energy impacts are estimated due to the lost energy from heat rate penalty and electrical usage for the SCR operation at 8,760 hours per year. Lost energy for SCR is based on 0.345 percent of 166 MW. SCR electrical usage is based on 0.080 MWh per SCR system. Lost Energy for SCONOx™ includes 0.6 percent of turbine output and steam usage. SCONOx™ electrical usage based on 0.2 MW/hr per system.

Table B-10. Comparison of Alternative BACT Control Technologies for NOx on One CT/HRSG :GE-7FB

	Alternative BACT Control Technologies		
	DLN Only	DLN with SCR (2.5 ppmvd corrected)	DLN with SCONOx™ (2.5 ppmvd corrected)
Technical Assessment	Feasible	Available, Feasible and Demonstrated	Not Demonstrated
Economic Impact [a]			
Capital Costs	included	\$3,303,760	\$30,078,773
Annualized Costs	included	\$1,518,147	\$5,803,991
Cost Effectiveness (per ton of Nox removed)			
Total	NA	\$1,985	\$7,589
Environmental Impact [b]			
Total NOx (TPY)	867	101.9	101.9
NOx Reduction (TPY)	NA	765	765
Ammonia Emissions (TPY)	0	116	0
PM Emissions (TPY)	0	10.3	0
Secondary Emissions (TPY)	0	6.6	39.1
Net Emission Reduction (TPY)	NA	-632	-726
Additional Greenhouse Gas (as CO_2; tons/year)	0	3,632	21,698
Energy Impacts [c]			
Energy Use (kWh/yr)	0	6,333,802	37,834,589
Energy Use (kWh/yr) - Back Pressure	0	5,633,002	11,266,005
Energy Use (kWh/yr) - Other	0	700,800	26,568,584
Energy Use (Equivalent Residential Customers/year)	0	528	3,153
Energy Use (mmBtu/yr) at 10,000 Btu/kWh	0	57,354	342,603
Energy Use (mmcf/yr) at 1,000 Btu/cf for natural gas	0	57	343
Energy Use (percent of combustion turbine output)	0	0.38%	2.26%

[a] See Tables B-4 and B-7 for detailed development of capital costs (including recurring costs) and annualized costs.

[b] See emission data presented in Table B-13.

[c] Energy impacts are estimated due to the lost energy from heat rate penalty and electrical usage for the SCR operation at 8,760 hours per year. Lost energy for SCR is based on 0.345 percent of 166 MW. SCR electrical usage is based on 0.080 MWh per SCR system. Lost Energy for SCONOx™ includes 0.6 percent of turbine output and steam usage. SCONOx™ electrical usage based on 0.2 MW/hr per system.

Table B-11. Comparison of Alternative BACT Control Technologies for NOx on One CT/HRSG: Frame G

	Alternative BACT Control Technologies		
	DLN Only	DLN with SCR (2.5 ppmvd corrected)	DLN with SCONOx™ (2.5 ppmvd corrected)
Technical Assessment	Feasible	Available, Feasible and Demonstı	Not Demonstrated
Economic Impact [a]			
Capital Costs	included	\$7,066,750	\$37,226,636
Annualized Costs	included	\$2,859,082	\$7,809,935
Cost Effectiveness (per ton of Nox removed)			
Incremental from 3.5 ppm	NA	\$12,182	\$8,859
Environmental Impact [b]			
Total NOx (TPY)	1550	136.5	136.5
NOx Reduction (TPY)	NA	1414	1414
Ammonia Emissions (TPY)	0	155	0
PM Emissions (TPY)	0	12.1	0
Secondary Emissions (TPY)	0	10.2	51.7
Net Emission Reduction (TPY)	NA	-1,236	-1,362
Additional Greenhouse Gas (as CO_2; tons/year)	0	5,664	28,635
Energy Impacts [c]			
Energy Use (kWh/yr)	0	10,098,581	51,054,873
Energy Use (kWh/yr) - Back Pressure	0	9,397,781	18,795,561
Energy Use (kWh/yr) - Other	0	700,800	32,259,312
Energy Use (Equivalent Residential Customers/year)	0	842	4,255
Energy Use (mmBtu/yr) at 10,000 Btu/kWh	0	89,430	452,124
Energy Use (mmcf/yr) at 1,000 Btu/cf for natural gas	0	89	452
Energy Use (percent of combustion turbine output)	0	0.45%	2.28%

[a] See Tables B-5 and B-8 for detailed development of capital costs (including recurring costs) and annualized costs.

[b] See emission data presented in Table B-14.

[c] Energy impacts are estimated due to the lost energy from heat rate penalty and electrical usage for the SCR operation at 8,760 hours per year. Lost energy for SCR is based on 0.345 percent of 166 MW. SCR electrical usage is based on 0.080 MWh per SCR system. Lost Energy for SCONOx™ includes 0.6 percent of turbine output and steam usage. SCONOx™ electrical usage based on 0.2 MW/hr per system.

Table B-12. Maximum Potential Incremental Emissions (TPY) with Selective Catalytic Reduction (SCR) and SCONOx^{TM} : GE-7FA (2.5 ppm)

	Incremental Emissions (tons/year) of SCR			Incremental Emissions (tons/year) of SCONOx^{TM}		
Pollutants	Primary	Secondary	Total	Primary	Secondary	Total
Particulate	9.81	0.23	10.04		1.38	1.38
Sulfur Dioxide		0.09	0.09		0.52	0.52
Nitrogen Oxides	-296.17	4.23	-291.94	-296.17	25.35	-270.81
Carbon Monoxide		2.54	2.54		15.21	15.21
Volatile Organic Compounds		0.17	0.17		1.00	1.00
Ammonia	111.13					
Total:	-175.23	7.26	-167.98	-296.17	43.46	-252.71
Carbon Dioxide (all energy requirements)		4,021.41	4,021.41		24,087.19	24,087.19

Basis:	SCR	SCONOx^{TM}	SCONOx^{TM}
Lost Energy (mmBtu/year)	63,496	380,324 total	245,607 steam and natural gas only

Secondary Emissions (lb/mmBtu): Assumes natural gas firing in NOx controlled steam unit.

Particulate	0.0072
Sulfur Dioxide	0.0027
Nitrogen Oxides w/LNB	0.1333
Carbon Monoxide	0.0800
Volatile Organic Compounds	0.0052

(Note: Seconary emissions of criteria pollutants for SCONOx based on the total lost energy minus steam and natural gas since emissions of these pollutants will be controlled in the proposed unit. Emissions of CO_2 will result for all uses.)

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

Table B-13. Maximum Potential Incremental Emissions (TPY) with Selective Catalytic Reduction (SCR) and SCONOx™ : GE-7FB (2.5 ppm)

	Incremental Emissions (tons/year) of SCR			Incremental Emissions (tons/year) of SCONOx™		
Pollutants	Primary	Secondary	Total	Primary	Secondary	Total
Particulate	10.14	0.21	10.35		1.24	1.24
Sulfur Dioxide		0.08	0.08		0.47	0.47
Nitrogen Oxides	-764.80	3.82	-760.97	-764.80	22.84	-741.96
Carbon Monoxide		2.29	2.29		13.70	13.70
Volatile Organic Compounds		0.15	0.15		0.90	0.90
Ammonia	115.74					
Total:	-638.92	6.55	-632.37	-764.80	39.15	-725.65
Carbon Dioxide (all energy requirements)		3,632.44	3,632.44		21,698.18	21,698.18

Basis:	SCR	SCONOx™	SCONOx™
Lost Energy (mmBtu/year)	57,354	342,603 total	250,831 steam and natural gas only

Secondary Emissions (lb/mmBtu): Assumes natural gas firing in NOx controlled steam unit.

Particulate	0.0072
Sulfur Dioxide	0.0027
Nitrogen Oxides w/LNB	0.1333
Carbon Monoxide	0.0800
Volatile Organic Compounds	0.0052

(Note: Seconary emissions of criteria pollutants for SCONOx based on the total lost energy minus steam and natural gas since emissions of these pollutants will be controlled in the proposed unit. Emissions of CO_2 will result for all uses.)

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

Table B-14. Maximum Potential Incremental Emissions (TPY) with Selective Catalytic Reduction (SCR) and SCONOx™ :Frame G (2.5 ppm)

	Incremental Emissions (tons/year) of SCR			Incremental Emissions (tons/year) of SCONOx™		
Pollutants	Primary	Secondary	Total	Primary	Secondary	Total
Particulate	11.81	0.32	12.13		1.64	1.64
Sulfur Dioxide		0.12	0.12		0.62	0.62
Nitrogen Oxides	-1,413.73	5.96	-1,407.76	-1,413.73	30.14	-1,383.58
Carbon Monoxide		3.58	3.58		18.08	18.08
Volatile Organic Compounds		0.23	0.23		1.18	1.18
Ammonia	155.47					
Total:	-1,246.45	10.22	-1,236.23	-1,413.73	51.66	-1,362.06
Carbon Dioxide (all energy requirements)		5,663.87	5,663.87		28,634.54	28,634.54

Basis:	SCR	SCONOx™	SCONOx™
Lost Energy (mmBtu/year)	89,430	452,124 total	307,542 steam and natural gas only

Secondary Emissions (lb/mmBtu): Assumes natural gas firing in NOx controlled steam unit.

Particulate	0.0072
Sulfur Dioxide	0.0027
Nitrogen Oxides w/LNB	0.1333
Carbon Monoxide	0.0800
Volatile Organic Compounds	0.0052

(Note: Seconary emissions of criteria pollutants for SCONOx based on the total lost energy minus steam and natural gas since emissions of these pollutants will be controlled in the proposed unit. Emissions of CO_2 will result for all uses.)

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

Table B-15. Summary of BACT Determinations for CO for Combined Cycle CTs, 1999-2001

Facility	State	Final Permit Issued	# of New MW	# of CTs	# of DB	Turbine Model	Fuel	Mode	Hours	CO Limit	Control Method	Avg. Time	Comments
Alabama Power, Plant Barry	AL	Aug-99	200	1	1	GE 7FA (170 MW)	NG	CC	8,760	0.060 lb/MMBtu	GCP		
Mobile Energy, LLC - Hog Bayou	AL	Jan-99	200	1	1	GE 7FA (168 MW)	NG; FO	CC	8,760; 675 FO	0.040 lb/MMBtu NG; 0.058 lb/mmBtu FO	GCP		
Alabama Power - Theodore Cogeneration Facility	AL	Mar-99	210	1	1	GE 7FA (170 MW)	NG	CC	8,760	0.086 lb/MMBtu	GCP		
Tenaska Alabama Partners	AL	Nov-99	846	3	3	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	32.9 ppm NG; 46.7 ppm NG/FO	GCP		
Georgia Power - Goat Rock	AL	Apr-00	-	8	8	GE 7FA (170 MW)	NG	CC	8,760	0.086 lb/MMBtu	GCP		
Georgia Power - Goat Rock (revision of above PSD application)	AL	Apr-01	2,460	8	8	GE 7FA (170 MW)	NG	CC	8,760	0.086 lb/MMBtu	GCP		
Alabama Electric Cooperative - Gantt Plant	AL	Mar-00	500	2	2	SW 501F (166 MW)	NG	CC	8,760	0.057 lb/MMBtu	GCP		
South Eastern Energy Corp.	AL	Jan-01	1,500	6	6 if CC	GE 7FA or SW 501F	NG	SC or CC	8,760	9 or 19 or 22 ppm	GCP		For NO_x and CO: SC w/GE or SC w/SW501F or CC (either)
Calpine Solutia - Decatur	AL	Jun-00	700	3	3	SW501F (180 MW)	NG	CC	8,760	0.117 lb/mmBtu	GCP		
Calpine BP Amoco	AL	Jun-00	700	3	3	SW501F (180 MW)	NG	CC	8,760	0.117 lb/mmBtu	GCP		
Tenaska Alabama II Generating Station	AL	Feb-01	900	3	3	GE 7FA or Mitsubishi M501F	NG; FO	CC	8,760; 720 FO	0.037/0.047/0.089 lb/mmbtu (base/PA/FO) - GE; 0.088/0.116/0.35 lb/mmbtu (base/PA/FO) - Mit	GCP		
Hillabee Energy Center	AL	Jan-01	700	2	2	SW501G (229 MW)	NG	CC	8,760	0.023/0.076 lb/mmBtu (w/PA and/or DB)	GCP		PA = Power Augmentation, DB= Duct Burning
Duke Energy - Alexander City	AL	Feb-01	1,260	10	2	GE 7FA & 7EA	NG	CC & SC	8,760 CC; 2,500 SC	0.059 lb/mmBtu (130 lb/hr) CC; 0.09 lb/mmBtu (80 lb/hr) SC	GCP		8 SC units and 2 CC units
GenPower - Kelly, LLC	AL	Jan-01	1,260	4	4	GE 7FA (170 MW)	NG	CC	8,760	9 ppm, 14 ppm (w/DB)	GCP		
Blount County Energy	AL	Jan-01	800	3	3	"F" Class (170 MW)	NG	CC	8,760	0.033 lb/mmBtu (77.7 lb/hr)	GCP		
Alabama Power - Autaugaville	AL	Jan-01	1,260	4	4	"F" Class (170 MW)	NG	CC	8,760	0.035 lb/mmBtu	GCP		
Tenaska Alabama IV Partners	AL	draft permit	1,840	6	6	Mit 501F (170 MW)	NG; FO	CC	8,760; 720 FO	0.088 lb/mmBtu NG (0.115 w/PA & DB); 0.35 lb/mmBtu FO	GCP		SCONOx - $6,145/ton NO_x; CatOx- $1,506/ton CO
Duke Energy Autauga, LLC	AL	applic. under review	630	2	2	GE 7FA (170 MW)	NG	CC	8,760	15 ppm	GCP		SCONOx - $18760/ton NO_x; CatOx- $5,006/ton CO
Kissimmee Utility Authority, Cane Island Power Park -Unit 3	FL	draft permit	250	1	0	GE 7FA (167 MW)	NG; FO	CC	8,760; 720 FO	12 ppm, 20 ppm w/ DB NG; 30 ppm FO	GCP		
Duke Energy - New Smyrna Beach	FL	draft permit	500	2	0	GE 7FA (165 MW)	NG	CC	8,760	12 ppm	GCP		
Lake Worth Generation	FL	Nov-99	244	1	1	GE 7FA (170 MW)	NG; FO	CC	8,760; 1,000 FO	12 ppm NG; 20 ppm FO	GCP		
Hines Energy (FPC)	FL	project dropped	500	2	0	SW 501F (165 MW)	NG; FO	CC	8,760; 1,000 FO	25 ppm NG - full load; 30 ppm FO	GCP		
Gulf Power - Smith Station	FL	Jul-00	340	2	2	GE 7FA (170 MW)	NG	CC	8,760	16 ppm w/ DB, 23 ppm w/ DB & SA	GCP		Netting out of PSD for NO_x and CO; SA = steam augmentation
Florida Power & Light - Sanford	FL	Sep-99	2,200	8	0	GE 7FA (170 MW)	NG, FO	CC	8,760; 500 FO	12 ppm NG; 20 ppm FO	GCP		Repowering, 4 units FO
Gainesville Regional Utilities, Kelly Generating Station	FL	Feb-00	133	1	0	GE 7EA (83 MW)	NG; FO	CC	8,760; 1,000 FO	20 ppm NG; 20 ppm FO	GCP		Netting out of PSD review for NO_x
Calpine Osprey Energy Center	FL	Jul-01	527	2	2	SW 501FD (170 MW)	NG	CC	8,760	10 ppm (17 ppm w/DB or PA)	GCP	24-hr Block	2,800 hr/yr - Power Aug. mode
Hines Energy (FPC)	FL	Jun-01	530	2	0	SW 501FD (170 MW)	NG; FO	CC	8,760; 1,000 FO	16 ppm NG; 30 ppm FO	GCP	24-hr Block	SCONOx - $16,712/ton NO_x.; CatOx - $2,130/ton CO
CPV - Gulfcoast	FL	Feb-01	250	1	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	9 ppm NG; 20 ppm FO	GCP		SCONOx - no cost eval.; CatOx - $4,350/ton CO
TECO Gannon/Bayside	FL	Mar-01	1,728	7	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 876 FO	7.2 ppm NG; 14.2 ppm FO	GCP		Repowering project: netting out of NO_x, CO, PM_{10} and SO_2 review (subject to VOC reveiw)
South Pond Energy Park	FL	draft permit	600	3	0	GE 7FA (170 MW)	NG; FO	SC/CC	3,390/8,760; 720 FO	9 ppm NG; 20 ppm FO	GCP		2 SC CT and 1 CC CT also capable of operating in SC mode.
North Pond Energy Park	FL	applic. under review	430	2	0	GE 7FA (170 MW)	NG; FO	SC/CC	3,390/8,760; 720 FO	9 ppm NG; 20 ppm FO	GCP		1 SC CT and 1 CC CT also capable of operating in SC mode.
Calpine Blue Heron Energy Center	FL	draft permit	1,080	4	4	SW 501F (170 MW)	NG	CC	8,760	10/15.6/38.5/50 ppm	GCP		base/duct burner/power aug./60-70% load; SCONOx - $9,982/ton NO_x; CatOx - $1,553/ton CO

Table B-15. Summary of BACT Determinations for CO for Combined Cycle CTs, 1999-2001

Facility	State	Final Permit Issued	# of New MW	# of CTs	# of DB	Turbine Model	Fuel	Mode	Hours	CO Limit	Control Method	Avg. Time	Comments
Jacksonville Electric Authority - Brandy Branch (revision)	FL	draft permit	200	0	2	GE 7FA (170 MW)	NG; FO	CC	8760; 288 FO	12.21/14.17 ppm	GCP		Conversion of 2 SC units to 2 CC units
CPV - Atlantic Power	FL	May-01	250	1	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	9 ppm NG (15 ppm w/PA) ; 20 ppm FO	GCP		PA = Power Augmentation
Orlando Utilities - Curtis H Stanton Energy Center	FL	Sep-01	633	2	2	GE 7FA (170 MW)	NG; FO	CC	8,760; 1000 FO	18.1 ppm NG (26.3 w/PA); 14.3 ppm FO	GCP		
Broward Energy Center	FL	draft permit	775	4	0	GE 7FA (175 MW)	NG	CC/SC	8,760/5,000	8 ppm (SC); 12 ppm (CC w/PA); 8 ppm (CC)	GCP	24-hr	* 1 CC w/unfired HRSG & 3 SC; PA = Power Augmentation
Belle Glade Energy Center	FL	draft permit	600	3	0	GE 7FA (175 MW)	NG	CC/SC	8,760/5,000	8 ppm (SC); 12 ppm (CC w/PA); 8 ppm (CC)	GCP	24-hr	* 1 CC w/unfired HRSG & 2 SC; PA = Power Augmentation
Manatee Energy Center	FL	draft permit	600	3	0	GE 7FA (175 MW)	NG	CC/SC	8,760/5,000	8 ppm (SC); 12 ppm (CC w/PA); 8 ppm (CC)	GCP	24-hr	* 1 CC w/unfired HRSG & 2 SC; PA = Power Augmentation
CPV Pierce Power Generation Facility	FL	Aug-01	250	1	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	8 ppm NG (13 ppm w/PA) ; 17 ppm FO (19 ppm 76-89% load, 26 ppm 50-75% load)	GCP	24-hr	PA limited to 2,000 hr/yr
Fort Pierce Repowering Project	FL	draft permit	180	1	1	SW 501F (180 MW)	NG; FO	CC/SC	8,760; 1,000 FO/2,000; 500 FO	3.5 ppm NG; 10 ppm FO/ 16 ppm NG; 50 ppm FO	GCP		CT will operate in both CC and SC modes
TECO Bayside Power Station	FL	draft permit	1,032	4	0	GE 7FA (170 MW)	NG	CC	8,760	9 ppm (7.8 ppm)	GCP	24-hr (3-hr test)	Repowering Project: Netting out of PSD for NO_x, SO_2, VOC, lead and SAM (subject for PM_{10} and CO)
Georgia Power - Wansley (Oglethorpe Power)	GA	Jul-00	2,280	8	8	GE 7FA (170 MW)	NG	CC	8,760	29.5 ppm/0.066 lb/MMBtu	GCP		
Duke Energy Murray, LLC	GA	Feb-01	1,240	4	4	GE 7FA (170 MW)	NG	CC	8,760	21.8 ppm	GCP		
Duke Energy Buffalo Creek, LLC	GA	applic. under review	620	2	2	GE 7FA (170 MW)	NG	CC	8,760	21.9 ppm	GCP		SCONOx - \$19,948/ton NO_x; CatOx - \$2,469/ton CO
Augusta Energy LLC	GA	draft permit	750	3	3	GE 7FA (170 MW)	NG; FO	CC	8,760; 1,000 FO	17.4 ppm NG; 20 ppm FO	GCP		SCONOx - \$17,490/ton NO_x; CatOx - \$4,133/ton CO
GenPower McIntosh	GA	applic. under review	528	2	2	GE 7FA (170 MW)	NG	CC	8,760	9 ppm/14 (w/DB) ppm	GCP		
Monroe Power Co.	GA	applic. under review	525	2	0	GE 7FA (170 MW)	NG	SC/CC	8,760	9 ppm	GCP		Initially SC, but later converting to CC
Peace Valley Generation Co., LLC	GA	applic. under review	1,550	6	4	F" Class	NG	CC/SC	8,760/2,500	10.6 ppm (25 ppm w/DB)	GCP		
Duke Energy Tift	GA	applic. under review	620	2	2	GE 7FA (170 MW)	NG	CC	8,760	24.1 ppm	GCP		SCONOx - \$16,274/ton NO_x; CatOx - \$2,095/ton CO
CPV Terrapin, LLC	GA	applic. under review	800	3	3	GE 7FA (170 MW)	NG; FO	CC	8,760; 720 FO	9 ppm NG; 13.6 ppm (NG w/DB); 24 ppm FO	GCP	24-hr rolling	
Kinder Morgan Georgia, LLC - Tift Power	GA	applic. under review	560	7	7	1 - GE 7EA & 6 - LM6000	NG	CC	8,760; 3,760 (part load)	158.5 lb/hr & 141.0 lb/hr	GCP		
Hartwell Development Co.	GA	applic. under review	564	2	0	GE 7FA (176 MW)	NG	CC	8,760	7.4 ppm	GCP		SCONOx - \$35,422/ton NO_x; CatOx - \$4,964/ton CO
Kentucky Pioneer Energy	KY	Jun-01	540	2	0	GE 7FA (197 MW)	syngas/ NG	CC	8,760	15/20 ppm	GCP	3-hr	
Duke Energy Hinds, L.L.C.	MS	Apr-00	520	2	0	GE 7FA (170 MW)	NG	CC	8,760	20 ppm	GCP		
Duke Energy Attala, L.L.C.	MS	Apr-00	520	2	0	GE 7FA (170 MW)	NG	CC	8,760	20 ppm	GCP		
Cogentrix Energy, Southaven Power Project	MS	draft permit	800	3	3	GE 7FA (170 MW)	NG	CC	8,760	9 ppm, 18 ppm w/ DB	GCP		
Cogentrix Energy, Caledonia Power Project	MS	Mar-01	800	3	3	GE 7FA (182 MW)	NG	CC	8,760	9 ppm	GCP		revised application to add SCR
GenPower - McAdams LLC	MS	draft permit	528	2	2	GE 7FA (170 MW)	NG	CC	8,760	7-8 ppm/13 ppm (w/DB)	GCP	24-hr	
Lone Oak Energy Center	MS	draft permit	800	3	3	F" Class (180 MW)	NG	CC	8,760	10/25/30/17 ppm	GCP		Base/PA/PA+DF/DF

Table B-15. Summary of BACT Determinations for CO for Combined Cycle CTs, 1999-2001

Facility	State	Final Permit Issued	# of New MW	# of CTs	# of DB	Turbine Model	Fuel	Mode	Hours	CO Limit	Control Method	Avg. Time	Comments
Lee Power Partners	MS	draft permit	1,000	4	4	F" Class (170 MW)	NG	CC	8,760	25 ppm	GCP		
LSP-Pike Energy LLC	MS	draft permit	1,100	4	4	F" Class (170 MW)	NG	CC	8,760	33.1 ppm (0.15 lb/mmBTU)	GCP		
Magnolia Energy	MS	draft permit	900	3	3	F" Class (170 MW)	NG	CC	8,760	25 ppm	GCP		
Hines Energy Facility	MS	Jan-00	340	2	?	170 MW each	NG	CC	8,760	20 ppm	GCP		
Reliant Energy - Choctaw Co., LLC	MS	draft permit	844	3	3	GE 7FA (170 MW)	NG	CC	8,760	18.36 ppm	GCP		SCONOx - \$48,663/ton NO_x; CatOx - \$3,550/ton CO
Crossroads Energy Center	MS	applic. under review	580	2	2	GE 7FA (170 MW)	NG	CC	8,760	10.4 ppm	GCP		SCONOx - \$23,400/ton NO_x; CatOx - \$11,039/ton CO
Choctaw Gas Generation, LLC	MS	applic. under review	700	2	2	SW 501G (250 MW)	NG	CC	8,760	23 ppm	GCP		
Duke Energy Homochitto, LLC	MS	applic. under review	630	2	2	GE 7FA (170 MW)	NG	CC	8,760	20.4 ppm	GCP	24-hr	
Granite Power Partners II (Batesville)	MS	applic. under review	300	1	1	SW 501F (230 MW)	NG	CC	8,760	25 ppm	GCP		
Carolina Power & Light, Richmond Co. (2nd revision - new configuration)	NC	applic. under review	2,040	9	0	GE 7FA (170 MW)	NG; FO	CC/SC	8,760/2,000; 1,000 FO	9 ppm NG; 20 ppm FO	GCP		Reconfiguration of facility: 6 CC and 3 SC CTs
Carolina Power & Light, Rowan Co. (revision)	NC	draft permit	1,110	2	0	GE 7FA (170 MW)	NG; FO	CC	8,760; 1,000 FO	15 ppm NG; 20 ppm FO	GCP		Modification of previous permit to switch 2 SC -> CC
Butler-Warner Generation Plant	NC	applic. under review	500	2	0	GE 7FA (170 MW)	NG; FO	SC & CC	8,760; 500 FO	9 ppm NG; 41 ppm FO	GCP		
GenPower Earleys, LLC	NC	applic. under review	528	2	2	GE 7FA (170 MW)	NG	CC	8,760	9 ppm (14 ppm w/DB)	GCP		SCONOx - \$21,942/ton NO_x; CatOx - \$3,246ton CO
Santee Cooper, Rainey Generating Station	SC	Apr-00	870	4	0	GE 7FA (170 MW)	NG, FO	2 CC, 2 SC	8,760; 1,000 FO	9 ppm NG; 20 ppm FO	GCP		
SC Electric & Gas - Urquhart	SC	Sep-00	444	2	0	GE 7FA (150 MW)	NG, FO	CC	8,760; 4,380 FO	12 ppm NG; 20 ppm FO	GCP		Netted out of NO_x, SO_2 and PM_{10} PSD Review
Columbia Energy	SC	Apr-01	515	2	2	GE 7FA (170 MW)	NG, FO	CC	8,760; 1,000 FO	17.4 ppm NG; 37 pm FO	GCP		SCONOx - no analysis; CatOx - \$1,611/ton CO
GenPower Anderson	SC	draft permit	640	2	2	GE 7FA (170 MW)	NG	CC	8760	11.7 ppm	GCP		
Vanderbilt University	TN	May-00	10	2	2	GE PGT5B (5.2 MW)	NG	CC	8,760	25 ppm	GCP		
Memphis Generation LLC	TN	draft permit	1,050	4	0	GE 7FA (170 MW)	NG	CC	8,760	0.03 lb/mmBtu	GCP		Phase I - 1 CT (up to 7% total plant heat input from refinery fuel gas), Phase II - 3 CTs (up to 2% total plant heat input from refinery fuel gas)
Haywood Energy Center (Calpine)	TN	applic. under review	900	3	3	SW, GE 7FA or GE F7B	NG; FO	CC	8,760	varies from 7.4 to 50 ppm depending on CT type and load	GCP		
TVA - Franklin	TN	applic. under review	610	2	2	GE 7FA (195 MW)		CC	8,760	25 ppm	GCP		

Abbreviations:
GE = General Electric
SW = Seimens Westinghouse
NG = Nat. Gas
FO = Fuel Oil
DB = Duct Burner
SC = Simple Cycle
CC = Combined Cycle
DLN = Dry-Low NOx
WI = Water Injection
SCR = Selective Catalytic Reduction
CatOx = Catalytic Oxidation
GCP = Good Combustion Practices

Source: http://www.epa.gov/region4/air/permits/national_ct_list.xls (2001).

Table B-16. Direct and Indirect Capital Costs for CO Catalyst, GE Frame 7FA in Combined Cycle Combustion Turbine

Cost Component	Costs	Basis of Cost Component
Direct Capital Costs		
CO Associated Equipment	$638,006	Vendor Quote
Flue Gas Ductwork	$44,505	Vatavauk,1990
Instrumentation	$63,801	10% of SCR Associated Equipment
Sales Tax	$38,280	6% of SCR Associated Equipment/Catalyst
Freight	$31,900	5% of SCR Associated Equipment/Catalyst
Total Direct Capital Costs (TDCC)	$816,493	
Direct Installation Costs		
Foundation and supports	$65,319	8% of TDCC and RCC;OAQPS Cost Control Manual
Handling & Erection	$114,309	14% of TDCC and RCC;OAQPS Cost Control Manual
Electrical	$32,660	4% of TDCC and RCC;OAQPS Cost Control Manual
Piping	$16,330	2% of TDCC and RCC;OAQPS Cost Control Manual
Insulation for ductwork	$8,165	1% of TDCC and RCC;OAQPS Cost Control Manual
Painting	$8,165	1% of TDCC and RCC;OAQPS Cost Control Manual
Site Preparation	$5,000	Engineering Estimate
Buildings	$0	
Total Direct Installation Costs (TDIC)	$249,948	
Total Capital Costs	$1,066,440	Sum of TDCC, TDIC and RCC
Indirect Costs		
Engineering	$106,644	10% of Total Capital Costs; OAQPS Cost Control Manual
Construction and Field Expense	$53,322	5% of Total Capital Costs; OAQPS Cost Control Manual
Contractor Fees	$106,644	10% of Total Capital Costs; OAQPS Cost Control Manual
Start-up	$21,329	2% of Total Capital Costs; OAQPS Cost Control Manual
Performance Tests	$10,664	1% of Total Capital Costs; OAQPS Cost Control Manual
Contingencies	$31,993	3% of Total Capital Costs; OAQPS Cost Control Manual
Total Indirect Capital Cost (TInDC)	$330,597	
Total Direct, Indirect and Capital Costs (TDICC)	$1,397,037	Sum of TCC and TInCC

Table B-17. Direct and Indirect Capital Costs for CO Catalyst, GE Frame 7FB in Combined Cycle Combustion Turbine

Cost Component	Costs	Basis of Cost Component
Direct Capital Costs		
CO Associated Equipment	$689,725	Vendor Quote
Flue Gas Ductwork	$44,505	Vatavauk,1990
Instrumentation	$68,973	10% of SCR Associated Equipment
Sales Tax	$41,384	6% of SCR Associated Equipment/Catalyst
Freight	$34,486	5% of SCR Associated Equipment/Catalyst
Total Direct Capital Costs (TDCC)	$879,073	
Direct Installation Costs		
Foundation and supports	$70,326	8% of TDCC and RCC;OAQPS Cost Control Manual
Handling & Erection	$123,070	14% of TDCC and RCC;OAQPS Cost Control Manual
Electrical	$35,163	4% of TDCC and RCC;OAQPS Cost Control Manual
Piping	$17,581	2% of TDCC and RCC;OAQPS Cost Control Manual
Insulation for ductwork	$8,791	1% of TDCC and RCC;OAQPS Cost Control Manual
Painting	$8,791	1% of TDCC and RCC;OAQPS Cost Control Manual
Site Preparation	$5,000	Engineering Estimate
Buildings	$0	
Total Direct Installation Costs (TDIC)	$268,722	
Total Capital Costs	$1,147,794	Sum of TDCC, TDIC and RCC
Indirect Costs		
Engineering	$114,779	10% of Total Capital Costs; OAQPS Cost Control Manual
Construction and Field Expense	$57,390	5% of Total Capital Costs; OAQPS Cost Control Manual
Contractor Fees	$114,779	10% of Total Capital Costs; OAQPS Cost Control Manual
Start-up	$22,956	2% of Total Capital Costs; OAQPS Cost Control Manual
Performance Tests	$11,478	1% of Total Capital Costs; OAQPS Cost Control Manual
Contingencies	$34,434	3% of Total Capital Costs; OAQPS Cost Control Manual
Total Indirect Capital Cost (TInDC)	$355,816	
Total Direct, Indirect and Capital Costs (TDICC)	$1,503,611	Sum of TCC and TInCC

Table B-18. Direct and Indirect Capital Costs for CO Catalyst, Frame G in Combined Cycle Combustion Turbine

Cost Component	Costs	Basis of Cost Component
Direct Capital Costs		
CO Associated Equipment	$939,000	Vendor Quote
Flue Gas Ductwork	$44,505	Vatavauk,1990
Instrumentation	$93,900	10% of SCR Associated Equipment
Sales Tax	$56,340	6% of SCR Associated Equipment/Catalyst
Freight	$46,950	5% of SCR Associated Equipment/Catalyst
Total Direct Capital Costs (TDCC)	$1,180,695	
Direct Installation Costs		
Foundation and supports	$94,456	8% of TDCC and RCC;OAQPS Cost Control Manual
Handling & Erection	$165,297	14% of TDCC and RCC;OAQPS Cost Control Manual
Electrical	$47,228	4% of TDCC and RCC;OAQPS Cost Control Manual
Piping	$23,614	2% of TDCC and RCC;OAQPS Cost Control Manual
Insulation for ductwork	$11,807	1% of TDCC and RCC;OAQPS Cost Control Manual
Painting	$11,807	1% of TDCC and RCC;OAQPS Cost Control Manual
Site Preparation	$5,000	Engineering Estimate
Buildings	$0	
Total Direct Installation Costs (TDIC)	$359,209	
Total Capital Costs	$1,539,904	Sum of TDCC, TDIC and RCC
Indirect Costs		
Engineering	$153,990	10% of Total Capital Costs; OAQPS Cost Control Manual
Construction and Field Expense	$76,995	5% of Total Capital Costs; OAQPS Cost Control Manual
Contractor Fees	$153,990	10% of Total Capital Costs; OAQPS Cost Control Manual
Start-up	$30,798	2% of Total Capital Costs; OAQPS Cost Control Manual
Performance Tests	$15,399	1% of Total Capital Costs; OAQPS Cost Control Manual
Contingencies	$46,197	3% of Total Capital Costs; OAQPS Cost Control Manual
Total Indirect Capital Cost (TInDC)	$477,370	
Total Direct, Indirect and Capital Costs (TDICC)	$2,017,274	Sum of TCC and TInCC

Table B-19. Annualized Cost for CO Catalyst GE Frame 7FA in Combined Cycle Combustion Turbine

Cost Component	Cost	Basis of Cost Estimate
Diirect Annual Costs		
Operating Personnel	$6,240	8 hours/week at $15/hr
Supervision	$936	15% of Operating Personnel;OAQPS Cost Control Manual
Catalyst Replacement	$189,039	3 year catalyst life; base on Vendor Budget Quote
Inventory Cost	$24,668	Capital Recovery (10.98%) for 1/3 catalyst
Contingency	$6,626	3% of Direct Annual Costs
Total Direct Annual Costs (TDAC)	$227,510	
Energy Costs		
Heat Rate Penalty	$215,507	0.2% of MW output; EPA, 1993 (Page 6-20) and $3/mmBtu addl fuel costs
Total Energy Costs (TDEC)	$215,507	
Indirect Annual Costs		
Overhead	$4,306	60% of Operating/Supervision Labor
Property Taxes	$13,970	1% of Total Capital Costs
Insurance	$13,970	1% of Total Capital Costs
Annualized Total Direct Capital	$153,395	10.98% Capital Recovery Factor of 7% over 15 yrs times sum of TDICC
Total Indirect Annual Costs	$185,641	
Total Annualized Costs	$628,657	Sum of TDAC, TEC and TIAC
Cost Effectiveness	$6,457	per ton of CO Removed 97.36 tons/year CO Emissions Removed
	$7,486	per ton of Net Emission Reduction

Table B-20. Annualized Cost for CO Catalyst GE Frame 7FB in Combined Cycle Combustion Turbine

Cost Component	Cost	Basis of Cost Estimate	
Diirect Annual Costs			
Operating Personnel	$6,240	8 hours/week at $15/hr	
Supervision	$936	15% of Operating Personnel;OAQPS Cost Control Manual	
Catalyst Replacement	$198,967	3 year catalyst life; base on Vendor Budget Quote	
Inventory Cost	$24,668	Capital Recovery (10.98%) for 1/3 catalyst	
Contingency	$6,924	3% of Direct Annual Costs	
Total Direct Annual Costs (TDAC)	$237,735		
Energy Costs			
Heat Rate Penalty	$225,206	0.2% of MW output; EPA, 1993 (Page 6-20) and $3/mmBtu addl fuel costs	
Total Energy Costs (TDEC)	$225,206		
Indirect Annual Costs			
Overhead	$4,306	60% of Operating/Supervision Labor	
Property Taxes	$15,036	1% of Total Capital Costs	
Insurance	$15,036	1% of Total Capital Costs	
Annualized Total Direct Capital	$165,096	10.98% Capital Recovery Factor of 7% over 15 yrs times sum of TDICC	
Total Indirect Annual Costs	$199,474		
Total Annualized Costs	$662,415	Sum of TDAC, TEC and TIAC	
Cost Effectiveness	$3,234	per ton of CO Removed	247.28 tons/year CO Emissions Removed
	$3,464	per ton of Net Emission Reduction	

Table B-21. Annualized Cost for CO Catalyst Frame G in Combined Cycle Combustion Turbine

Cost Component	Cost	Basis of Cost Estimate
Diirect Annual Costs		
Operating Personnel	$6,240	8 hours/week at $15/hr
Supervision	$936	15% of Operating Personnel;OAQPS Cost Control Manual
Catalyst Replacement	$282,333	3 year catalyst life; base on Vendor Budget Quote
Inventory Cost	$24,668	Capital Recovery (10.98%) for 1/3 catalyst
Contingency	$9,425	3% of Direct Annual Costs
Total Direct Annual Costs (TDAC)	$323,603	
Energy Costs		
Heat Rate Penalty	$297,896	0.2% of MW output; EPA, 1993 (Page 6-20) and $3/mmBtu addl fuel costs
Total Energy Costs (TDEC)	$297,896	
Indirect Annual Costs		
Overhead	$4,306	60% of Operating/Supervision Labor
Property Taxes	$20,173	1% of Total Capital Costs
Insurance	$20,173	1% of Total Capital Costs
Annualized Total Direct Capital	$221,497	10.98% Capital Recovery Factor of 7% over 15 yrs times sum of TDICC
Total Indirect Annual Costs	$266,148	
Total Annualized Costs	$887,647	Sum of TDAC, TEC and TIAC
Cost Effectiveness	$6,097	per ton of CO Removed — 145.60 tons/year CO Emissions Removed
	$6,867	per ton of Net Emission Reduction

Table B-22. Comparison of Alternative BACT Control Technologies with Installing OC in HRSG: GE-7FA

	Alternative BACT Control Technologies	
	DLN Only	DLN with OC
Technical Assessment	Feasible	Available, Feasible and Demonstrated
Economic Impact [a]		
Capital Costs	included	$1,397,037
Annualized Costs	included	$628,657
Cost Effectiveness		
CO Removed (per ton of CO)	NA	$6,457
Environmental Impact [b]		
Total CO (TPY)	127	30
CO Reduction (TPY)	NA	-96
Net Pollutant Reduction	NA	-84
Additional Greenhouse Gas (CO2; tons/yr)	--	1,981
Energy Impacts [c]		
Energy Use (kWh/yr)	0	3,042,173
Energy Use (Equivalent Residential Customers/year)	0	254
Energy Use (mmBtu/yr) at 10,000 Btu/kWh	0	31,273
Energy Use (mmcf/yr) at 1,000 Btu/cf for natural gas	0	31

[a] See Tables B-16 and B-19 for detailed development of capital costs (including recurring costs) and annualized costs.

[b] See emission data presented in Table B-25.

[c] Energy impacts are estimated due to the lost energy from heat rate penalty for 8,760 hours per year. Lost energy is based on 0.2 percent of 166 MW.

Table B-23. Comparison of Alternative BACT Control Technologies with Installing OC in HRSG: GE-7FB

	Alternative BACT Control Technologies	
	DLN Only	DLN with OC
Technical Assessment	Feasible	Available, Feasible and Demonstrated
Economic Impact [a]		
Capital Costs	included	$1,503,611
Annualized Costs	included	$662,415
Cost Effectiveness		
CO Removed (per ton of CO)	NA	$3,234
Environmental Impact [b]		
Total CO (TPY)	247	42
CO Reduction (TPY)	NA	-204
Net Pollutant Reduction	NA	-191
Additional Greenhouse Gas (CO2; tons/yr)	--	1,923
Energy Impacts [c]		
Energy Use (kWh/yr)	0	3,352,978
Energy Use (Equivalent Residential Customers/year)	0	279
Energy Use (mmBtu/yr) at 10,000 Btu/kWh	0	30,362
Energy Use (mmcf/yr) at 1,000 Btu/cf for natural gas	0	30

[a] See Tables B-17 and B-20 for detailed development of capital costs (including recurring costs) and annualized costs.

[b] See emission data presented in Table B-26.

[c] Energy impacts are estimated due to the lost energy from heat rate penalty for 8,760 hours per year.
Lost energy is based on 0.2 percent of 166 MW.

Table B-24. Comparison of Alternative BACT Control Technologies with Installing OC in HRSG: Frame G

	Alternative BACT Control Technologies	
	DLN Only	DLN with OC
Technical Assessment	Feasible	Available, Feasible and Demonstrated
Economic Impact [a]		
Capital Costs	included	$2,017,274
Annualized Costs	included	$887,647
Cost Effectiveness		
CO Removed (per ton of CO)	NA	$6,097
Environmental Impact [b]		
Total CO (TPY)	159	14
CO Reduction (TPY)	NA	-144
Net Pollutant Reduction	NA	-129
Additional Greenhouse Gas (CO2; tons/yr)	--	2,510
Energy Impacts [c]		
Energy Use (kWh/yr)	0	4,475,134
Energy Use (Equivalent Residential Customers/year)	0	373
Energy Use (mmBtu/yr) at 10,000 Btu/kWh	0	39,630
Energy Use (mmcf/yr) at 1,000 Btu/cf for natural gas	0	40

[a] See Tables B-18 and B-21 for detailed development of capital costs (including recurring costs) and annualized costs.

[b] See emission data presented in Table B-27.

[c] Energy impacts are estimated due to the lost energy from heat rate penalty for 8,760 hours per year.
Lost energy is based on 0.2 percent of 166 MW.

Table B-25. Maximum Potential Incremental Emissions (TPY) with Oxidation Catalyst:GE-7FA

Pollutants	Incremental Emissions (tons/year) of SCR Primary	Incremental Emissions (tons/year) of SCR Secondary	Total
Particulate	9.81	0.11	9.92
Sulfur Dioxide		0.04	0.04
Nitrogen Oxides	0.00	2.08	2.08
Carbon Monoxide	-97.4	1.25	-96.1
Volatile Organic Compounds		0.08	0.08
Total:	-87.6	3.57	-84.0
Carbon Dioxide (additional from gas firing)		1,980.6	1,980.6

Basis:

Lost Energy (mmBtu/year)	31,273
Secondary Emissions (lb/mmBtu): Assumes natural gas firing in NOx controlled steam unit.	
Particulate	0.0072
Sulfur Dioxide	0.0027
Nitrogen Oxides w/LNB	0.1333
Carbon Monoxide	0.0800
Volatile Organic Compounds	0.0052

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

Table B-26. Maximum Potential Incremental Emissions (TPY) with Oxidation Catalyst:GE-7FB

Pollutants	Incremental Emissions (tons/year) of SCR Primary	Incremental Emissions (tons/year) of SCR Secondary	Total
Particulate	10.14	0.11	10.25
Sulfur Dioxide		0.04	0.04
Nitrogen Oxides	0.00	2.02	2.02
Carbon Monoxide	-204.9	1.21	-203.6
Volatile Organic Compounds		0.08	0.08
Total:	-194.7	3.47	-191.2
Carbon Dioxide (additional from gas firing)		1,922.9	1,922.9

Basis:

Lost Energy (mmBtu/year)	30,362
Secondary Emissions (lb/mmBtu): Assumes natural gas firing in NOx controlled steam unit.	
Particulate	0.0072
Sulfur Dioxide	0.0027
Nitrogen Oxides w/LNB	0.1333
Carbon Monoxide	0.0800
Volatile Organic Compounds	0.0052

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

Table B-27. Maximum Potential Incremental Emissions (TPY) with Oxidation Catalyst: Frame G

Pollutants		Incremental Emissions (tons/year) of SCR Primary	Incremental Emissions (tons/year) of SCR Secondary	Total
Particulate		11.81	0.14	11.95
Sulfur Dioxide			0.05	0.05
Nitrogen Oxides		0.00	2.64	2.64
Carbon Monoxide		-145.6	1.59	-144.0
Volatile Organic Compounds			0.10	0.10
	Total:	-133.8	4.53	-129.3
Carbon Dioxide (additional from gas firing)			2,509.9	2,509.9

Basis:

Lost Energy (mmBtu/year)	39,630
Secondary Emissions (lb/mmBtu): Assumes natural gas firing in NOx controlled steam unit.	
Particulate	0.0072
Sulfur Dioxide	0.0027
Nitrogen Oxides w/LNB	0.1333
Carbon Monoxide	0.0800
Volatile Organic Compounds	0.0052

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

APPENDIX C

CALPUFF MODEL DESCRIPTION AND METHODOLOGY

CALPUFF MODEL DESCRIPTION AND METHODOLOGY

C.1 INTRODUCTION

As part of the new source review requirements under Prevention of Significant Deterioration (PSD) regulations, new major sources or major modifications to those sources are required to address air quality impacts at PSD Class I areas. As part of the PSD analysis report submitted to the Florida Department of Environmental Protection (FDEP), the air quality impacts due to the potential emissions of the proposed West County Energy Center are required to be addressed at the PSD Class I area of the Everglades National Park (NP). The closest location within the Everglades NP is located approximately 105 kilometers (km) south of the proposed site. The Everglades NP is the only PSD Class I area within 200 km of the plant.

The evaluation of air quality impacts are not only concerned with determining compliance with PSD Class I increments but also assessing a source's impact on Air Quality Related Values (AQRVs), such as regional haze. Further, compliance with PSD Class I increments can be evaluated by determining if the source's impacts are less than the proposed U.S. Environmental Protection Agency (EPA) Class I significant impact levels. The significant impact levels are threshold levels that are used to determine the type of air impact analyses needed for the facility. If the new or modified source's impacts are predicted to be less than significant, then the source's impacts are assumed not to have a significant adverse affect on air quality and additional modeling with other sources is not required. However, if the source's impacts are predicted to be greater than the significant impact levels, additional modeling with other sources is required to demonstrate compliance with Class I increments.

Currently, there are several air quality modeling approaches recommended by the Interagency Workgroup on Air Quality Models (IWAQM) to perform these analyses. The IWAQM consists of EPA and Federal Land Managers (FLM) of Class I areas who are responsible for ensuring that AQRVs are not adversely impacted by new and existing sources. These recommendations have been summarized in two documents:

- *Interagency Workgroup on Air Quality Models (IWAQM), Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts* (EPA, 1998), referred to as the IWAQM Phase 2 report.
- *Federal Land Managers' Air Quality Related Values Workgroup (FLAG), Phase I Report,* USFS, NPS, USFWS (12/00), referred to as the FLAG document.

For the Project, air quality analyses were performed that assess the Project's impacts in the PSD Class I area of the Everglades NP using the refined modeling approach from the IWAQM Phase 2 report for:

- SO_2 and PM_{10} PSD Class I increment analysis;
- Regional haze analysis; and
- Sulfur and nitrogen deposition.

The refined analysis approach was used instead of the screening analysis approach since the air quality impacts are based on generally more realistic assumptions, include more detailed meteorological data, and are estimated at locations at the Class I area.

C.2 GENERAL AIR MODELING APPROACH

The general modeling approach was based on using the long-range transport model, California Puff model (CALPUFF, Version 5.711a). At distances beyond 50 km, the ISCST3 model is considered to over-predict air quality impacts, because it is a steady-state model. At those distances, the CALPUFF model is recommended for use. The FLM have requested that air quality impacts, such as for regional haze, for a source located more than 50 km from a Class I area be predicted using the CALPUFF model. As a result, the regional haze and sulfur and nitrogen deposition analyses were performed using the CALPUFF model to assess the project's impacts at the Everglades NP.

The methods and assumptions used in the CALPUFF model were based on the latest recommendations for a refined analysis as presented in the IWAQM Phase 2 Summary Report and the FLAG documents.

A regional haze analysis was performed to determine the affect that the facility's emissions will have on background regional haze levels at the Everglades NP. In the regional haze analysis, the change in visual range, as calculated by a deciview change, was estimated for the facility in accordance with the IWAQM recommendations. Based on those recommendations, the CALPUFF model is used to predict the maximum 24-hour average sulfate (SO_4), nitrate (NO_3), and fine particulate (PM_{10}) concentrations, as well as ammonium sulfate [$(NH_4)_2SO_4$] and ammonium nitrate (NH_4NO_3) concentrations. The change in visibility due to a source, estimated as a percentage, is then calculated based on the change from background data.

The following sections present the methods and assumptions used to assess the refined significant impact and regional haze analyses performed for the proposed project. The results of these analyses are presented in Sections 6.0 and 7.0 of the PSD report.

C.3 MODEL SELECTION AND SETTINGS

The California Puff (CALPUFF, version 5.711a) air modeling system was used to model to assess the proposed West County Energy Center's impacts at the PSD Class I area for comparison to the PSD Class I significant impact levels and to the regional haze visibility criteria. CALPUFF is a non-steady state Lagrangian Gaussian puff long-range transport model that includes algorithms for building downwash effects as well as chemical transformations (important for visibility controlling pollutants), and wet/dry deposition. The CALPUFF meteorological and geophysical data preprocessor (CALMET, Version 5.53a), a preprocessor to CALPUFF, is a diagnostic meteorological model that produces a three-dimensional field of wind and temperature and a two-dimensional field of other meteorological parameters. CALMET was designed to process raw meteorological, terrain and land-use databases to be used in the air modeling analysis. The CALPUFF modeling system uses a number of FORTRAN preprocessor programs that extract data from large databases and converts the data into formats suitable for input to CALMET. The processed data produced from CALMET was input to CALPUFF to assess the pollutant specific impact. Both CALMET and CALPUFF were used in a manner that is recommended by the IWAQM Phase 2 and FLAG reports.

C.3.1 CALPUFF MODEL APPROACHES AND SETTINGS

The IWAQM has recommended approaches for performing a Phase 2 refined modeling analyses that are presented in Table C-1. These approaches involve use of meteorological data, selection of receptors and dispersion conditions, and processing of model output.

The specific settings used in the CALPUFF model are presented in Table C-2.

C.3.2 EMISSION INVENTORY AND BUILDING WAKE EFFECTS

The CALPUFF model included the Project's emission, stack, and operating data as well as building dimensions to account for the effects of building-induced downwash on the emission sources. Dimensions for all significant building structures were processed with the Building Profile Input Program (BPIP), Version 95086, and were included in the CALPUFF model input. The PSD Analysis Report presents a listing of the facility's emissions and structures included in the analysis.

C.4 RECEPTOR LOCATIONS

For the refined analyses for addressing compliance with the PSD Class I increments, pollutant concentrations were predicted in an array of 251 discrete receptors located at the Everglades NP area. These receptors are a subset of the 901 receptors provided by the National Park Service. The 251 receptors include all of the NPS boundary receptors and an array of interior receptors with less resolution than for the NPS set.

C.5 METEOROLOGICAL DATA

C.5.1 REFINED ANALYSIS

CALMET was used to develop the gridded parameter fields required for the refined modeling analyses. The follow sections discuss the specific data used and processed in the CALMET model.

C.5.2 CALMET SETTINGS

The CALMET settings contained in Table C-3 were used for the refined modeling analysis.

C.5.3 MODELING DOMAIN

A rectangular modeling domain extending 440 km in the east-west (x) direction and 460 km in the north-south (y) direction was used for the refined modeling analysis. The southwest corner of the domain is the origin and is located at 23.8 degrees north latitude and 83.5 degrees west longitude. This location is in the Gulf of Mexico approximately 195 km west-southwest of Key West, Florida. For the processing of meteorological and geophysical data, the domain contains 111 grid cells in the x-direction and 116 grid cells in the y-direction. The domain grid resolution is 4 km. The air modeling analysis was performed in the UTM coordinate system.

C.5.4 MESOSCALE MODEL – GENERATION 4 AND 5 (MM4/MM5) DATA

Pennsylvania State University in conjunction with the NCAR Assessment Laboratory developed the MM4 and MM5 datasets, prognostic wind fields or "guess" fields, for the United States. The hourly meteorological variables used to create these datasets (wind, temperature, dew point depression, and geopotential height for eight standard levels and up to 15 significant levels) are extensive and have been developed for the MM4 data for 1990 and the MM5 data for 1992, and 1996. The analysis used the MM4 and MM5 data to initialize the CALMET wind field. The 1990 MM4 and 1992 MM5 data have horizontal spacing of 80 km while the 1996 MM5 data have horizontal spacing of 36 km. These data are used to simulate atmospheric variables within the modeling domain.

The MM4 subset domain was provided by FDEP and consisted of a 7- x 7-cell rectangle, with an 80-km grid resolution, extending from the MM4 grid points (50,6) to (57,13). These data were processed to create an MM4.DAT file, for input to the CALMET model. The MM5 subset domain was provided by the National Park Service and was processed in a similar manner as the MM4 data.

The MM4 and MM5 data set used in the CALMET, although advanced, lacks the fine detail of specific temporal and spatial meteorological variables and geophysical data. These variables were processed into the appropriate format and introduced into the CALMET model through the additional data files obtained from the following sources.

C.5.5 SURFACE DATA STATIONS AND PROCESSING

The surface station data processed for the CALPUFF analyses consisted of data from eight NWS stations or Federal Aviation Administration (FAA) Flight Service stations for Orlando, Fort Myers, Daytona Beach, Vero Beach, Key West, Miami, Tampa, and West Palm Beach. A summary of the surface station information and locations are presented in Table C-4. The surface station parameters include wind speed, wind direction, cloud ceiling height, opaque cloud cover, dry bulb temperature, relative humidity, station pressure, and a precipitation code that is based on current weather conditions. The surface station data were processed by FDEP into a SURF.DAT file format for CALMET input.

Because the modeling domain extends largely over water, C-Man station data from Venice, Sombrero Key, and Lake Worth were obtained. These data were processed by FDEP into an over-water surface station format (i.e., SEA*.DAT) for input to CALMET. The over-water station data include wind direction, wind speed and air temperature.

C.5.6 UPPER AIR DATA STATIONS AND PROCESSING

The analysis included three upper air NWS stations located in Ruskin, Key West, and West Palm Beach. Data for each station were obtained from the Florida DEP in a format for CALMET input. The data and locations for the upper air stations are presented in Table C-4.

C.5.7 PRECIPITATION DATA STATIONS AND PROCESSING

Precipitation data were processed from a network of hourly precipitation data files collected from primary and secondary NWS precipitation-recording stations located within the latitude and longitudinal limits of the modeling domain. Data for 23 stations were obtained in NCDC TD-3240 variable format and converted into a fixed-length format. The utility programs PXTRACT and PMERGE were then used to process the data into the format for the PRECIP.DAT file that is used by CALMET. A listing of the precipitation stations used for the modeling analysis is presented in Table C-5.

C.5.8 GEOPHYSICAL DATA PROCESSING

Terrain elevations for each grid cell of the modeling domain were obtained from 1-degree Digital Elevation Model (DEM) files obtained from the U.S. Geographical Survey (USGS) Internet website. The DEM data was extracted for the modeling domain grid using the utility program TERREL. Land-use data were also extracted from 1-degree USGS files and processed using utility programs CTGCOMP and CTGPROC. Both the terrain and land use files were combined into a GEO.DAT file for input to CALMET with the MAKEGEO utility program.

Table C-1. Refined Modeling Analyses Recommendations [a]

Model Input/Output	Description
Meteorology	Use CALMET (minimum 6 to 10 layers in the vertical; top layer must extend above the maximum mixing depth expected); horizontal domain extends 50 to 80 km beyond outer receptors and sources being modeled; terrain elevation and land-use data is resolved for the situation.
Receptors	Within Class I area(s) of concern; obtain regulatory concurrence on coverage.
Dispersion	1. CALPUFF with default dispersion settings. 2. Use MESOPUFF II chemistry with wet and dry deposition. 3. Define background values for ozone and ammonia for area.
Processing	1. For PSD increments: use highest, second highest 3-hour and 24-hour average SO_2 concentrations; highest, second highest 24-hour average PM_{10} concentrations; and highest annual average SO_2, PM_{10} and NO_x concentrations. 2. For haze: process, on a 24-hour basis, compute the source extinction from the maximum increase in emissions of SO_2, NO_x and PM_{10}; compute the daily relative humidity factor [f(RH)], provided from an external disk file; and compute the maximum percent change in extinction using the FLM supplied background extinction data in the FLAG document. 3. For significant impact analysis: use highest annual and highest short-term averaging time concentrations for SO_2, PM_{10} and NO_x.

[a] IWAQM Phase II report (December, 1998) and FLAG document (December, 2000).

Table C-2. CALPUFF Model Settings

Parameter	Setting
Pollutant Species	SO_2, SO_4, NO_x, HNO_3, NO_3, PM_{10}
Chemical Transformation	MESOPUFF II scheme, hourly ozone data from FDEP
Deposition	Include both dry and wet deposition, plume depletion
Meteorological/Land Use Input	CALMET
Plume Rise	Transitional, Stack-tip downwash, Partial plume penetration
Dispersion	Puff plume element, PG /MP coefficients, rural mode, ISC building downwash scheme
Terrain Effects	Partial plume path adjustment
Output	Create binary concentration file including output species for SO_4, NO_3, PM_{10}, SO_2, and NO_x; process for visibility change using Method 2 and FLAG background extinctions
Model Processing	For haze: highest predicted 24-hour extinction change (%) for the year For deposition: annual average deposition rates For significant impact analysis: highest predicted annual and highest short-term averaging time concentrations for SO_2, NO_x, and PM_{10}.
Background Values	Ozone: 50 ppb; Ammonia: 1 ppb

[a] Recommended values by the Florida DEP.

Table C-3. CALMET Settings

Parameter	**Setting**
Horizontal Grid Dimensions	440 by 460 km, 4 km grid resolution
Vertical Grid	10 layers
Weather Station Data Inputs	8 surface, 3 upper air, 23 precipitation stations
Wind model options	Diagnostic wind model, no kinematic effects
Prognostic wind field model	1990 MM4 data and 1992 MM5 data, 80 km resolution; 1996 MM5 data, 36 km resolution; used for wind field initialization
Output	Binary hourly gridded meteorological data file for CALPUFF input

Table C-4. Surface and Upper Air Stations Used in the CALPUFF Analysis

Station Name	Station Symbol	WBAN Number	UTM Coordinates Easting (km)	UTM Coordinates Northing (km)	Zone	Anemometer Height (m)
Surface Stations						
Tampa	TPA	12842	349.20	3094.25	17	6.7
Daytona Beach	DAB	12834	495.14	3228.05	17	9.1
Orlando	ORL	12815	468.96	3146.88	17	10.1
Vero Beach	VER	12843	557.52	3058.36	17	6.7
Fort Myers	FMY	12835	413.65	2940.38	17	6.1
Miami	MIA	12839	566.82	2857.20	17	7.0
Key West	EYW	12836	424.03	2715.14	17	18.3
West Palm Beach	PBI	12844	587.87	2951.43	17	10.1
Upper Air Stations						
Ruskin	TBW	12842	349.20	3094.28	17	NA
West Palm Beach	PBI	12844	587.87	2951.42	17	NA
Key West	EYW	12836	424.03	2715.14	17	NA

Table C-5. Hourly Precipitation Stations Used in the CALPUFF Analysis

		UTM Coordinates		
Station Name	**Station Number**	**Easting (km)**	**Northing (km)**	**Zone**
Belle Glade HRCN GT 4	80616	528.19	2953.03	17
Boca Raton	80845	588.75	2916.52	17
Canal Point Gate 5	81271	536.43	2971.51	17
Clewiston US Engineers	81654	546.19	2912.73	17
Fort Myers FAA/AP	83186	413.99	2940.71	17
Homestead Exp Stn	84091	550.26	2820.21	17
Key West Intl AP	84570	423.67	2715.51	17
Miami WSCMO Airport	85663	570.20	2856.17	17
Moore Haven Lock 1	85895	491.61	2967.80	17
North New River Canal #	86323	546.58	2912.48	17
Ortona Lock 2	86657	470.17	2962.27	17
Parrish	86880	366.99	3054.39	17
Pennsuco 5 WNW	86988	554.70	2867.81	17
Port Mayaca S 1 Canal	87293	538.04	2984.44	17
St Lucie New Lock 1	87859	571.04	2999.35	17
St Petersburg	87886	339.61	3071.99	17
Tamiami Trail 40 Mi BEN	88780	517.64	2849.04	17
Tampa WSCMO AP	88788	348.48	3093.67	17
Trail Glade Ranges	89010	551.57	2849.99	17
Venice	89176	357.59	2998.18	17
Venus	89184	467.27	3001.22	17
Vero Beach 4 W	89219	554.27	3056.50	17
West Palm Beach Int AP	89525	589.61	2951.63	17

APPENDIX D

SO_2 AND PM EMISSION DATA FOR BACKGROUND SOURCES

Table D-1. Summary of the Stack, Operating, and PM_{10} Emissions for the Background Facilities Included in the AAQS and PSD Class II Air Modeling Analyses

AIRS Number	Facility	Units	ISCST3 ID Name	Relative Location [a] X (m)	Relative Location [a] Y (m)	Stack Parameters Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (°F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	Emission Rate lb/hr	Emission Rate g/s	PSD Source? (EXP/CON)	Modeled in AAQS	Modeled in Class II
0990016	Atlantic Sugar Association [b]																	
		Unit 1	ASA1	-9,270	-10,150	89.9	27.4	6.0	1.83	163	346.0	59.0	17.97	83.97	10.58	CON	Yes	Yes
		Unit 2	ASA2	-9,270	-10,150	89.9	27.4	6.0	1.83	170	350.0	76.6	23.36	83.97	10.58	CON	Yes	Yes
		Unit 3	ASA3	-9,270	-10,150	89.9	27.4	6.0	1.83	170	350.0	70.7	21.56	78.02	9.83	CON	Yes	Yes
		Unit 4	ASA4	-9,270	-10,150	89.9	27.4	6.0	1.83	160	344.0	82.5	25.16	79.76	10.05	CON	Yes	Yes
		Unit 5 PSD	ASA3	-9,270	-10,150	89.9	27.4	5.5	1.68	151	339.0	63.1	19.24	35.71	4.50	CON	Yes	Yes
		Unit 1 PSD Baseline	ASA1B	-9,270	-10,150	62.0	18.9	6.3	1.92	451	506.0	41.7	12.70	-116.98	-14.74	EXP	No	Yes
		Unit 2 PSD Baseline	ASA2B	-9,270	-10,150	62.0	18.9	6.3	1.92	460	511.0	35.8	10.90	-141.98	-17.89	EXP	No	Yes
		Unit 3 PSD Baseline	ASA3B	-9,270	-10,150	71.9	21.9	6.0	1.83	480	522.0	57.4	17.50	-73.97	-9.32	EXP	No	Yes
		Unit 4 PSD Baseline	ASA4B	-9,270	-10,150	60.0	18.3	6.0	1.83	160	344.0	49.2	15.00	-73.41	-9.25	EXP	No	Yes
990019	Osceola Farms [b]																	
		Unit 1 PSD Baseline	OSBLR1B	-17,970	12,650	72.2	22.0	5.0	1.52	155.9	342	59.6	18.2	-117.0	-14.74	EXP	No	Yes
		Unit 2 PSD Baseline	OSBLR2B	-17,970	12,650	72.2	22.0	5.0	1.52	155.9	341	59.4	18.1	-142.0	-17.89	EXP	No	Yes
		Unit 3 PSD Baseline	OSBLR3B	-17,970	12,650	72.2	22.0	6.3	1.93	155.9	341	47.6	14.5	-74.0	-9.32	EXP	No	Yes
		Unit 4 PSD Baseline	OSBLR4B	-17,970	12,650	72.2	22.0	6.0	1.83	155.9	341	61.7	18.8	-73.4	-9.25	EXP	No	Yes
		Unit 2 PSD	OSBLR2	-17,970	12,650	89.9	27.4	5.0	1.52	155.9	341	51.9	15.8	56.0	7.06	CON	Yes	Yes
		Unit 3 PSD	OSBLR3	-17,970	12,650	89.9	27.4	6.3	1.91	155.9	342	55.3	16.9	58.4	7.36	CON	Yes	Yes
		Unit 4 PSD	OSBLR4	-17,970	12,650	89.9	27.4	6.0	1.83	155.9	341	54.7	16.7	44.4	5.59	CON	Yes	Yes
		Unit 5a	OSBLR5A	-17,970	12,650	89.9	27.4	5.0	1.52	155.9	341	61.0	18.6	22.2	2.80	CON	Yes	Yes
		Unit 5b	OSBLR5B	-17,970	12,650	89.9	27.4	5.0	1.52	155.9	341	61.0	18.6	23.2	2.92	CON	Yes	Yes
		Unit 6 PSD	OSBLR6	-17,970	12,650	89.9	27.4	6.2	1.88	155.9	341	59.7	18.2	56.9	7.17	CON	Yes	Yes
990026	Sugar Cane Growers [b]																	
		Unit 1	SUGCN1	-27,270	-2,050	150	45.7	7.00	2.13	150	339	58.7	17.9	77.7	9.79	CON	Yes	Yes
		Unit 2	SUGCN2	-27,270	-2,050	150	45.7	7.00	2.13	150	339	70.2	21.4	77.7	9.79	CON	Yes	Yes
		Unit 3	SUGCN3	-27,270	-2,050	180	54.9	6.92	2.11	150	339	54.9	16.7	53.3	6.72	CON	Yes	Yes
		Unit 4	SUGCN4	-27,270	-2,050	180	54.9	9.46	2.88	150	339	63.2	19.3	106.5	13.42	CON	Yes	Yes
		Unit 5	SUGCN5	-27,270	-2,050	150	45.7	7.00	2.13	150	339	92.2	28.1	102.1	12.86	CON	Yes	Yes
		Unit 8	SUGCN8	-27,270	-2,050	155	47.3	9.50	2.90	150	339	49.8	15.2	70.3	8.86	CON	Yes	Yes
990061	US Sugar-Bryant [b]																	
		Unit 1,2&3	USBRY123	-24,370	13,750	65	19.8	5.40	1.65	160	344	113.5	34.6	346.5	43.66	CON	Yes	Yes
		Unit 5	USBRY5	-24,370	13,750	150	45.7	9.50	2.90	142	334	48.4	14.8	87.5	11.03	CON	Yes	Yes
		Unit 1 PSD Baseline	USSBRY1B	-24,370	13,750	65	19.8	5.51	1.68	430	494	145.3	44.3	-654.0	-82.40	EXP	NO	Yes
		Unit 2&3 PSD Baseline	USBRY23B	-24,370	13,750	65	19.8	5.51	1.68	160	344	124.3	37.9	-95.6	-12.04	EXP	NO	Yes
500042	FPL - Riviera Beach																	
		Units 3 and 4 at 2.5% S Fuel Oil	RIVU34	32,030	5,250	297.9	90.8	16.0	4.88	263	401.5	62.0	18.9	762.5	96.08	CON	Yes	Yes
850001	FPL -Martin																	
		Units 1&2	MART12	-19,070	37,550	499	152.1	26.21	7.99	298	420.9	69.0	21.03	1,730.2	218.00	CON	Yes	Yes
		Aux Blr	MARTAUX	-19,070	37,550	60	18.3	3.61	1.10	504	535.4	50.0	15.24	0.1	0.01	CON	Yes	Yes
		Diesel Gens	MARTGEN	-19,070	37,550	25	7.6	0.98	0.30	955	785.9	130.0	39.62	1.7	0.22	CON	Yes	Yes
		Units 3&4	MART34	-19,070	37,550	213	64.9	20.01	6.10	280	410.9	62.0	18.90	242.4	30.54	CON	Yes	Yes
		Unit 8	MART8	-19,070	37,550	120	36.6	19.00	5.8	256	398	44.6	13.6	120.4	15.17	CON	Yes	Yes
510003	US Sugar - Clewiston [d]																	
		Boiler 8	USSBLR8	-56,070	1,550	199	60.7	13.0	3.96	330.5	439.0	50.2	15.3	24.3	3.06	CON	Yes	Yes
		PSD Baseline (On-crop season only) [b]																
		Unit 1 PSD Baseline	USSBRL1B	-56,070	1,550	75.8	23.1	6.1	1.86	159.5	344.0	99.1	30.20	-59.37	-7.48	EXP	No	Yes
		Unit 2 PSD Baseline	USSBLR2B	-56,070	1,550	75.8	23.1	6.1	1.86	157.7	343.0	117.1	35.70	-55.87	-7.04	EXP	No	Yes
		Unit 3 PSD Baseline	USSBLR3B	-56,070	1,550	212.9	64.9	8.0	2.44	134.3	330	46.6	14.2	-28.50	-3.59	EXP	No	Yes
		East Pellet Plant PSD Baseline	EPELLET	-56,070	1,550	40.0	12.2	5.0	1.52	164.9	347.0	28.0	8.54	-13.41	-1.69	EXP	No	Yes
		West Pellet Plant PSD Baseline	WPELLET	-56,070	1,550	51.5	15.7	5.0	1.52	164.9	347.0	28.0	8.54	-6.51	-0.82	EXP	No	Yes
		Units 5&6 PSD Baseline	USBLR56B	-56,070	1,550	75.8	23.1	6.1	1.86	429.5	494.0	145.3	44.30	-420.00	-52.92	EXP	No	Yes
		Off-crop season future (May- September) [c]																
		Boiler 1	USSBLR1F	-56,070	1,550	213	64.9	8.00	2.44	148	338	62.3	19.0	106.3	13.40	CON	Yes	Yes
		Boiler 2	USSBLR2F	-56,070	1,550	213	64.9	8.00	2.44	150	339	62.3	19.0	96.8	12.20	CON	Yes	Yes
		Boiler 4	USSBLR4F	-56,070	1,550	150	45.7	8.23	2.51	0.0	0.0	0.0	0.0	0.0	0.00	CON	Yes	Yes
		Boiler 7	USSBLR7F	-56,070	1,550	225	68.6	8.50	2.59	0.0	0.0	0.0	0.0	0.0	0.00	CON	Yes	Yes
		On-crop season future (October- April) [b]																
		Boiler 1	USSBLR1N	-56,070	1,550	213	64.9	8.00	2.44	148	338	67.6	20.6	123.9	15.61	CON	Yes	Yes
		Boiler 2	USSBLR2N	-56,070	1,550	213	64.9	8.00	2.44	150	339	66.6	20.3	111.8	14.09	CON	Yes	Yes
		Boiler 4	USSBLR4N	-56,070	1,550	150	45.7	8.23	2.51	150	339	80.5	24.5	95.0	11.97	CON	Yes	Yes
		Boiler 7	USSBLR7N	-56,070	1,550	225	68.6	8.50	2.59	327	437	86.1	26.3	22.1	2.78	CON	Yes	Yes
		Refinery Sources																
		S-1	S1	-56,070	1,550	65	19.81	0.50	0.15	68	293	0.033	0.010	0.06	0.0076	CON	Yes	Yes
		S-2	S2	-56,070	1,550	65	19.81	0.50	0.15	90	305	0.033	0.010	0.06	0.0076	CON	Yes	Yes
		S-3	S3	-56,070	1,550	65	19.81	0.50	0.15	90	305	0.033	0.010	0.06	0.0076	CON	Yes	Yes
		S-4	S4	-56,070	1,550	60	18.29	1.94	0.59	125	325	0.033	0.010	0.21	0.0265	CON	Yes	Yes
		S-5	S5	-56,070	1,550	72	21.95	0.95	0.29	125	325	0.033	0.010	0.06	0.0076	CON	Yes	Yes
		S-6	S6	-56,070	1,550	72	21.95	1.94	0.59	125	325	0.033	0.010	0.19	0.0239	CON	Yes	Yes
		S-7	S7	-56,070	1,550	130	39.62	1.37	0.42	110	316	0.033	0.010	0.06	0.0076	CON	Yes	Yes
		S-8	S8	-56,070	1,550	130	39.62	1.37	0.42	110	316	0.033	0.010	0.06	0.0076	CON	Yes	Yes
		S-9	S9	-56,070	1,550	130	39.62	1.37	0.42	110	316	0.033	0.010	0.06	0.0076	CON	Yes	Yes
		S-10	S10	-56,070	1,550	75	22.86	7.31	2.23	115	319	0.033	0.010	1.43	0.1802	CON	Yes	Yes
		S-11	S11	-56,070	1,550	10	3.05	4.79	1.46	115	319	0.033	0.010	1.63	0.2054	CON	Yes	Yes
		S-12	S12	-56,070	1,550	30	9.14	2.00	0.61	160	344	22.80	6.949	0.63	0.0794	CON	Yes	Yes
0060036	FPL - Port Everglades [d]																	
		Unit 1	EVERG1	25,230	-70,050	344	104.9	14.0	4.27	275	408.0	60.0	18.29	240.0	30.24	CON	Yes	Yes
		Unit 2	EVERG2	25,230	-70,050	344	104.9	14.0	4.27	289	416.0	16.0	4.88	240.0	30.24	CON	Yes	Yes
		Unit 3	EVERG3	25,230	-70,050	344	104.9	18.1	5.52	275	408.0	63.0	19.20	418.0	52.67	CON	Yes	Yes
		Unit 4	EVERG4	25,230	-70,050	344	104.9	18.1	5.52	275	408.0	63.0	19.20	418.0	52.67	CON	Yes	Yes
		12 CTs, Simple Cycle	EVERCTS	25,230	-70,050	44.0	13.4	15.6	4.75	770	683.0	35.0	10.67	726.00	91.48	CON	Yes	Yes

[a] Location relative to FPL West County Energy Center.
[b] Facilities or sources that operate only during the October 1 through April 30 crop season.
[c] Sugar mill sources that operate only during the May 1 through September 30 off-crop season (assumes 150 days).
[d] Large source (>1,000 TPY) outside the screening area that are included in the modeling analysis.

Note: EXP = PSD expanding source.
CON = PSD consuming source.
NO = Source does not affect PSD increment.
ND = No data available.

Source: Golder, 2005

Table D-2. Detailed summary of Stack, Operating, and Emissions of Facilities with PM_{10} Emissions Included in the PSD Class I Increment Analysis at the Everglades National Park

AIRS Number	Facility	Units	Modeling ID Name	Stack and Operating Parameters Height (m)	Diameter (m)	Temper. (K)	Velocity (m/s)	Emission Rate(g/s) (lb/hr)	(g/s)	PSD Source? (EXP/CON)	Modeled in Class I
0250348	Miami-Dade County RRF										
		Units 1&2	DCRRF12	76.2	3.66	405.4	15.86	13.24	1.67	CON	Yes
		Units 3&4	DCRRF34	76.2	3.66	405.4	15.86	13.24	1.67	CON	Yes
0130020	Tarmac										
		Kiln No. 1 Baseline	TARMK1B	61.0	2.44	465.0	12.84	-4.80	-0.60	EXP	Yes
		Kiln No. 2 Baseline	TARMK2B	61.0	2.44	465.0	12.84	-4.80	-0.60	EXP	Yes
		Kiln No. 3 Baseline	TARMK3B	61.0	4.57	472.0	10.78	0.00	0.00	EXP	Yes
		Kiln No. 2	TARMK2	61.0	2.44	422.0	9.10	14.40	1.81	CON	Yes
		Cooler No. 2	TARMC2	26.2	1.82	394.0	8.71	26.40	3.33	CON	Yes
		Kiln No. 3	TARMK3	61.0	4.57	450.0	11.04	42.50	5.36	CON	Yes
		Cooler No. 3	TARMC3	30.5	2.74	394.0	2.88	14.20	1.79	CON	Yes
		Clinker Handling System	TARMCH	48.7	0.30	298.0	32.36	1.76	0.22	CON	Yes
		Finish Mill Nos. 1, 2, 3, and 4	TARMF13	64.0	0.61	372.0	48.54	93.70	11.81	CON	Yes
		Coal Handling System	TARMCLH	35.7	0.30	298.0	232.97	3.90	0.49	CON	Yes
		Slag Dryer	TARMSD	9.1	0.70	505.0	26.99	4.80	0.60	CON	Yes
NA		FPL Turkey Point Unit 5	FPLTKYPT	39.9	5.79	397	13.6	69.52	8.76	CON	Yes
0112119	South Broward RRF PSD										
			SBCRRF	59.4	3.96	381.0	18.01	24.20	3.05	CON	Yes
0110037	FPL - Lauderdale										
		CTs 1-4 PSD	LAUDU45	45.7	5.49	438.7	14.60	14.70	1.85	CON	Yes
		4&5 PSD Baseline	FTLAU45B	46.0	4.27	422.0	14.63	-32.17	-4.05	EXP	Yes
0110120	North Broward RRF PSD										
			NBCRRF	58.5	3.96	381.0	18.01	22.83	2.88	CON	Yes
0112545	El Paso Broward										
		Combined Cycle CT CC-1	EPBRCT1	41.1	5.79	359.3	61.13	20.00	2.52	CON	Yes
		Simple Cycle SC-1	EPBRSC1	41.1	5.79	862.0	146.96	20.00	2.52	CON	Yes
		Simple Cycle SC-2	EPBRSC2	41.1	5.79	862.0	146.96	20.00	2.52	CON	Yes
		Simple Cycle SC-3	EPBRSC3	41.1	5.79	862.0	146.96	20.00	2.52	CON	Yes
0710019	Lee County RRF PSD										
			LEECORRF	83.8	1.88	388.5	19.81	5.08	0.64	CON	Yes

Table D-2. Detailed summary of Stack, Operating, and Emissions of Facilities with PM_{10} Emissions Included in the PSD Class I Increment Analysis at the Everglades National Park

AIRS Number	Facility	Units	Modeling ID Name	Stack and Operating Parameters Height (m)	Diameter (m)	Temper. (K)	Velocity (m/s)	Emission Rate(g/s) (lb/hr)	(g/s)	PSD Source? (EXP/CON)	Modeled in Class I
0990005	Okeelanta [a]										
		Boiler 4 PSD Baseline	OKBLR4B	22.9	2.29	333.0	7.36	-54.60	-6.88	EXP	Yes
		Boiler 5 PSD Baseline	OKBLR5B	22.9	2.29	333.0	12.07	-54.60	-6.88	EXP	Yes
		Boiler 6 PSD Baseline	OKBLR6B	22.9	2.29	334.0	8.74	-78.00	-9.83	EXP	Yes
		Boiler 10 PSD Baseline	OKBLR10B	22.9	2.29	334.0	10.35	-57.00	-7.18	EXP	Yes
		Boiler 11 PSD Baseline	OKBLR11B	22.9	2.29	342.0	9.89	-55.80	-7.03	EXP	Yes
		Boiler 16 PSD	OKBLR16	22.9	1.52	483.0	22.86	6.10	0.77	CON	Yes
0990332	New Hope Power Partnership (Okeelanta)										
		Okeelanta Power Blrs 1,2,3 [b]	OKCOGENF	60.7	3.05	450.9	19.39	38.6	4.9	CON	Yes
710002	FPL - Fort Myers										
		Unit 1 PSD	FMU1	91.8	2.90	422.0	29.90	-169.05	-21.30	EXP	Yes
		Unit 2 PSD	FMU2	121.2	5.52	408.0	19.20	-384.92	-48.50	EXP	Yes
		HRSGs 1 - 6	FMYHR1_6	38.1	5.79	377.6	14.2	60.00	7.56	CON	Yes
0990016	Atlantic Sugar Association [a]										
		Unit 1	ASA1	27.4	1.83	346.0	17.97	83.97	10.58	CON	Yes
		Unit 2	ASA2	27.4	1.83	350.0	23.36	83.97	10.58	CON	Yes
		Unit 3	ASA3	27.4	1.83	350.0	21.56	78.02	9.83	CON	Yes
		Unit 4	ASA4	27.4	1.83	344.0	25.16	79.76	10.05	CON	Yes
		Unit 5 PSD	ASA5	27.4	1.68	339.0	19.24	35.71	4.50	CON	Yes
		Unit 1 PSD Baseline	ASA1B	18.9	1.92	506.0	12.70	-116.98	-14.74	EXP	Yes
		Unit 2 PSD Baseline	ASA2B	18.9	1.92	511.0	10.90	-141.98	-17.89	EXP	Yes
		Unit 3 PSD Baseline	ASA3B	21.9	1.83	522.0	17.50	-73.97	-9.32	EXP	Yes
		Unit 4 PSD Baseline	ASA4B	18.3	1.83	344.0	15.00	-73.41	-9.25	EXP	Yes
0510015	Southern Gardens Citrus - PSD										
		Peel Dryer	SGARDDRY	38.1	1.73	316.0	7.45	5.60	0.71	CON	Yes
		Boilers 1-3	SGARDBLR	16.8	1.22	478.0	14.22	1.44	0.18	CON	Yes
0990568	Lake Worth Utilities										
		Unit 5, S-5	LAKWTHU5	22.9	3.05	481.0	27.80	41.90	5.28	CON	Yes
990026	Sugar Cane Growers [a]										
		Unit 1&2	SUGCN12	45.7	1.87	339.0	21.75	51.51	6.49	CON	Yes
		Unit 3	SUGCN3	27.4	1.52	339.0	22.25	102.78	12.95	CON	Yes
		Unit 4 PSD	SUGCN4	54.9	2.44	339.0	21.73	98.81	12.45	CON	Yes
		Unit 5	SUGCN5	45.7	2.30	339.0	15.94	98.81	12.45	CON	Yes

Table D-2. Detailed summary of Stack, Operating, and Emissions of Facilities with PM_{10} Emissions Included in the PSD Class I Increment Analysis at the Everglades National Park

AIRS Number	Facility	Units	Modeling ID Name	Stack and Operating Parameters Height (m)	Diameter (m)	Temper. (K)	Velocity (m/s)	Emission Rate(g/s) (lb/hr)	(g/s)	PSD Source? (EXP/CON)	Modeled in Class I
		Unit 8 PSD	SUGCN8	47.2	2.90	339.0	13.62	68.02	8.57	CON	Yes
		Unit 1&2 PSD Baseline	SUGCN12B	24.4	1.40	344.0	11.40	-150.32	-18.94	EXP	Yes
		Unit 3 PSD Baseline	SUGCN3B	24.4	1.60	344.0	15.60	-45.24	-5.70	EXP	Yes
		Unit 4 PSD Baseline	SUGCN4B	25.9	1.63	344.0	11.20	-86.51	-10.90	EXP	Yes
		Unit 5 PSD Baseline	SUGCN5B	24.4	1.40	344.0	15.20	-72.22	-9.10	EXP	Yes
		Unit 6&7 PSD Baseline	SUGCN67B	12.2	1.52	606.0	11.20	-19.84	-2.50	EXP	Yes
0990594	El Paso Belle Glade										
		Combined Cycle CT CC-1	EPBGLCT	41.1	5.79	359.3	61.13	20.00	2.52	CON	Yes
		Simple Cycle SC-1	EPBGSC1	41.1	5.79	862.0	146.96	18.30	2.31	CON	Yes
		Simple Cycle SC-2	EPBGSC2	41.1	5.79	862.0	146.96	18.30	2.31	CON	Yes
		Simple Cycle SC-3	EPBGSC3	41.1	5.79	862.0	146.96	18.30	2.31	CON	Yes
510003	US Sugar - Clewiston [b]										
		Unit 8	USSBLR8	60.7	3.96	439.0	15.30	24.30	3.06	CON	Yes
		PSD Baseline (On-crop season only)									
		Unit 1 PSD Baseline	USSBRL1B	23.1	1.86	344.0	30.20	-59.37	-7.48	EXP	Yes
		Unit 2 PSD Baseline	USSBLR2B	23.1	1.86	343.0	35.70	-55.87	-7.04	EXP	Yes
		Unit 3 PSD Baseline	USSBLR3B	27.4	2.29	342.0	14.70	-36.27	-4.57	EXP	Yes
		East Pellet Plant PSD Baseline	EPELLET	12.2	1.52	347.0	8.54	-13.41	-1.69	EXP	Yes
		West Pellet Plant PSD Baseline	WPELLET	15.7	1.52	347.0	8.54	-6.51	-0.82	EXP	Yes
		Units 5&6 PSD Baseline	USBLR56B	23.1	1.86	494.0	44.30	-420.00	-52.92	EXP	Yes
		On-crop season future									
		Unit 1	USSBLR1N	65.0	2.44	347.0	19.20	115.24	14.52	CON	Yes
		Unit 2	USSBLR2N	65.0	2.44	338.7	17.32	115.24	14.52	CON	Yes
		Unit 4	USSBLR4N	45.7	2.51	344.3	24.03	83.73	10.55	CON	Yes
		Unit 7	USSBLR7N	68.6	2.59	405.4	23.60	22.14	2.79	CON	Yes
		Off-crop season future									
		Unit 1	USSBLR1F	65.0	2.44	347.0	17.70	106.20	13.38	CON	Yes
		Unit 2	USSBLR2F	65.0	2.44	338.7	16.19	97.20	12.25	CON	Yes
		Unit 4	USSBLR4F	45.7	2.51	344.3	0.00	0.00	0.00	CON	Yes
		Unit 7	USSBLR7F	68.6	2.59	405.4	23.60	22.14	2.79	CON	Yes
0990234	Palm Beach Co. Resource Recovery										
		1&2 PSD	PBCRRF	76.2	2.04	505.2	24.90	23.38	2.95	CON	Yes
0990019	Osceola Farms PSD [a]										
		Unit 1 PSD Baseline	OSBLR1B	22.0	1.52	342.0	8.18	-116.98	-14.74	EXP	Yes
		Unit 2 PSD Baseline	OSBLR2B	22.0	1.52	341.0	18.10	-141.98	-17.89	EXP	Yes
		Unit 3 PSD Baseline	OSBLR3B	22.0	1.93	341.0	14.50	-73.97	-9.32	EXP	Yes

Table D-2. Detailed summary of Stack, Operating, and Emissions of Facilities with PM_{10} Emissions Included in the PSD Class I Increment Analysis at the Everglades National Park

AIRS Number	Facility	Units	Modeling ID Name	Stack and Operating Parameters Height (m)	Diameter (m)	Temper. (K)	Velocity (m/s)	Emission Rate(g/s) (lb/hr)	(g/s)	PSD Source? (EXP/CON)	Modeled in Class I
		Unit 4 PSD Baseline	OSBLR4B	22.0	1.83	341.0	18.80	-73.41	-9.25	EXP	Yes
		Unit 2 PSD	OSBLR2	27.4	1.52	341.0	15.82	56.03	7.06	CON	Yes
		Unit 3 PSD	OSBLR3	27.4	1.91	342.0	16.86	58.41	7.36	CON	Yes
		Unit 4 PSD	OSBLR4	27.4	1.83	340.7	22.80	44.40	5.59	CON	Yes
		Unit 5a	OSBLR5A	27.4	1.52	340.7	18.60	22.20	2.80	CON	Yes
		Unit 5b	OSBLR5B	27.4	1.52	340.7	18.60	23.20	2.92	CON	Yes
		Unit 6 PSD	OSBLR6	27.4	1.88	341.0	18.19	56.90	7.17	CON	Yes
990061	US Sugar-Bryant[a]										
		Unit 5 PSD	USSBRY5	42.7	2.90	345.0	11.49	99.92	12.59	CON	Yes
		Unit 1,2&3	USBRY123	19.8	1.64	342.0	36.40	346.51	43.66	CON	Yes
		Unit 1 PSD Baseline	USSBRY1B	19.8	1.68	494.0	44.30	-653.97	-82.40	EXP	Yes
		Unit 2&3 PSD Baseline	USBRY23B	19.8	1.68	344.0	37.90	-95.56	-12.04	EXP	Yes
990021	Pratt & Whitney (United Technologies)										
		Boiler BO-12, -1, -2, -14, -3	PRATBO12	4.6	0.76	533.2	6.92	0.29	0.04	CON	Yes
0850102	Bechtel Indiantown PSD		BECHTIND	150.9	4.88	333.2	30.50	47.42	5.97	CON	Yes
850001	FPL -Martin										
		Aux Blr PSD	MARTAUX	18.3	1.10	535.4	15.24	0.10	0.01	CON	Yes
		Diesel Gens PSD	MARTGEN	7.6	0.30	785.9	39.62	1.72	0.22	CON	Yes
		Units 3&4 PSD	MART34	64.9	6.10	410.9	18.90	242.40	30.54	CON	Yes
		Unit 8	MART8OIL	36.6	5.79	420.0	22.40	151.20	19.05	CON	Yes

Note: EXP = PSD expanding source
CON = PSD consuming source

[a] Facilities or sources within facilities that operate only during the October 1 through April 30 crop season.

[b] Sugar mill sources that operate all year.

[c] Represents worst case emissions for May 1 through September 31 off-crop season operation, and October 1-April 30 for on-crop season.

APPENDIX E

RECEPTOR LOCATION FIGURES AND BUILDING PROFILE INPUT PROGRAM (BPIP) FILES

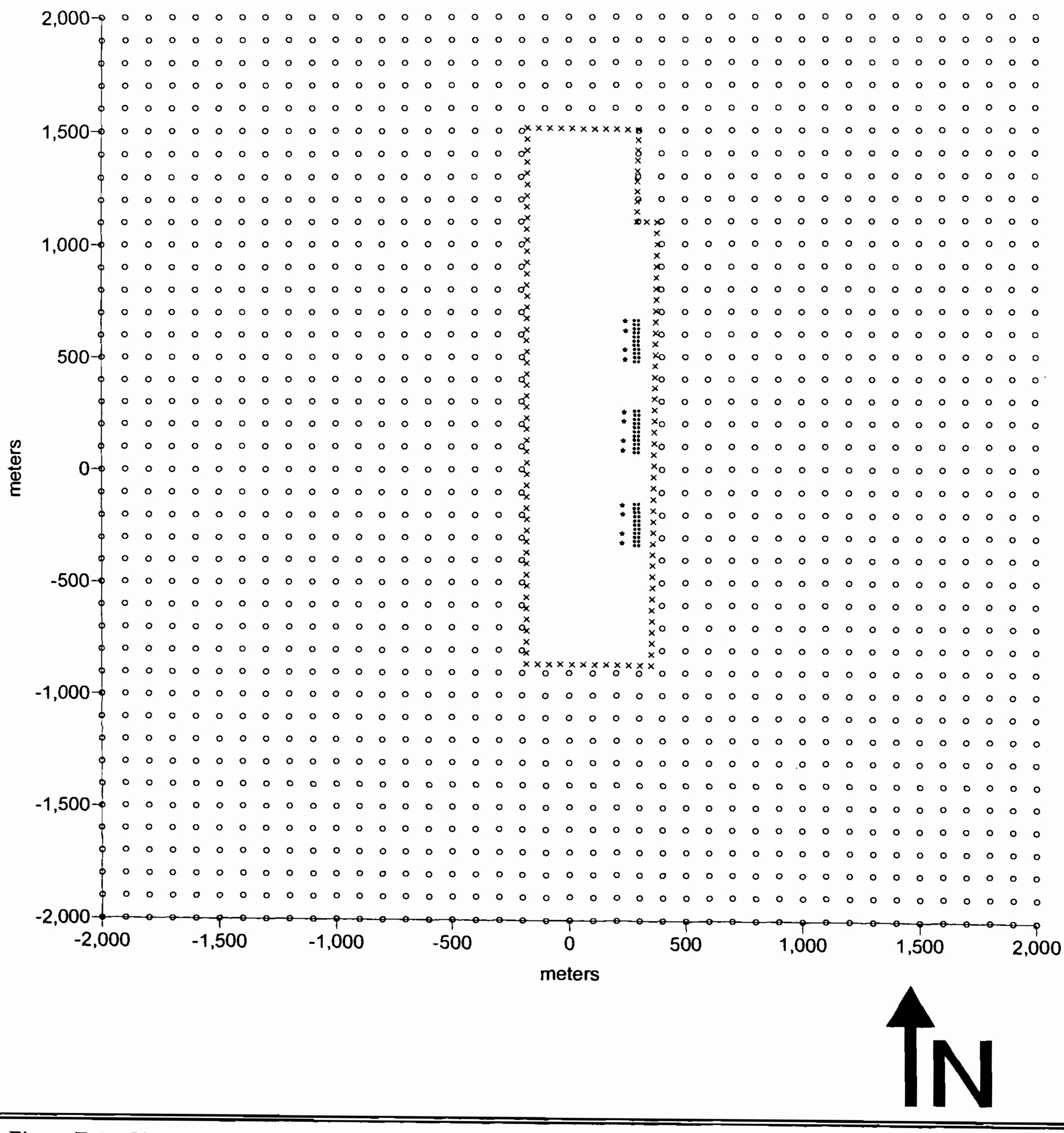

Figure E-1. Close-in Receptor Grid Used in Significant Impact Analysis

Source: Golder, 2005.

Golder Associates

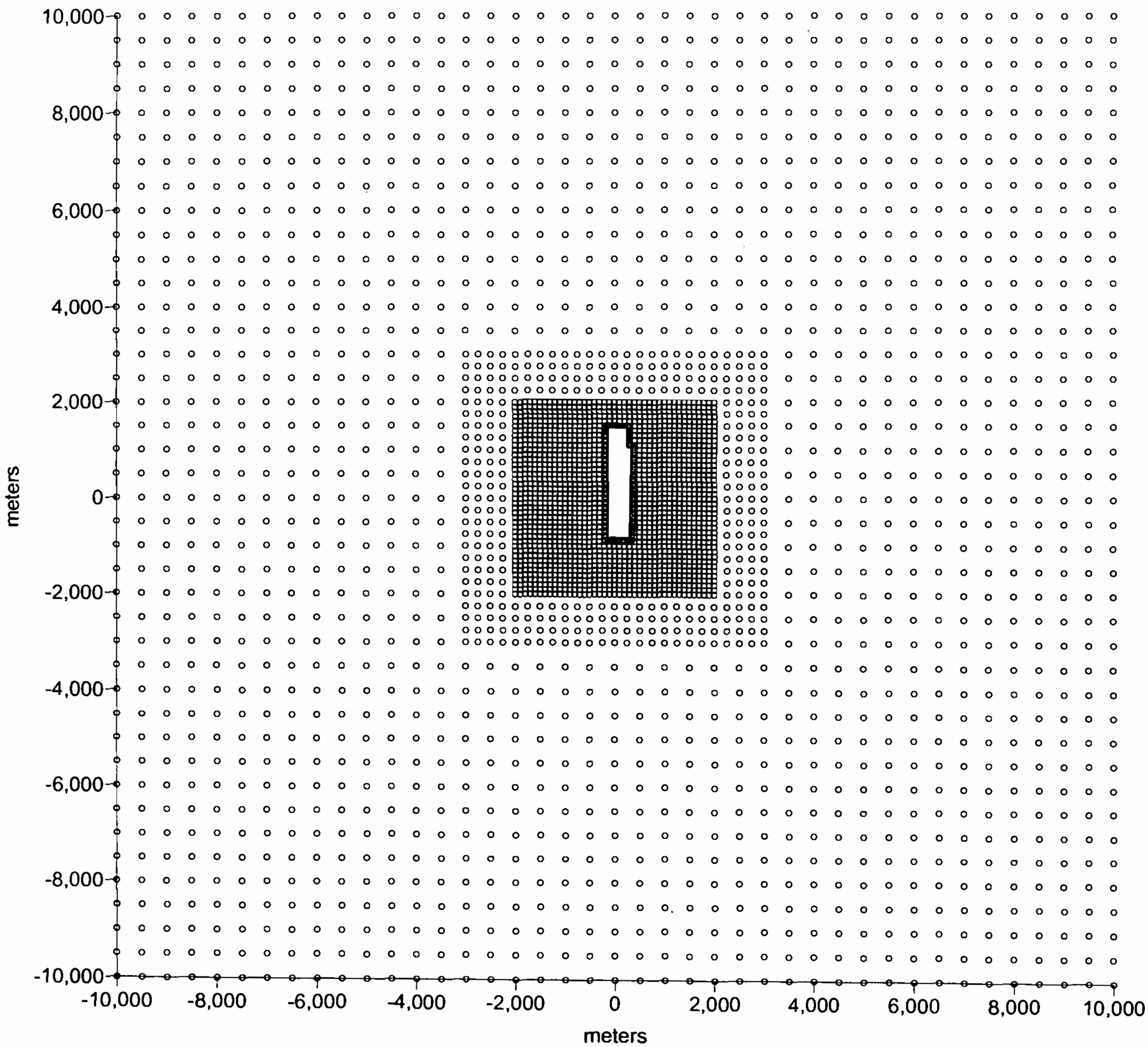

Figure E-2. Full Receptor Grid Used in Significant Impact Analysis

Source: Golder, 2005.

Golder Associates

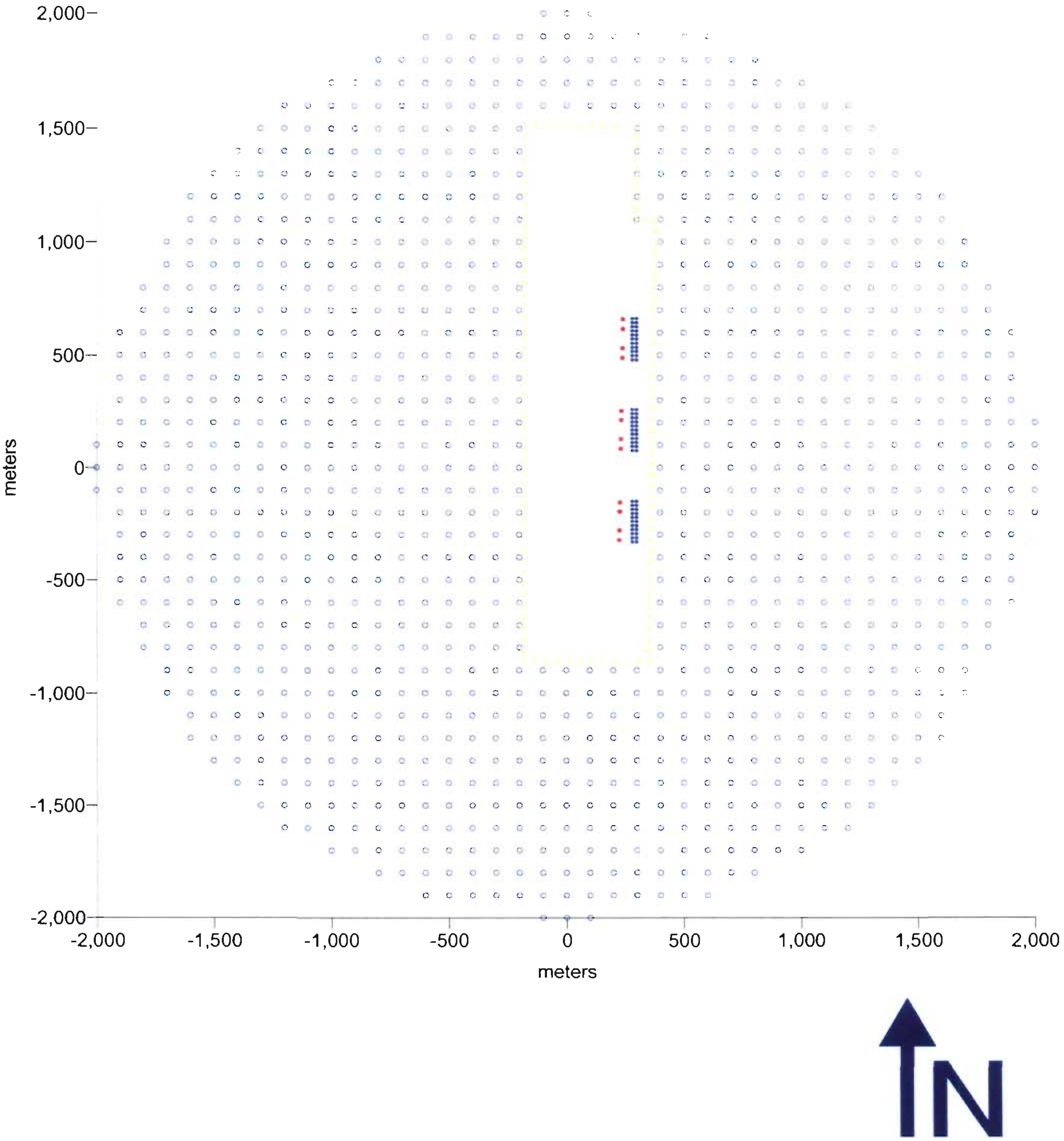

Figure E-3. Receptor Grid Used in AAQS Analysis
FB Turbines, 2,200- 3,300-MW Oil-firing Cases

Source: Golder, 2005.

Golder Associates

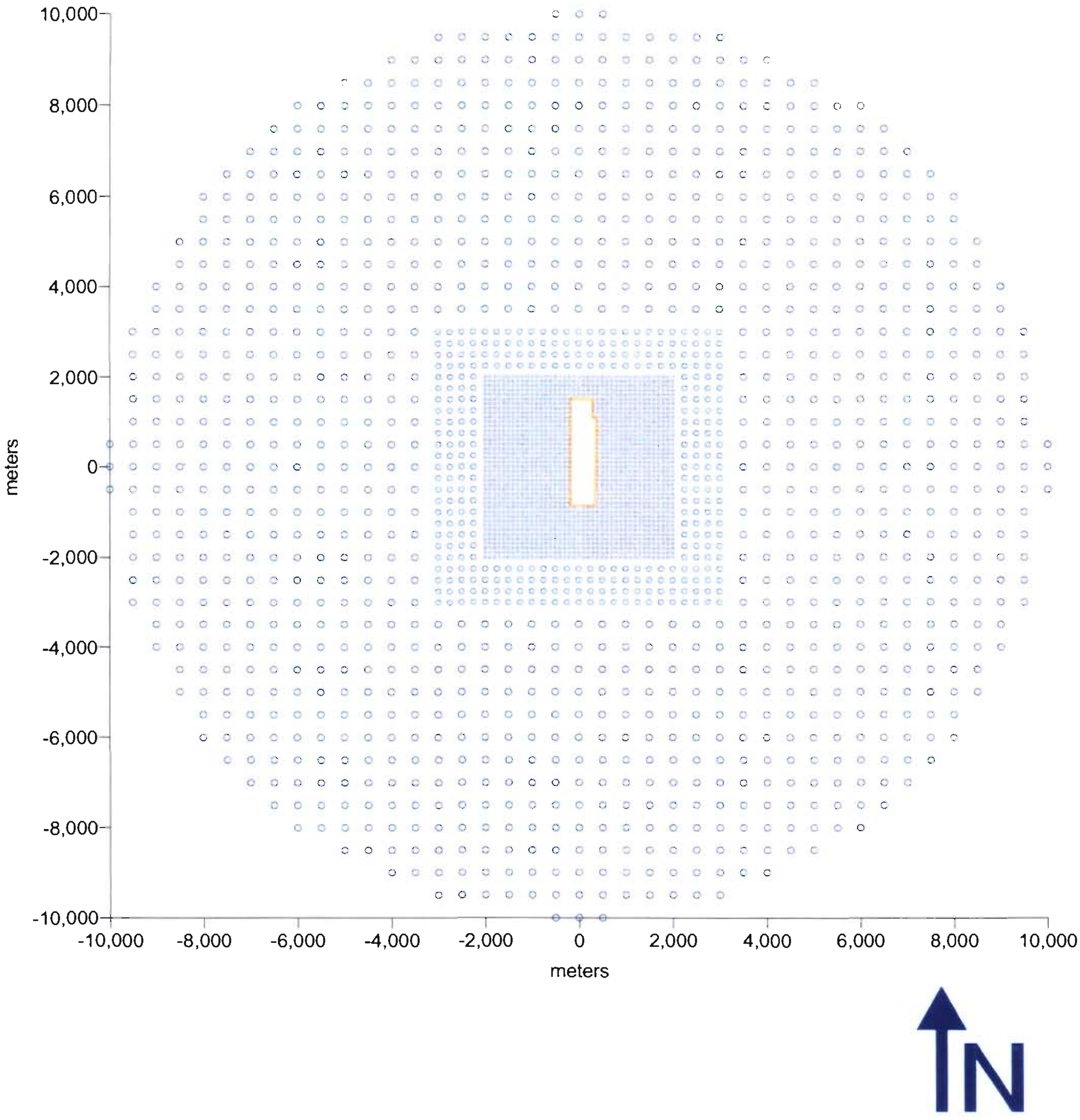

Figure E-4. Receptor Grid Used in AAQS Analysis,
G-Class Turbines, 2,200- and 3,300-MW Oil-Firing Cases

Source: Golder, 2005.

Golder Associates

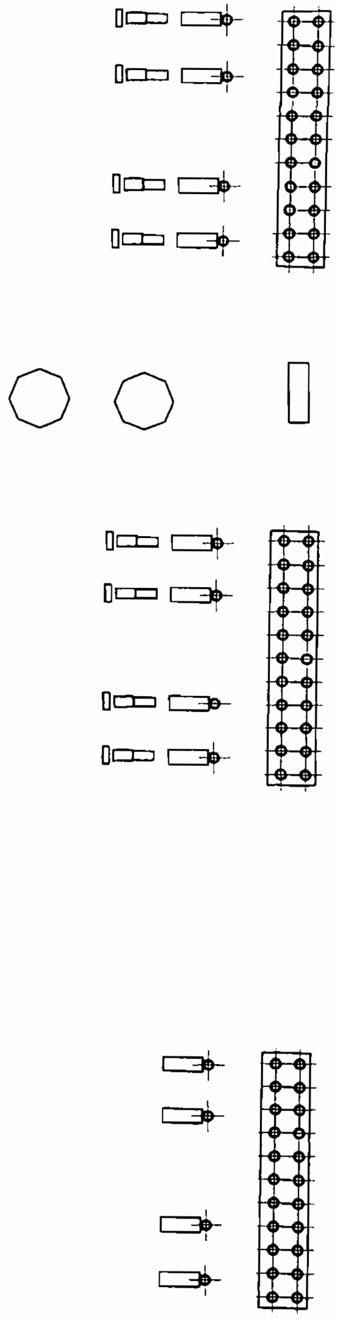

Figure E-5. Plot Plan of Buildings Used in BPIP Analysis

Source: Golder, 2005.

Golder Associates

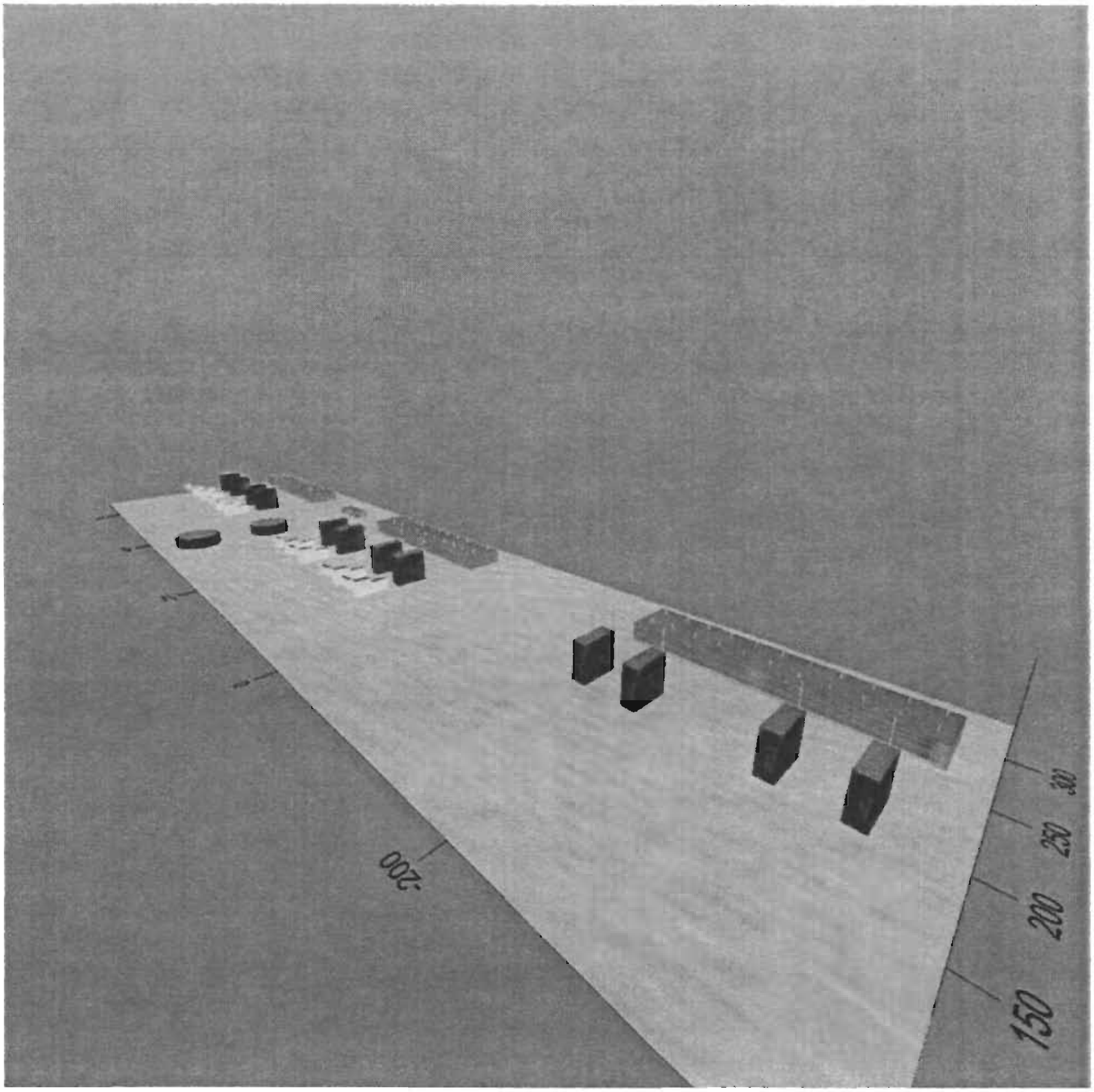

Figure E-6. Buildings Used in BPIP Analysis

Source: Golder, 2005.

Golder Associates

APPENDIX F

MODEL SUMMARY AND INPUT FILES

Table F-1. Maximum Pollutant Concentrations Predicted for One Combustion Turbine in Combined Cycle Operation- GE 7FB CT - 2200 MW Scenario

											Maximum Predicted Concentrations (ug/m^3) by Operating Load and Air Inlet Temperature [a]								
	Baseload [b]			75% Load			60% Load			Averaging	Baseload			75% Load			60% Load		
Pollutant	35°F	59°F	95°F	35°F	59°F	95°F	35°F	59°F	95°F	Time	35°F	59°F	95°F	35°F	59°F	95°F	35°F	59°F	95°F
<u>Natural Gas</u>																			
Generic (20 g/s)	158.73	158.73	158.73	158.73	158.73	158.73	158.73	158.73	158.73	Annual	0.339	0.362	0.439	0.531	0.541	0.561	0.686	0.689	0.640
										24-Hour	5.180	5.386	5.854	6.759	6.912	7.252	8.586	8.633	8.043
										8-Hour	12.553	13.104	14.137	15.690	15.910	16.357	18.003	18.038	17.349
										3-Hour	20.907	21.699	23.162	25.327	25.629	26.240	28.469	28.515	27.589
										1-Hour	34.092	35.135	36.994	39.957	40.341	41.113	44.612	44.589	43.179
SO_2	14.0	13.6	12.6	8.4	8.0	7.4	6.9	6.6	6.6	Annual	0.0299	0.0311	0.0349	0.0280	0.0274	0.0262	0.0298	0.0286	0.0266
										24-Hour	0.457	0.463	0.465	0.357	0.350	0.339	0.373	0.359	0.334
										3-Hour	1.84	1.86	1.84	1.34	1.30	1.23	1.24	1.19	1.15
PM_{10}	14.6	14.5	14.3	10.7	10.6	10.5	10.4	10.3	10.2	Annual	0.0311	0.0331	0.0395	0.0358	0.0362	0.0371	0.0448	0.0447	0.0411
										24-Hour	0.476	0.492	0.527	0.455	0.463	0.480	0.560	0.560	0.517
NO_x/ NO_2	26.1	24.9	23.5	14.6	14.0	12.8	12.7	12.2	12.2	Annual	0.0557	0.0568	0.0649	0.0488	0.0477	0.0452	0.0549	0.0530	0.0492
CO	74.0	72.0	67.0	42.0	41.0	39.0	38.0	37.0	38.0	8-Hour	5.85	5.94	5.97	4.15	4.11	4.02	4.31	4.20	4.15
										1-Hour	15.89	15.94	15.62	10.57	10.42	10.10	10.68	10.39	10.34
<u>Fuel Oil</u>																			
Generic (20 g/s)	158.73	158.73	158.73	158.73	158.73	158.73	158.73	158.73	158.73	Annual	0.150	0.177	0.225	0.289	0.297	0.336	0.376	0.383	0.299
										24-Hour	2.924	3.160	3.619	4.315	4.448	4.854	5.305	5.431	4.517
										8-Hour	8.045	8.571	9.662	11.094	11.360	12.164	13.035	13.252	10.803
										3-Hour	13.801	14.741	16.550	18.711	19.102	20.277	21.550	21.858	16.856
										1-Hour	23.056	24.368	26.840	29.942	30.432	31.950	33.847	34.210	24.625
SO_2	3.1	3.0	2.7	2.5	2.4	2.2	2.0	1.9	1.7	Annual	0.00294	0.00333	0.00382	0.00462	0.00457	0.00470	0.00468	0.00460	0.00327
										24-Hour	0.0573	0.0595	0.0614	0.0691	0.0684	0.0679	0.0660	0.0652	0.0493
										3-Hour	0.270	0.278	0.281	0.299	0.294	0.284	0.268	0.262	0.184
PM_{10}	17.6	17.6	17.5	17.5	17.5	17.4	17.4	17.4	17.4	Annual	0.0167	0.0196	0.0249	0.0319	0.0327	0.0369	0.0412	0.0419	0.0327
										24-Hour	0.325	0.350	0.400	0.476	0.490	0.534	0.582	0.595	0.494
NO_x/ NO_2	84.8	80.7	69.8	68.3	64.3	55.5	58.6	55.2	53.1	Annual	0.0801	0.0900	0.0989	0.1244	0.1203	0.1174	0.1387	0.1333	0.1000
CO	65.0	62.0	56.0	53.0	51.0	47.0	44.0	43.0	41.0	8-Hour	3.29	3.35	3.41	3.70	3.65	3.60	3.61	3.59	2.79
										1-Hour	9.44	9.52	9.47	10.00	9.78	9.46	9.38	9.27	6.36

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, 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.

[b] Duct firing included at 100 % operating load. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 550 MMBtu/hr (HHV).

Table F-2. Maximum Pollutant Concentrations Predicted for One Combustion Turbine in Combined Cycle Operation- G-CLASS CT - 2200 MW Scenario

	Maximum Emission Rates (lb/hr)							Maximum Predicted Concentrations (ug/m3)					
	Baseload [b]			75% Load			Averaging	Baseload			75% Load		
Pollutant	35°F	59°F	95°F	35°F	59°F	95°F	Time	35°F	59°F	95°F	35°F	59°F	95°F
Natural Gas													
Generic (20 g/s)	158.73	158.73	158.73	158.73	158.73	158.73	Annual	0.255	0.273	0.310	0.460	0.503	0.540
							24-Hour	5.129	5.562	5.938	7.646	8.060	8.517
							8-Hour	12.861	13.713	14.439	17.569	18.269	19.188
							3-Hour	20.244	21.434	22.436	26.679	27.607	28.578
							1-Hour	30.476	31.884	33.013	38.255	39.320	40.345
SO_2	17.4	16.5	16.2	11.7	11.3	10.8	Annual	0.0280	0.0283	0.0317	0.0339	0.0358	0.0367
							24-Hour	0.563	0.577	0.607	0.564	0.574	0.579
							3-Hour	2.22	2.22	2.29	1.97	1.97	1.94
PM_{10}	11.5	11.1	10.7	8.0	8.0	8.0	Annual	0.0185	0.0191	0.0209	0.0232	0.0254	0.0272
							24-Hour	0.372	0.389	0.400	0.385	0.406	0.429
NO_x/ NO_2	31.8	30.2	30.0	20.0	19.0	18.0	Annual	0.0511	0.0520	0.0587	0.0580	0.0602	0.0612
CO	46.2	46.9	46.3	47.0	45.0	42.0	8-Hour	3.74	4.05	4.22	5.20	5.18	5.08
							1-Hour	8.87	9.43	9.64	11.33	11.15	10.68
Fuel Oil													
Generic (20 g/s)	158.73	158.73	158.73	158.73	158.73	158.73	Annual	0.109	0.114	0.149	0.215	0.242	0.255
							24-Hour	2.824	2.961	3.327	4.443	4.690	4.982
							8-Hour	7.911	8.299	9.084	11.413	11.910	12.476
							3-Hour	12.769	13.433	14.730	18.128	18.838	19.638
							1-Hour	19.745	20.579	22.176	26.530	27.381	28.276
SO_2	4.1	3.9	3.7	3.0	2.9	2.7	Annual	0.00278	0.00278	0.00349	0.00406	0.00438	0.00436
							24-Hour	0.0721	0.0721	0.0779	0.0839	0.0849	0.0852
							3-Hour	0.326	0.327	0.345	0.342	0.341	0.336
PM_{10} [c]	58.0	55.4	50.4	61.5	59.0	54.6	Annual	0.0398	0.0398	0.0473	0.0833	0.0900	0.0878
							24-Hour	1.032	1.033	1.056	1.722	1.744	1.715
NO_x/ NO_2	108.0	103.0	99.0	80.0	77.0	73.0	Annual	0.0742	0.0740	0.0929	0.1084	0.1174	0.1173
CO	46.0	44.0	43.0	121.0	116.0	110.0	8-Hour	2.29	2.30	2.46	8.70	8.70	8.65
							1-Hour	5.72	5.70	6.01	20.22	20.01	19.60

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, 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) per power block. 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.

[b] Duct firing included at 100 % operating load. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 475 MMBtu/hr (HHV).

[c] Based on filerable PM_{10} emission rate assuming 80% of total PM_{10} emissions is filterable.

Table F-3. Maximum Pollutant Concentrations Predicted for One Combustion Turbine in Combined Cycle Operation- GE 7FB CT - 3300 MW Scenario

	Baseload [b]			75% Load			60% Load			Averaging	Maximum Predicted Concentrations (ug/m³) by Operating Load and Air Inlet Temperature [a]: Baseload			75% Load			60% Load		
Pollutant	35°F	59°F	95°F	35°F	59°F	95°F	35°F	59°F	95°F	Time	35°F	59°F	95°F	35°F	59°F	95°F	35°F	59°F	95°F
Natural Gas																			
Generic (30 g/s)	238.10	238.10	238.10	238.10	238.10	238.10	238.10	238.10	238.10	Annual	0.485	0.522	0.580	0.687	0.698	0.719	0.887	0.882	0.817
										24-Hour	5.593	5.842	6.313	7.084	7.190	7.513	8.933	8.994	8.358
										8-Hour	14.634	15.280	16.487	18.363	18.622	19.148	21.231	21.258	20.394
										3-Hour	24.920	25.847	27.501	30.165	30.503	31.188	34.436	34.411	33.104
										1-Hour	40.911	42.228	44.552	48.287	48.757	49.699	54.154	54.110	52.326
SO_2	14.0	13.6	12.6	8.4	8.0	7.4	6.9	6.6	6.6	Annual	0.0285	0.0299	0.0307	0.0242	0.0235	0.0224	0.0257	0.0244	0.0226
										24-Hour	0.329	0.335	0.334	0.249	0.242	0.234	0.259	0.249	0.232
										3-Hour	1.46	1.48	1.46	1.06	1.03	0.97	1.00	0.95	0.92
PM_{10}	14.6	14.5	14.3	10.7	10.6	10.5	10.4	10.3	10.2	Annual	0.0297	0.0318	0.0348	0.0309	0.0311	0.0317	0.0386	0.0382	0.0350
										24-Hour	0.342	0.356	0.379	0.318	0.321	0.331	0.389	0.389	0.358
NO_x/NO_2	26.1	24.9	23.5	14.6	14.0	12.8	12.7	12.2	12.2	Annual	0.0531	0.0546	0.0572	0.0421	0.0410	0.0387	0.0473	0.0452	0.0419
CO	74.0	72.0	67.0	42.0	41.0	39.0	38.0	37.0	38.0	8-Hour	4.55	4.62	4.64	3.24	3.21	3.14	3.39	3.30	3.25
										1-Hour	12.72	12.77	12.54	8.52	8.40	8.14	8.64	8.41	8.35
Fuel Oil																			
Generic (20 g/s)	238.10	238.10	238.10	238.10	238.10	238.10	238.10	238.10	238.10	Annual	0.217	0.237	0.278	0.344	0.353	0.386	0.440	0.446	0.509
										24-Hour	3.409	3.675	4.137	4.765	4.878	5.227	5.641	5.734	6.347
										8-Hour	9.287	9.889	11.134	12.776	13.073	13.979	14.999	15.241	16.561
										3-Hour	15.374	16.375	18.326	20.918	21.330	22.637	24.378	24.690	26.482
										1-Hour	26.649	28.193	31.155	35.034	35.635	37.533	40.052	40.494	43.028
SO_2	3.1	3.0	2.7	2.5	2.4	2.2	2.0	1.9	1.7	Annual	0.00283	0.00297	0.00315	0.00367	0.00362	0.00360	0.00365	0.00357	0.00371
										24-Hour	0.0445	0.0461	0.0468	0.0508	0.0500	0.0487	0.0468	0.0459	0.0462
										3-Hour	0.201	0.206	0.207	0.223	0.219	0.211	0.202	0.198	0.193
PM_{10}	17.6	17.6	17.5	17.5	17.5	17.4	17.4	17.4	17.4	Annual	0.0161	0.0175	0.0205	0.0253	0.0259	0.0283	0.0322	0.0326	0.0371
										24-Hour	0.252	0.272	0.305	0.350	0.358	0.383	0.412	0.419	0.463
NO_x/NO_2	84.8	80.7	69.8	68.3	64.3	55.5	58.6	55.2	53.1	Annual	0.0773	0.0803	0.0815	0.0987	0.0953	0.0899	0.1082	0.1035	0.1135
CO	65.0	62.0	56.0	53.0	51.0	47.0	44.0	43.0	41.0	8-Hour	2.54	2.58	2.62	2.84	2.80	2.76	2.77	2.75	2.85
										1-Hour	7.28	7.34	7.33	7.80	7.63	7.41	7.40	7.31	7.41

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, 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.

[b] Duct firing included at 100 % operating load. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 550 MMBtu/hr (HHV).

Table F-4. Maximum Pollutant Concentrations Predicted for One Combustion Turbine in Combined Cycle Operation- G-CLASS CT - 3300 MW Scenario

	Maximum Emission Rates (lb/hr)							Maximum Predicted Concentrations (ug/m3)					
	Baseload [b]			75% Load			Averaging	Baseload			75% Load		
Pollutant	35°F	59°F	95°F	35°F	59°F	95°F	Time	35°F	59°F	95°F	35°F	59°F	95°F
Natural Gas													
Generic (30 g/s)	238.10	238.10	238.10	238.10	238.10	238.10	Annual	0.355	0.382	0.413	0.573	0.610	0.639
							24-Hour	5.461	5.812	6.117	7.856	8.292	8.770
							8-Hour	14.707	15.660	16.467	20.096	20.908	21.746
							3-Hour	21.628	22.853	23.834	28.622	29.587	30.489
							1-Hour	36.135	37.902	39.300	46.051	47.388	48.631
SO_2	17.4	16.5	16.2	11.7	11.3	10.8	Annual	0.0260	0.0264	0.0281	0.0282	0.0290	0.0290
							24-Hour	0.400	0.402	0.417	0.386	0.394	0.398
							3-Hour	1.58	1.58	1.62	1.41	1.40	1.38
PM_{10}	11.5	11.1	10.7	8.0	8.0	8.0	Annual	0.0171	0.0178	0.0186	0.0193	0.0205	0.0215
							24-Hour	0.264	0.271	0.275	0.264	0.279	0.295
NO_x/ NO_2	31.8	30.2	30.0	20.0	19.0	18.0	Annual	0.0474	0.0485	0.0521	0.0481	0.0487	0.0483
CO	46.2	46.9	46.3	47.0	45.0	42.0	8-Hour	2.85	3.09	3.21	3.97	3.95	3.84
							1-Hour	7.01	7.47	7.65	9.09	8.96	8.58
Fuel Oil													
Generic (20 g/s)	238.10	238.10	238.10	238.10	238.10	238.10	Annual	0.160	0.169	0.185	0.249	0.272	0.286
							24-Hour	3.244	3.400	3.754	4.717	4.924	5.155
							8-Hour	9.011	9.448	10.331	12.950	13.505	14.131
							3-Hour	13.118	13.794	15.116	18.584	19.307	20.121
							1-Hour	22.763	23.725	25.566	30.675	31.703	32.775
SO_2	4.1	3.9	3.7	3.0	2.9	2.7	Annual	0.00272	0.00274	0.00289	0.00314	0.00328	0.00326
							24-Hour	0.0552	0.0552	0.0586	0.0594	0.0594	0.0588
							3-Hour	0.223	0.224	0.236	0.234	0.233	0.230
PM_{10} [c]	58.0	55.4	50.4	61.5	59.0	54.6	Annual	0.0390	0.0393	0.0392	0.0643	0.0674	0.0656
							24-Hour	0.790	0.791	0.795	1.219	1.221	1.183
NO_x/ NO_2	108.0	103.0	99.0	80.0	77.0	73.0	Annual	0.0726	0.0731	0.0769	0.0837	0.0880	0.0877
CO	46.0	44.0	43.0	121.0	116.0	110.0	8-Hour	1.74	1.75	1.87	6.58	6.58	6.53
							1-Hour	4.40	4.38	4.62	15.59	15.45	15.14

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 1987 to 1991 of surface and upper air data from the National Weather Service stations at Miami and Palm Beach International Airports, 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) per power block. 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.

[b] Duct firing included at 100 % operating load. Duct firing based on natural gas-fired duct burner with maximum heat input rate of 475 MMBtu/hr (HHV).

[c] Based on filerable PM_{10} emission rate assuming 80% of total PM_{10} emissions is filterable.

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ISCST3 OUTPUT FILE NUMBER 1 :GCTGAS22.087
ISCST3 OUTPUT FILE NUMBER 2 :GCTGAS22.088
ISCST3 OUTPUT FILE NUMBER 3 :GCTGAS22.089
ISCST3 OUTPUT FILE NUMBER 4 :GCTGAS22.090
ISCST3 OUTPUT FILE NUMBER 5 :GCTGAS22.091
First title for last output file is: 1987 FPL WEST COUNTY 2200MW CC GENERIC EMIS. 10 G/S 2/20/05
Second title for last output file is: GENERIC CT LOAD/SIG IMPACT ANALYSIS, GE 7FB MACHINES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	G6035				
Annual					
	1987	0.638	371.0	360.7	87123124
	1988	0.686	371.0	360.7	88123124
	1989	0.616	-1200.0	1700.0	89123124
	1990	0.615	-1500.0	1600.0	90123124
	1991	0.586	-1400.0	1500.0	91123124
HIGH 24-Hour					
	1987	8.586	400.0	-100.0	87101324
	1988	7.849	376.8	753.2	88110524
	1989	8.033	363.7	-129.9	89102024
	1990	7.164	-175.6	1117.9	90101024
	1991	7.676	371.0	360.7	91030924
HIGH 8-Hour					
	1987	17.621	378.3	851.3	87021616
	1988	12.968	371.0	360.7	88110516
	1989	13.296	364.4	-80.8	89031016
	1990	10.452	361.5	-277.1	90011316
	1991	18.003	378.3	851.3	91030316
HIGH 3-Hour					
	1987	23.492	378.3	851.3	87021615
	1988	22.380	300.0	1100.0	88112309
	1989	19.614	363.0	-178.9	89031018
	1990	15.747	379.7	949.4	90022312
	1991	28.469	379.0	900.3	91030312
HIGH 1-Hour					
	1987	29.214	300.0	1100.0	87012211
	1988	33.720	300.0	1100.0	88112308
	1989	27.828	293.3	1099.0	89050114
	1990	22.580	205.1	1506.3	90041113
	1991	44.612	300.0	1100.0	91030314
SOURCE GROUP ID:	G7535				
Annual					
	1987	0.493	371.0	360.7	87123124
	1988	0.531	371.0	360.7	88123124
	1989	0.475	-1300.0	1800.0	89123124
	1990	0.470	-1700.0	1700.0	90123124
	1991	0.451	-1700.0	1700.0	91123124
HIGH 24-Hour					
	1987	6.759	400.0	-100.0	87101324
	1988	6.231	376.8	753.2	88110524
	1989	6.439	363.7	-129.9	89102024
	1990	5.721	-175.8	1068.4	90101024
	1991	6.208	371.0	360.7	91030924
HIGH 8-Hour					
	1987	14.916	378.3	851.3	87021616
	1988	10.640	293.3	1099.0	88112308
	1989	10.594	364.4	-80.8	89031016
	1990	8.132	361.5	-277.1	90011316
	1991	15.690	378.3	851.3	91030316
HIGH 3-Hour					
	1987	19.995	378.3	851.3	87021615
	1988	18.663	300.0	1100.0	88112309
	1989	16.433	363.0	-178.9	89031018
	1990	12.415	379.7	949.4	90022312
	1991	25.327	379.0	900.3	91030312
HIGH 1-Hour					
	1987	24.375	373.2	507.9	87021613
	1988	28.282	300.0	1100.0	88112308
	1989	23.085	293.3	1099.0	89050114
	1990	20.277	207.1	-864.5	90050111
	1991	39.957	300.0	1100.0	91030314
SOURCE GROUP ID:	GD1035				
Annual					
	1987	0.306	371.0	360.7	87123124
	1988	0.339	371.0	360.7	88123124
	1989	0.330	-1750.0	2250.0	89123124
	1990	0.328	-2250.0	2000.0	90123124

	1991	0.310	-2250.0	2000.0	91123124
HIGH 24-Hour					
	1987	5.180	400.0	-100.0	87101324
	1988	4.603	400.0	800.0	88110524
	1989	4.617	363.7	-129.9	89102024
	1990	4.173	-175.8	1068.4	90101024
	1991	4.748	378.3	851.3	91030324
HIGH 8-Hour					
	1987	11.265	378.3	851.3	87021616
	1988	8.052	293.3	1099.0	88112308
	1989	7.886	364.4	-80.8	89031016
	1990	6.125	361.5	-277.1	90011316
	1991	12.553	378.3	851.3	91030316
HIGH 3-Hour					
	1987	15.220	378.3	851.3	87021615
	1988	14.175	300.0	1100.0	88112309
	1989	12.138	363.0	-178.9	89031018
	1990	9.453	379.7	949.4	90022312
	1991	20.907	379.0	900.3	91030312
HIGH 1-Hour					
	1987	19.187	360.8	-326.1	87101214
	1988	21.653	300.0	1100.0	88112308
	1989	18.705	293.3	1099.0	89050114
	1990	19.854	207.1	-864.5	90050111
	1991	34.092	300.0	1100.0	91030314
SOURCE GROUP ID:	G6059				
Annual					
	1987	0.642	371.0	360.7	87123124
	1988	0.689	371.0	360.7	88123124
	1989	0.613	-1200.0	1700.0	89123124
	1990	0.611	-1500.0	1600.0	90123124
	1991	0.583	-1400.0	1500.0	91123124
HIGH 24-Hour					
	1987	8.633	400.0	-100.0	87101324
	1988	7.889	376.8	753.2	88110524
	1989	8.075	363.7	-129.9	89102024
	1990	7.166	-175.6	1117.9	90101024
	1991	7.705	371.0	360.7	91030924
HIGH 8-Hour					
	1987	17.677	378.3	851.3	87021616
	1988	13.050	371.0	360.7	88110516
	1989	13.379	364.4	-80.8	89031016
	1990	10.503	361.5	-277.1	90011316
	1991	18.038	378.3	851.3	91030316
HIGH 3-Hour					
	1987	23.563	378.3	851.3	87021615
	1988	22.411	300.0	1100.0	88112309
	1989	19.698	363.0	-178.9	89031018
	1990	15.811	379.7	949.4	90022312
	1991	28.515	379.0	900.3	91030312
HIGH 1-Hour					
	1987	29.245	300.0	1100.0	87012211
	1988	33.766	300.0	1100.0	88112308
	1989	27.826	293.3	1099.0	89050114
	1990	22.527	205.1	1506.3	90041113
	1991	44.589	300.0	1100.0	91030314
SOURCE GROUP ID:	G7559				
Annual					
	1987	0.502	371.0	360.7	87123124
	1988	0.541	371.0	360.7	88123124
	1989	0.482	-1300.0	1800.0	89123124
	1990	0.479	-1700.0	1700.0	90123124
	1991	0.460	-1600.0	1600.0	91123124
HIGH 24-Hour					
	1987	6.912	400.0	-100.0	87101324
	1988	6.377	376.8	753.2	88110524
	1989	6.580	363.7	-129.9	89102024
	1990	5.835	-175.8	1068.4	90101024
	1991	6.327	371.0	360.7	91030924
HIGH 8-Hour					
	1987	15.183	378.3	851.3	87021616
	1988	10.828	293.3	1099.0	88112308
	1989	10.854	364.4	-80.8	89031016
	1990	8.331	361.5	-277.1	90011316
	1991	15.910	378.3	851.3	91030316
HIGH 3-Hour					
	1987	20.340	378.3	851.3	87021615
	1988	18.987	300.0	1100.0	88112309
	1989	16.756	363.0	-178.9	89031018
	1990	12.686	379.7	949.4	90022312
	1991	25.629	379.0	900.3	91030312
HIGH 1-Hour					

	1987	24.780	373.2	507.9	87021613
	1988	28.758	300.0	1100.0	88112308
	1989	23.468	293.3	1099.0	89050114
	1990	20.298	207.1	-864.5	90050111
	1991	40.341	300.0	1100.0	91030314
SOURCE GROUP ID:	GD1059				
Annual					
	1987	0.327	371.0	360.7	87123124
	1988	0.362	371.0	360.7	88123124
	1989	0.357	-1500.0	2000.0	89123124
	1990	0.351	-2000.0	1900.0	90123124
	1991	0.335	-1900.0	1800.0	91123124
HIGH 24-Hour					
	1987	5.386	400.0	-100.0	87101324
	1988	4.865	400.0	800.0	88110524
	1989	4.912	363.7	-129.9	89102024
	1990	4.419	-175.8	1068.4	90101024
	1991	4.956	378.3	851.3	91030324
HIGH 8-Hour					
	1987	11.895	378.3	851.3	87021616
	1988	8.496	293.3	1099.0	88112308
	1989	8.295	364.4	-80.8	89031016
	1990	6.392	361.5	-277.1	90011316
	1991	13.104	378.3	851.3	91030316
HIGH 3-Hour					
	1987	16.051	378.3	851.3	87021615
	1988	14.947	300.0	1100.0	88112309
	1989	12.872	363.0	-178.9	89031018
	1990	9.800	379.7	949.4	90022312
	1991	21.699	379.0	900.3	91030312
HIGH 1-Hour					
	1987	20.092	360.8	-326.1	87101214
	1988	22.798	300.0	1100.0	88112308
	1989	19.212	293.3	1099.0	89050114
	1990	19.932	207.1	-864.5	90050111
	1991	35.135	300.0	1100.0	91030314
SOURCE GROUP ID:	G6095				
Annual					
	1987	0.595	371.0	360.7	87123124
	1988	0.640	371.0	360.7	88123124
	1989	0.565	-1200.0	1700.0	89123124
	1990	0.563	-1500.0	1600.0	90123124
	1991	0.539	-1600.0	1600.0	91123124
HIGH 24-Hour					
	1987	8.043	400.0	-100.0	87101324
	1988	7.364	376.8	753.2	88110524
	1989	7.565	363.7	-129.9	89102024
	1990	6.700	-175.6	1117.9	90101024
	1991	7.244	371.0	360.7	91030924
HIGH 8-Hour					
	1987	16.874	378.3	851.3	87021616
	1988	12.277	371.0	360.7	88110516
	1989	12.556	364.4	-80.8	89031016
	1990	9.772	361.5	-277.1	90011316
	1991	17.349	378.3	851.3	91030316
HIGH 3-Hour					
	1987	22.528	378.3	851.3	87021615
	1988	21.254	300.0	1100.0	88112309
	1989	18.757	363.0	-178.9	89031018
	1990	14.676	379.7	949.4	90022312
	1991	27.589	379.0	900.3	91030312
HIGH 1-Hour					
	1987	27.633	300.0	1100.0	87012211
	1988	32.079	300.0	1100.0	88112308
	1989	26.359	293.3	1099.0	89050114
	1990	21.351	205.1	1506.3	90041113
	1991	43.179	300.0	1100.0	91030314
SOURCE GROUP ID:	G7595				
Annual					
	1987	0.522	371.0	360.7	87123124
	1988	0.561	371.0	360.7	88123124
	1989	0.498	-1300.0	1800.0	89123124
	1990	0.494	-1700.0	1700.0	90123124
	1991	0.474	-1600.0	1600.0	91123124
HIGH 24-Hour					
	1987	7.252	400.0	-100.0	87101324
	1988	6.677	376.8	753.2	88110524
	1989	6.882	363.7	-129.9	89102024
	1990	6.069	-175.8	1068.4	90101024
	1991	6.581	371.0	360.7	91030924
HIGH 8-Hour					
	1987	15.726	378.3	851.3	87021616

	1988	11.211	293.3	1099.0	88112308
	1989	11.411	364.4	-80.8	89031016
	1990	8.766	361.5	-277.1	90011316
	1991	16.357	378.3	851.3	91030316
HIGH 3-Hour					
	1987	21.042	378.3	851.3	87021615
	1988	19.648	300.0	1100.0	88112309
	1989	17.417	363.0	-178.9	89031018
	1990	13.243	379.7	949.4	90022312
	1991	26.240	379.0	900.3	91030312
HIGH 1-Hour					
	1987	25.603	373.2	507.9	87021613
	1988	29.726	300.0	1100.0	88112308
	1989	24.257	293.3	1099.0	89050114
	1990	20.340	207.1	-864.5	90050111
	1991	41.113	300.0	1100.0	91030314
SOURCE GROUP ID:	GD1095				
Annual					
	1987	0.399	371.0	360.7	87123124
	1988	0.439	371.0	360.7	88123124
	1989	0.398	-1400.0	2000.0	89123124
	1990	0.393	-2000.0	1900.0	90123124
	1991	0.372	-1900.0	1800.0	91123124
HIGH 24-Hour					
	1987	5.854	378.3	851.3	87021624
	1988	5.356	400.0	800.0	88110524
	1989	5.513	363.7	-129.9	89102024
	1990	4.900	-175.8	1068.4	90101024
	1991	5.418	371.0	360.7	91030924
HIGH 8-Hour					
	1987	13.100	378.3	851.3	87021616
	1988	9.332	293.3	1099.0	88112308
	1989	9.108	364.4	-80.8	89031016
	1990	6.917	361.5	-277.1	90011316
	1991	14.137	378.3	851.3	91030316
HIGH 3-Hour					
	1987	17.632	378.3	851.3	87021615
	1988	16.400	300.0	1100.0	88112309
	1989	14.295	363.0	-178.9	89031018
	1990	10.530	379.7	949.4	90022312
	1991	23.162	379.0	900.3	91030312
HIGH 1-Hour					
	1987	21.782	360.8	-326.1	87101214
	1988	24.944	300.0	1100.0	88112308
	1989	20.268	293.3	1099.0	89050114
	1990	20.056	207.1	-864.5	90050111
	1991	36.994	300.0	1100.0	91030314

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :GCTOIL22.087
ISCST3 OUTPUT FILE NUMBER 2 :GCTOIL22.088
ISCST3 OUTPUT FILE NUMBER 3 :GCTOIL22.089
ISCST3 OUTPUT FILE NUMBER 4 :GCTOIL22.090
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First title for last output file is: 1987 FPL WEST COUNTY 2200MW CC GENERIC EMIS. 10 G/S 2/15/05
Second title for last output file is: GENERIC CT LOAD/SIG IMPACT ANALYSIS, GE 7FB MACHINES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	06035				
Annual					
	1987	0.347	371.0	360.7	87123124
	1988	0.376	371.0	360.7	88123124
	1989	0.325	371.0	360.7	89123124
	1990	0.300	-2250.0	2000.0	90123124
	1991	0.303	371.0	360.7	91123124
HIGH 24-Hour					
	1987	5.305	378.3	851.3	87021624
	1988	4.608	376.8	753.2	88110524
	1989	4.827	363.7	-129.9	89102024
	1990	4.152	-175.8	1068.4	90101024
	1991	4.851	378.3	851.3	91030324
HIGH 8-Hour					
	1987	12.037	378.3	851.3	87021616
	1988	8.272	293.3	1099.0	88112308
	1989	8.111	364.4	-80.8	89031016
	1990	5.857	361.5	-277.1	90011316
	1991	13.035	378.3	851.3	91030316
HIGH 3-Hour					
	1987	16.227	378.3	851.3	87021615
	1988	14.545	300.0	1100.0	88112309
	1989	13.211	363.0	-178.9	89031018
	1990	8.756	379.7	949.4	90022312
	1991	21.550	379.0	900.3	91030312
HIGH 1-Hour					
	1987	19.774	360.8	-326.1	87101214
	1988	22.182	300.0	1100.0	88112308
	1989	17.828	368.8	213.5	89031016
	1990	19.546	207.1	-864.5	90050111
	1991	33.847	300.0	1100.0	91030314
SOURCE GROUP ID:	07535				
Annual					
	1987	0.263	371.0	360.7	87123124
	1988	0.289	371.0	360.7	88123124
	1989	0.248	371.0	360.7	89123124
	1990	0.233	-2750.0	2250.0	90123124
	1991	0.233	371.0	360.7	91123124
HIGH 24-Hour					
	1987	4.315	378.3	851.3	87021624
	1988	3.658	400.0	800.0	88110524
	1989	3.816	363.7	-129.9	89102024
	1990	3.277	-175.9	1019.0	90101024
	1991	4.102	378.3	851.3	91030324
HIGH 8-Hour					
	1987	9.843	378.3	851.3	87021616
	1988	6.725	293.3	1099.0	88112308
	1989	6.479	364.4	-80.8	89031016
	1990	4.647	362.2	-228.0	90011316
	1991	11.094	378.3	851.3	91030316
HIGH 3-Hour					
	1987	13.341	378.3	851.3	87021615
	1988	11.844	300.0	1100.0	88112309
	1989	10.666	363.0	-178.9	89031018
	1990	6.836	379.7	949.4	90022312
	1991	18.711	379.0	900.3	91030312
HIGH 1-Hour					
	1987	16.563	360.8	-326.1	87101214
	1988	18.164	300.0	1100.0	88112308
	1989	14.543	368.8	213.5	89031016
	1990	19.222	207.1	-864.5	90050111
	1991	29.942	300.0	1100.0	91030314
SOURCE GROUP ID:	01035				
Annual					
	1987	0.126	371.0	360.7	87123124
	1988	0.150	371.0	360.7	88123124
	1989	0.141	-3000.0	3500.0	89123124
	1990	0.146	-4000.0	3000.0	90123124

	1991	0.144	-3500.0	2500.0	91123124
HIGH 24-Hour					
	1987	2.863	378.3	851.3	87021624
	1988	2.266	364.4	-80.8	88120224
	1989	2.553	363.7	-129.9	89102024
	1990	2.138	-175.9	1019.0	90101024
	1991	2.924	378.3	851.3	91030324
HIGH 8-Hour					
	1987	6.481	378.3	851.3	87021616
	1988	4.369	293.3	1099.0	88112308
	1989	4.437	364.4	-80.8	89031016
	1990	3.287	362.2	-228.0	90011316
	1991	8.045	378.3	851.3	91030316
HIGH 3-Hour					
	1987	8.698	378.3	851.3	87021615
	1988	7.662	300.0	1100.0	88112309
	1989	6.844	363.0	-178.9	89031018
	1990	4.908	379.7	949.4	90022312
	1991	13.801	379.0	900.3	91030312
HIGH 1-Hour					
	1987	11.344	360.8	-326.1	87101214
	1988	11.897	-600.0	-600.0	88071511
	1989	11.145	293.3	1099.0	89050114
	1990	10.961	1100.0	1400.0	90081611
	1991	23.056	300.0	1100.0	91030314
SOURCE GROUP ID:	05059				
Annual					
	1987	0.354	371.0	360.7	87123124
	1988	0.383	371.0	360.7	88123124
	1989	0.332	371.0	360.7	89123124
	1990	0.305	-176.4	870.5	90123124
	1991	0.309	371.0	360.7	91123124
HIGH 24-Hour					
	1987	5.431	378.3	851.3	87021624
	1988	4.736	376.8	753.2	88110524
	1989	4.950	363.7	-129.9	89102024
	1990	4.246	-175.8	1068.4	90101024
	1991	4.931	378.3	851.3	91030324
HIGH 8-Hour					
	1987	12.297	378.3	851.3	87021616
	1988	8.438	293.3	1099.0	88112308
	1989	8.348	364.4	-80.8	89031016
	1990	6.020	361.5	-277.1	90011316
	1991	13.252	378.3	851.3	91030316
HIGH 3-Hour					
	1987	16.567	378.3	851.3	87021615
	1988	14.835	300.0	1100.0	88112309
	1989	13.522	363.0	-178.9	89031018
	1990	8.977	379.7	949.4	90022312
	1991	21.858	379.0	900.3	91030312
HIGH 1-Hour					
	1987	20.120	360.8	-326.1	87101214
	1988	22.610	300.0	1100.0	88112308
	1989	18.227	368.8	213.5	89031016
	1990	19.562	207.1	-864.5	90050111
	1991	34.210	300.0	1100.0	91030314
SOURCE GROUP ID:	07559				
Annual					
	1987	0.271	371.0	360.7	87123124
	1988	0.297	371.0	360.7	88123124
	1989	0.256	371.0	360.7	89123124
	1990	0.239	-2750.0	2250.0	90123124
	1991	0.240	371.0	360.7	91123124
HIGH 24-Hour					
	1987	4.448	378.3	851.3	87021624
	1988	3.768	400.0	800.0	88110524
	1989	3.934	363.7	-129.9	89102024
	1990	3.383	-175.9	1019.0	90101024
	1991	4.201	378.3	851.3	91030324
HIGH 8-Hour					
	1987	10.150	378.3	851.3	87021616
	1988	6.924	293.3	1099.0	88112308
	1989	6.668	364.4	-80.8	89031016
	1990	4.748	362.2	-228.0	90011316
	1991	11.360	378.3	851.3	91030316
HIGH 3-Hour					
	1987	13.746	378.3	851.3	87021615
	1988	12.192	300.0	1100.0	88112309
	1989	11.024	363.0	-178.9	89031018
	1990	7.010	379.7	949.4	90022312
	1991	19.102	379.0	900.3	91030312
HIGH 1-Hour					

	1987	16.988	360.8	-326.1	87101214
	1988	18.681	300.0	1100.0	88112308
	1989	15.009	368.8	213.5	89031016
	1990	19.250	207.1	-864.5	90050111
	1991	30.432	300.0	1100.0	91030314
SOURCE GROUP ID:	01059				
Annual					
	1987	0.158	371.0	360.7	87123124
	1988	0.177	371.0	360.7	88123124
	1989	0.157	-2500.0	3000.0	89123124
	1990	0.159	-4000.0	3000.0	90123124
	1991	0.155	-3500.0	2500.0	91123124
HIGH 24-Hour					
	1987	3.099	378.3	851.3	87021624
	1988	2.570	400.0	800.0	88110524
	1989	2.755	363.7	-129.9	89102024
	1990	2.307	-175.9	1019.0	90101024
	1991	3.160	378.3	851.3	91030324
HIGH 8-Hour					
	1987	7.076	378.3	851.3	87021616
	1988	4.782	293.3	1099.0	88112308
	1989	4.746	364.4	-80.8	89031016
	1990	3.502	362.2	-228.0	90011316
	1991	8.571	378.3	851.3	91030316
HIGH 3-Hour					
	1987	9.556	378.3	851.3	87021615
	1988	8.408	300.0	1100.0	88112309
	1989	7.431	363.0	-178.9	89031018
	1990	5.214	379.7	949.4	90022312
	1991	14.741	379.0	900.3	91030312
HIGH 1-Hour					
	1987	12.305	360.8	-326.1	87101214
	1988	13.009	300.0	1100.0	88112308
	1989	11.701	293.3	1099.0	89050114
	1990	11.027	1100.0	1400.0	90081611
	1991	24.368	300.0	1100.0	91030314
SOURCE GROUP ID:	05095				
Annual					
	1987	0.264	371.0	360.7	87123124
	1988	0.299	371.0	360.7	88123124
	1989	0.269	371.0	360.7	89123124
	1990	0.230	-176.2	920.0	90123124
	1991	0.249	371.0	360.7	91123124
HIGH 24-Hour					
	1987	4.517	379.0	900.3	87021624
	1988	4.345	400.0	800.0	88110524
	1989	4.062	363.7	-129.9	89102024
	1990	3.217	-175.6	1117.9	90101024
	1991	3.795	378.3	851.3	91021424
HIGH 8-Hour					
	1987	10.803	379.0	900.3	87021616
	1988	7.966	400.0	800.0	88110516
	1989	6.139	363.7	-129.9	89102016
	1990	4.361	-176.1	969.5	90101008
	1991	9.895	379.0	900.3	91030316
HIGH 3-Hour					
	1987	13.273	379.0	900.3	87021615
	1988	12.357	377.5	802.2	88110515
	1989	10.483	362.2	-228.0	89031018
	1990	7.315	380.5	998.5	90022312
	1991	16.856	379.0	900.3	91030312
HIGH 1-Hour					
	1987	19.215	370.3	311.6	87021614
	1988	18.582	379.0	900.3	88022016
	1989	18.583	400.0	-100.0	89110307
	1990	12.125	207.1	-864.5	90050111
	1991	24.625	293.3	1099.0	91030314
SOURCE GROUP ID:	07595				
Annual					
	1987	0.310	371.0	360.7	87123124
	1988	0.336	371.0	360.7	88123124
	1989	0.291	371.0	360.7	89123124
	1990	0.264	-176.4	870.5	90123124
	1991	0.271	371.0	360.7	91123124
HIGH 24-Hour					
	1987	4.854	378.3	851.3	87021624
	1988	4.127	376.8	753.2	88110524
	1989	4.337	363.7	-129.9	89102024
	1990	3.719	-175.8	1068.4	90101024
	1991	4.504	378.3	851.3	91030324
HIGH 8-Hour					
	1987	11.077	378.3	851.3	87021616

	1988	7.543	293.3	1099.0	88112308
	1989	7.312	364.4	-80.8	89031016
	1990	5.202	362.2	-228.0	90011316
	1991	12.164	378.3	851.3	91030316
HIGH 3-Hour					
	1987	14.966	378.3	851.3	87021615
	1988	13.271	300.0	1100.0	88112309
	1989	12.108	363.0	-178.9	89031018
	1990	7.746	379.7	949.4	90022312
	1991	20.277	379.0	900.3	91030312
HIGH 1-Hour					
	1987	18.291	360.8	-326.1	87101214
	1988	20.286	300.0	1100.0	88112308
	1989	16.412	368.8	213.5	89031016
	1990	19.350	207.1	-864.5	90050111
	1991	31.950	300.0	1100.0	91030314
SOURCE GROUP ID:	01095				
Annual					
	1987	0.204	371.0	360.7	87123124
	1988	0.225	371.0	360.7	88123124
	1989	0.190	371.0	360.7	89123124
	1990	0.188	-3000.0	2500.0	90123124
	1991	0.182	-3000.0	2250.0	91123124
HIGH 24-Hour					
	1987	3.619	378.3	851.3	87021624
	1988	3.020	400.0	800.0	88110524
	1989	3.136	363.7	-129.9	89102024
	1990	2.689	-175.9	1019.0	90101024
	1991	3.561	378.3	851.3	91030324
HIGH 8-Hour					
	1987	8.286	378.3	851.3	87021616
	1988	5.618	293.3	1099.0	88112308
	1989	5.423	364.4	-80.8	89031016
	1990	3.927	362.2	-228.0	90011316
	1991	9.662	378.3	851.3	91030316
HIGH 3-Hour					
	1987	11.268	378.3	851.3	87021615
	1988	9.904	300.0	1100.0	88112309
	1989	8.886	363.0	-178.9	89031018
	1990	6.114	-2750.0	500.0	90070712
	1991	16.550	379.0	900.3	91030312
HIGH 1-Hour					
	1987	14.195	360.8	-326.1	87101214
	1988	15.258	300.0	1100.0	88112308
	1989	12.749	293.3	1099.0	89050114
	1990	11.225	1000.0	1300.0	90081611
	1991	26.840	300.0	1100.0	91030314

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :GCTGAS33.087
ISCST3 OUTPUT FILE NUMBER 2 :GCTGAS33.088
ISCST3 OUTPUT FILE NUMBER 3 :GCTGAS33.089
ISCST3 OUTPUT FILE NUMBER 4 :GCTGAS33.090
ISCST3 OUTPUT FILE NUMBER 5 :GCTGAS33.091
First title for last output file is: 1987 FPL WEST COUNTY 3300MW CC GENERIC EMIS. 10 G/S 2/20/05
Second title for last output file is: GENERIC CT LOAD/SIG IMPACT ANALYSIS, GE 7FB MACHINES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	G6035				
Annual					
	1987	0.730	-1700.0	1600.0	87123124
	1988	0.778	365.1	-31.8	88123124
	1989	0.885	-1300.0	1500.0	89123124
	1990	0.887	-1500.0	1500.0	90123124
	1991	0.846	-1400.0	1500.0	91123124
HIGH 24-Hour					
	1987	8.937	358.6	-473.3	87101324
	1988	8.088	376.8	753.2	88110524
	1989	8.827	357.9	-522.4	89102024
	1990	8.405	-900.0	1600.0	90101024
	1991	8.324	378.3	851.3	91030324
HIGH 8-Hour					
	1987	18.225	378.3	851.3	87021616
	1988	16.622	293.3	1099.0	88112308
	1989	14.314	358.6	-473.3	89031016
	1990	11.875	355.7	-669.5	90011316
	1991	21.231	378.3	851.3	91030316
HIGH 3-Hour					
	1987	23.495	378.3	851.3	87021615
	1988	27.010	300.0	1100.0	88112309
	1989	24.565	293.3	1099.0	89050115
	1990	18.807	255.6	-864.9	90021215
	1991	34.436	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	36.066	337.6	1097.8	87012211
	1988	41.017	300.0	1100.0	88112307
	1989	38.610	293.3	1099.0	89050114
	1990	31.514	205.1	1506.3	90041113
	1991	54.154	300.0	1100.0	91030314
SOURCE GROUP ID:	G7535				
Annual					
	1987	0.573	-1900.0	1700.0	87123124
	1988	0.594	365.1	-31.8	88123124
	1989	0.687	-1500.0	1700.0	89123124
	1990	0.686	-1800.0	1700.0	90123124
	1991	0.655	-1700.0	1600.0	91123124
HIGH 24-Hour					
	1987	6.969	358.6	-473.3	87101324
	1988	6.411	371.0	360.7	88110524
	1989	6.988	357.9	-522.4	89102024
	1990	6.711	-1250.0	2250.0	90101024
	1991	7.084	378.3	851.3	91030324
HIGH 8-Hour					
	1987	15.328	378.3	851.3	87021616
	1988	13.593	293.3	1099.0	88112308
	1989	11.350	358.6	-473.3	89031016
	1990	9.123	355.7	-669.5	90011316
	1991	18.363	378.3	851.3	91030316
HIGH 3-Hour					
	1987	19.997	378.3	851.3	87021615
	1988	22.298	300.0	1100.0	88112309
	1989	19.769	293.3	1099.0	89050115
	1990	14.561	255.6	-864.9	90020515
	1991	30.165	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	30.178	-200.0	-1800.0	87071810
	1988	33.630	300.0	1100.0	88112307
	1989	32.363	293.3	1099.0	89050114
	1990	28.967	200.0	-1100.0	90050111
	1991	48.287	300.0	1100.0	91030314
SOURCE GROUP ID:	GD1035				
Annual					
	1987	0.404	-2500.0	2000.0	87123124
	1988	0.374	365.1	-31.8	88123124
	1989	0.484	-1700.0	2000.0	89123124
	1990	0.485	-2250.0	2000.0	90123124

	1991	0.455	-2000.0	1800.0	91123124
HIGH 24-Hour					
	1987	5.301	358.6	-473.3	87101324
	1988	4.750	400.0	800.0	88110524
	1989	4.999	357.9	-522.4	89102024
	1990	5.215	-1750.0	3000.0	90101024
	1991	5.593	378.3	851.3	91030324
HIGH 8-Hour					
	1987	11.531	378.3	851.3	87021616
	1988	10.073	293.3	1099.0	88112308
	1989	8.405	358.6	-473.3	89031016
	1990	6.910	-1000.0	2000.0	90033016
	1991	14.634	378.3	851.3	91030316
HIGH 3-Hour					
	1987	15.221	378.3	851.3	87021615
	1988	16.696	300.0	1100.0	88112309
	1989	14.910	293.3	1099.0	89050115
	1990	10.512	-1500.0	3500.0	90060309
	1991	24.920	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	21.602	352.8	-865.8	87081011
	1988	25.153	300.0	1100.0	88112308
	1989	26.314	293.3	1099.0	89050114
	1990	27.840	200.0	-1100.0	90050111
	1991	40.911	300.0	1100.0	91030314
SOURCE GROUP ID:	G6059				
Annual					
	1987	0.727	-1700.0	1600.0	87123124
	1988	0.781	365.1	-31.8	88123124
	1989	0.880	-1300.0	1500.0	89123124
	1990	0.882	-1600.0	1600.0	90123124
	1991	0.842	-1400.0	1500.0	91123124
HIGH 24-Hour					
	1987	8.998	358.6	-473.3	87101324
	1988	8.125	376.8	753.2	88110524
	1989	8.871	357.9	-522.4	89102024
	1990	8.380	-900.0	1600.0	90101024
	1991	8.493	378.3	851.3	91030324
HIGH 8-Hour					
	1987	18.279	378.3	851.3	87021616
	1988	16.631	293.3	1099.0	88112308
	1989	14.393	358.6	-473.3	89031016
	1990	11.927	355.7	-669.5	90011316
	1991	21.258	378.3	851.3	91030316
HIGH 3-Hour					
	1987	23.565	378.3	851.3	87021615
	1988	27.033	300.0	1100.0	88112309
	1989	24.545	293.3	1099.0	89050115
	1990	18.813	255.6	-864.9	90021215
	1991	34.411	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	36.064	337.6	1097.8	87012211
	1988	41.053	300.0	1100.0	88112307
	1989	38.582	293.3	1099.0	89050114
	1990	31.446	205.1	1506.3	90041113
	1991	54.110	300.0	1100.0	91030314
SOURCE GROUP ID:	G7559				
Annual					
	1987	0.584	-1900.0	1700.0	87123124
	1988	0.605	365.1	-31.8	88123124
	1989	0.698	-1500.0	1700.0	89123124
	1990	0.698	-1800.0	1700.0	90123124
	1991	0.666	-1700.0	1600.0	91123124
HIGH 24-Hour					
	1987	7.139	358.6	-473.3	87101324
	1988	6.559	371.0	360.7	88110524
	1989	7.146	357.9	-522.4	89102024
	1990	6.813	-1250.0	2250.0	90101024
	1991	7.190	378.3	851.3	91030324
HIGH 8-Hour					
	1987	15.607	378.3	851.3	87021616
	1988	13.842	293.3	1099.0	88112308
	1989	11.627	358.6	-473.3	89031016
	1990	9.354	355.7	-669.5	90011316
	1991	18.622	378.3	851.3	91030316
HIGH 3-Hour					
	1987	20.342	378.3	851.3	87021615
	1988	22.696	300.0	1100.0	88112309
	1989	20.136	293.3	1099.0	89050115
	1990	14.915	255.6	-864.9	90020515
	1991	30.503	293.3	1099.0	91030315
HIGH 1-Hour					

	1987	30.188	-200.0	-1800.0	87071810
	1988	34.251	300.0	1100.0	88112307
	1989	32.853	293.3	1099.0	89050114
	1990	29.026	200.0	-1100.0	90050111
	1991	48.757	300.0	1100.0	91030314
SOURCE GROUP ID:	GD1059				
Annual					
	1987	0.432	-2250.0	2000.0	87123124
	1988	0.399	365.1	-31.8	88123124
	1989	0.522	-1700.0	2000.0	89123124
	1990	0.519	-2250.0	2000.0	90123124
	1991	0.493	-2000.0	1800.0	91123124
HIGH 24-Hour					
	1987	5.509	358.6	-473.3	87101324
	1988	5.020	400.0	800.0	88110524
	1989	5.329	357.9	-522.4	89102024
	1990	5.451	-1500.0	2500.0	90101024
	1991	5.842	378.3	851.3	91030324
HIGH 8-Hour					
	1987	12.177	378.3	851.3	87021616
	1988	10.672	293.3	1099.0	88112308
	1989	8.847	358.6	-473.3	89031016
	1990	7.232	-1000.0	2000.0	90033016
	1991	15.280	378.3	851.3	91030316
HIGH 3-Hour					
	1987	16.053	378.3	851.3	87021615
	1988	17.655	300.0	1100.0	88112309
	1989	15.627	293.3	1099.0	89050115
	1990	10.776	255.6	-864.9	90020515
	1991	25.847	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	22.593	337.6	1097.8	87012211
	1988	26.547	300.0	1100.0	88112308
	1989	27.078	293.3	1099.0	89050114
	1990	28.033	200.0	-1100.0	90050111
	1991	42.228	300.0	1100.0	91030314
SOURCE GROUP ID:	G6095				
Annual					
	1987	0.674	-1700.0	1600.0	87123124
	1988	0.726	365.1	-31.8	88123124
	1989	0.813	-1400.0	1600.0	89123124
	1990	0.817	-1600.0	1600.0	90123124
	1991	0.779	-1500.0	1500.0	91123124
HIGH 24-Hour					
	1987	8.362	358.6	-473.3	87101324
	1988	7.577	376.8	753.2	88110524
	1989	8.274	357.9	-522.4	89102024
	1990	7.816	-1000.0	1700.0	90101024
	1991	7.948	378.3	851.3	91030324
HIGH 8-Hour					
	1987	17.412	378.3	851.3	87021616
	1988	15.678	293.3	1099.0	88112308
	1989	13.477	358.6	-473.3	89031016
	1990	11.053	355.7	-669.5	90011316
	1991	20.394	378.3	851.3	91030316
HIGH 3-Hour					
	1987	22.530	378.3	851.3	87021615
	1988	25.561	300.0	1100.0	88112309
	1989	23.032	293.3	1099.0	89050115
	1990	17.456	255.6	-864.9	90020515
	1991	33.104	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	33.874	337.6	1097.8	87012211
	1988	38.738	300.0	1100.0	88112307
	1989	36.652	293.3	1099.0	89050114
	1990	29.981	205.1	1506.3	90041113
	1991	52.326	300.0	1100.0	91030314
SOURCE GROUP ID:	G7595				
Annual					
	1987	0.601	-1900.0	1700.0	87123124
	1988	0.628	365.1	-31.8	88123124
	1989	0.719	-1500.0	1700.0	89123124
	1990	0.719	-1800.0	1700.0	90123124
	1991	0.687	-1700.0	1600.0	91123124
HIGH 24-Hour					
	1987	7.516	358.6	-473.3	87101324
	1988	6.864	371.0	360.7	88110524
	1989	7.484	357.9	-522.4	89102024
	1990	7.046	-1000.0	1700.0	90101024
	1991	7.405	378.3	851.3	91030324
HIGH 8-Hour					
	1987	16.178	378.3	851.3	87021616

	1988	14.352	293.3	1099.0	88112308
	1989	12.218	358.6	-473.3	89031016
	1990	9.857	355.7	-669.5	90011316
	1991	19.148	378.3	851.3	91030316
HIGH 3-Hour					
	1987	21.044	378.3	851.3	87021615
	1988	23.507	300.0	1100.0	88112309
	1989	20.893	293.3	1099.0	89050115
	1990	15.646	255.6	-864.9	90020515
	1991	31.188	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	30.789	337.6	1097.8	87012211
	1988	35.519	300.0	1100.0	88112307
	1989	33.855	293.3	1099.0	89050114
	1990	29.144	200.0	-1100.0	90050111
	1991	49.699	300.0	1100.0	91030314
SOURCE GROUP ID:	GD1095				
Annual					
	1987	0.478	-2000.0	1800.0	87123124
	1988	0.488	365.1	-31.8	88123124
	1989	0.580	-1600.0	1900.0	89123124
	1990	0.577	-1900.0	1800.0	90123124
	1991	0.545	-1800.0	1700.0	91123124
HIGH 24-Hour					
	1987	6.060	378.3	851.3	87021624
	1988	5.527	400.0	800.0	88110524
	1989	5.963	357.9	-522.4	89102024
	1990	5.906	-1500.0	2500.0	90101024
	1991	6.313	378.3	851.3	91030324
HIGH 8-Hour					
	1987	13.419	378.3	851.3	87021616
	1988	11.791	293.3	1099.0	88112308
	1989	9.735	358.6	-473.3	89031016
	1990	7.828	-900.0	1900.0	90033016
	1991	16.487	378.3	851.3	91030316
HIGH 3-Hour					
	1987	17.634	378.3	851.3	87021615
	1988	19.448	300.0	1100.0	88112309
	1989	17.004	293.3	1099.0	89050115
	1990	12.116	255.6	-864.9	90020515
	1991	27.501	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	25.055	337.6	1097.8	87012211
	1988	29.196	300.0	1100.0	88112307
	1989	28.587	293.3	1099.0	89050114
	1990	28.354	200.0	-1100.0	90050111
	1991	44.552	300.0	1100.0	91030314

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :GCTOIL33.087
ISCST3 OUTPUT FILE NUMBER 2 :GCTOIL33.088
ISCST3 OUTPUT FILE NUMBER 3 :GCTOIL33.089
ISCST3 OUTPUT FILE NUMBER 4 :GCTOIL33.090
ISCST3 OUTPUT FILE NUMBER 5 :GCTOIL33.091
First title for last output file is: 1987 FPL WEST COUNTY 3300MW CC GENERIC EMIS. 10 G/S 2/15/05
Second title for last output file is: GENERIC CT LOAD/SIG IMPACT ANALYSIS, GE 7FB MACHINES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	06035				
Annual					
	1987	0.384	371.0	360.7	87123124
	1988	0.419	365.1	-31.8	88123124
	1989	0.439	-2000.0	2250.0	89123124
	1990	0.440	-2250.0	2000.0	90123124
	1991	0.423	-2500.0	2000.0	91123124
HIGH 24-Hour					
	1987	5.455	378.3	851.3	87021624
	1988	4.738	371.0	360.7	88110524
	1989	5.185	357.9	-522.4	89102024
	1990	4.689	-1750.0	3000.0	90101024
	1991	5.641	378.3	851.3	91030324
HIGH 8-Hour					
	1987	12.278	372.4	458.8	87021616
	1988	10.085	293.3	1099.0	88112308
	1989	8.631	358.6	-473.3	89031016
	1990	6.426	355.7	-669.5	90011316
	1991	14.999	378.3	851.3	91030316
HIGH 3-Hour					
	1987	16.229	378.3	851.3	87021615
	1988	16.824	300.0	1100.0	88112309
	1989	14.278	357.1	-571.4	89031018
	1990	10.226	255.6	-864.9	90020515
	1991	24.378	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	21.090	337.6	1097.8	87012211
	1988	25.348	300.0	1100.0	88112308
	1989	24.303	293.3	1099.0	89050114
	1990	27.287	200.0	-1200.0	90050111
	1991	40.052	300.0	1100.0	91030314
SOURCE GROUP ID:	07535				
Annual					
	1987	0.291	-2750.0	2250.0	87123124
	1988	0.321	365.1	-31.8	88123124
	1989	0.343	-2250.0	2500.0	89123124
	1990	0.344	-2750.0	2250.0	90123124
	1991	0.329	-2500.0	2000.0	91123124
HIGH 24-Hour					
	1987	4.430	378.3	851.3	87021624
	1988	3.757	400.0	800.0	88110524
	1989	4.100	357.9	-522.4	89102024
	1990	3.756	-2500.0	4000.0	90101024
	1991	4.765	378.3	851.3	91030324
HIGH 8-Hour					
	1987	10.042	372.4	458.8	87021616
	1988	8.030	293.3	1099.0	88112308
	1989	6.892	358.6	-473.3	89031016
	1990	5.057	355.7	-669.5	90011316
	1991	12.776	378.3	851.3	91030316
HIGH 3-Hour					
	1987	13.343	378.3	851.3	87021615
	1988	13.503	300.0	1100.0	88112309
	1989	11.502	357.1	-571.4	89031018
	1990	8.938	200.0	-1200.0	90050112
	1991	20.918	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	17.177	354.9	-718.6	87101214
	1988	20.489	300.0	1100.0	88112308
	1989	19.828	293.3	1099.0	89050114
	1990	26.814	200.0	-1200.0	90050111
	1991	35.034	300.0	1100.0	91030314
SOURCE GROUP ID:	01035				
Annual					
	1987	0.186	-3500.0	2500.0	87123124
	1988	0.179	-5000.0	500.0	88123124
	1989	0.210	-2750.0	3000.0	89123124
	1990	0.217	-4000.0	3000.0	90123124

	1991	0.212	-3500.0	2500.0	91123124
HIGH 24-Hour					
	1987	2.942	378.3	851.3	87021624
	1988	2.323	358.6	-473.3	88120224
	1989	2.737	357.9	-522.4	89102024
	1990	2.632	-3000.0	4500.0	90101024
	1991	3.409	378.3	851.3	91030324
HIGH 8-Hour					
	1987	6.621	366.6	66.3	87021616
	1988	5.139	293.3	1099.0	88112308
	1989	4.710	358.6	-473.3	89031016
	1990	3.554	356.4	-620.5	90011316
	1991	9.287	378.3	851.3	91030316
HIGH 3-Hour					
	1987	8.699	378.3	851.3	87021615
	1988	8.650	300.0	1100.0	88112309
	1989	7.903	293.3	1099.0	89050115
	1990	5.765	-700.0	-2000.0	90051112
	1991	15.374	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	12.197	-1750.0	2250.0	87091112
	1988	14.854	-700.0	-900.0	88071511
	1989	15.090	293.3	1099.0	89050114
	1990	14.173	1000.0	-1100.0	90081212
	1991	26.649	300.0	1100.0	91030314
SOURCE GROUP ID:	06059				
Annual					
	1987	0.392	371.0	360.7	87123124
	1988	0.427	365.1	-31.8	88123124
	1989	0.444	-1800.0	2000.0	89123124
	1990	0.446	-2250.0	2000.0	90123124
	1991	0.428	-2500.0	2000.0	91123124
HIGH 24-Hour					
	1987	5.585	378.3	851.3	87021624
	1988	4.868	371.0	360.7	88110524
	1989	5.318	357.9	-522.4	89102024
	1990	4.758	-1750.0	3000.0	90101024
	1991	5.734	378.3	851.3	91030324
HIGH 8-Hour					
	1987	12.542	372.4	458.8	87021616
	1988	10.297	293.3	1099.0	88112308
	1989	8.879	358.6	-473.3	89031016
	1990	6.606	355.7	-669.5	90011316
	1991	15.241	378.3	851.3	91030316
HIGH 3-Hour					
	1987	16.568	378.3	851.3	87021615
	1988	17.169	300.0	1100.0	88112309
	1989	14.616	357.1	-571.4	89031018
	1990	10.501	255.6	-864.9	90020515
	1991	24.690	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	21.545	337.6	1097.8	87012211
	1988	25.850	300.0	1100.0	88112308
	1989	24.727	293.3	1099.0	89050114
	1990	27.311	200.0	-1200.0	90050111
	1991	40.494	300.0	1100.0	91030314
SOURCE GROUP ID:	07559				
Annual					
	1987	0.301	-2750.0	2250.0	87123124
	1988	0.329	365.1	-31.8	88123124
	1989	0.353	-2000.0	2250.0	89123124
	1990	0.353	-2750.0	2250.0	90123124
	1991	0.339	-2500.0	2000.0	91123124
HIGH 24-Hour					
	1987	4.567	378.3	851.3	87021624
	1988	3.869	400.0	800.0	88110524
	1989	4.225	357.9	-522.4	89102024
	1990	3.845	-1750.0	3000.0	90101024
	1991	4.878	378.3	851.3	91030324
HIGH 8-Hour					
	1987	10.355	372.4	458.8	87021616
	1988	8.278	293.3	1099.0	88112308
	1989	7.094	358.6	-473.3	89031016
	1990	5.172	355.7	-669.5	90011316
	1991	13.073	378.3	851.3	91030316
HIGH 3-Hour					
	1987	13.748	378.3	851.3	87021615
	1988	13.909	300.0	1100.0	88112309
	1989	11.889	357.1	-571.4	89031018
	1990	8.951	200.0	-1200.0	90050112
	1991	21.330	293.3	1099.0	91030315
HIGH 1-Hour					

	1987	17.618	354.9	-718.6	87101214
	1988	21.087	300.0	1100.0	88112308
	1989	20.240	293.3	1099.0	89050114
	1990	26.852	200.0	-1200.0	90050111
	1991	35.635	300.0	1100.0	91030314
SOURCE GROUP ID:	01059				
Annual					
	1987	0.203	-3000.0	2500.0	87123124
	1988	0.194	365.1	-31.8	88123124
	1989	0.235	-2750.0	3000.0	89123124
	1990	0.237	-4000.0	3000.0	90123124
	1991	0.230	-3500.0	2500.0	91123124
HIGH 24-Hour					
	1987	3.184	378.3	851.3	87021624
	1988	2.628	400.0	800.0	88110524
	1989	2.961	357.9	-522.4	89102024
	1990	2.802	-3000.0	4500.0	90101024
	1991	3.675	378.3	851.3	91030324
HIGH 8-Hour					
	1987	7.223	372.4	458.8	87021616
	1988	5.625	293.3	1099.0	88112308
	1989	5.037	358.6	-473.3	89031016
	1990	3.789	355.7	-669.5	90011316
	1991	9.889	378.3	851.3	91030316
HIGH 3-Hour					
	1987	9.557	378.3	851.3	87021615
	1988	9.490	300.0	1100.0	88112309
	1989	8.338	293.3	1099.0	89050115
	1990	6.082	-700.0	-2000.0	90051112
	1991	16.375	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	12.957	-1250.0	-2500.0	87090610
	1988	14.913	-700.0	-900.0	88071511
	1989	15.845	293.3	1099.0	89050114
	1990	15.226	250.0	-2500.0	90081209
	1991	28.193	300.0	1100.0	91030314
SOURCE GROUP ID:	06095				
Annual					
	1987	0.464	371.0	360.7	87123124
	1988	0.509	365.1	-31.8	88123124
	1989	0.497	-1800.0	2000.0	89123124
	1990	0.500	-2000.0	1800.0	90123124
	1991	0.480	-2000.0	1800.0	91123124
HIGH 24-Hour					
	1987	6.280	378.3	851.3	87021624
	1988	5.604	371.0	360.7	88110524
	1989	6.106	357.9	-522.4	89102024
	1990	5.204	-1750.0	3000.0	90101024
	1991	6.347	378.3	851.3	91030324
HIGH 8-Hour					
	1987	13.954	378.3	851.3	87021616
	1988	11.504	293.3	1099.0	88112308
	1989	10.268	358.6	-473.3	89031016
	1990	7.710	355.7	-669.5	90011316
	1991	16.561	378.3	851.3	91030316
HIGH 3-Hour					
	1987	18.356	378.3	851.3	87021615
	1988	19.119	300.0	1100.0	88112309
	1989	16.425	357.1	-571.4	89031018
	1990	12.070	255.6	-864.9	90020515
	1991	26.482	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	24.171	337.6	1097.8	87012211
	1988	28.681	300.0	1100.0	88112308
	1989	27.201	293.3	1099.0	89050114
	1990	27.501	200.0	-1200.0	90050111
	1991	43.028	300.0	1100.0	91030314
SOURCE GROUP ID:	07595				
Annual					
	1987	0.343	371.0	360.7	87123124
	1988	0.375	365.1	-31.8	88123124
	1989	0.386	-2000.0	2250.0	89123124
	1990	0.385	-2750.0	2250.0	90123124
	1991	0.374	-2500.0	2000.0	91123124
HIGH 24-Hour					
	1987	4.984	378.3	851.3	87021624
	1988	4.245	371.0	360.7	88110524
	1989	4.654	357.9	-522.4	89102024
	1990	4.163	-1750.0	3000.0	90101024
	1991	5.227	378.3	851.3	91030324
HIGH 8-Hour					
	1987	11.298	372.4	458.8	87021616

	1988	9.068	293.3	1099.0	88112308
	1989	7.780	358.6	-473.3	89031016
	1990	5.685	355.7	-669.5	90011316
	1991	13.979	378.3	851.3	91030316
HIGH 3-Hour					
	1987	14.967	378.3	851.3	87021615
	1988	15.199	300.0	1100.0	88112309
	1989	13.061	357.1	-571.4	89031018
	1990	9.022	255.6	-864.9	90020515
	1991	22.637	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	19.283	0.0	-3000.0	87122309
	1988	23.439	0.0	-1300.0	88072511
	1989	21.963	293.3	1099.0	89050114
	1990	26.995	200.0	-1200.0	90050111
	1991	37.533	300.0	1100.0	91030314
SOURCE GROUP ID:	01095				
Annual					
	1987	0.237	-2750.0	2250.0	87123124
	1988	0.249	365.1	-31.8	88123124
	1989	0.277	-2500.0	2750.0	89123124
	1990	0.278	-3000.0	2500.0	90123124
	1991	0.270	-3000.0	2250.0	91123124
HIGH 24-Hour					
	1987	3.715	378.3	851.3	87021624
	1988	3.101	400.0	800.0	88110524
	1989	3.380	357.9	-522.4	89102024
	1990	3.168	-2500.0	4000.0	90101024
	1991	4.137	378.3	851.3	91030324
HIGH 8-Hour					
	1987	8.454	372.4	458.8	87021616
	1988	6.629	293.3	1099.0	88112308
	1989	5.760	358.6	-473.3	89031016
	1990	4.256	355.7	-669.5	90011316
	1991	11.134	378.3	851.3	91030316
HIGH 3-Hour					
	1987	11.270	378.3	851.3	87021615
	1988	11.201	300.0	1100.0	88112309
	1989	9.569	357.1	-571.4	89031018
	1990	7.690	-3000.0	250.0	90070712
	1991	18.326	293.3	1099.0	91030315
HIGH 1-Hour					
	1987	15.316	-1000.0	-200.0	87080811
	1988	17.089	300.0	1100.0	88112308
	1989	17.322	293.3	1099.0	89050114
	1990	15.252	250.0	-2500.0	90081209
	1991	31.155	300.0	1100.0	91030314

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :PMGAS33.090
ISCST3 OUTPUT FILE NUMBER 2 :PMGAS33.087
ISCST3 OUTPUT FILE NUMBER 3 :PMGAS33.088
ISCST3 OUTPUT FILE NUMBER 4 :PMGAS33.089
ISCST3 OUTPUT FILE NUMBER 5 :PMGAS33.091
First title for last output file is: 1990 FPL WEST COUNTY 2200-3300MW CC - 2/20/05
Second title for last output file is: PM10 IMPACTS, CT/HRSGs AND COOLING TOWERS, GE 7FB MACHINES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	33MWAL				
Annual					
	1990	0.491	-1400.0	1500.0	90123124
	1987	0.479	365.9	17.3	87123124
	1988	0.506	365.1	-31.8	88123124
	1989	0.491	-1300.0	1500.0	89123124
	1991	0.469	-1300.0	1400.0	91123124
HIGH 24-Hour					
	1990	4.643	-900.0	1600.0	90101024
	1987	5.264	365.1	-31.8	87101324
	1988	4.665	376.8	753.2	88110524
	1989	5.062	359.3	-424.2	89102024
	1991	4.676	359.3	-424.2	91031024
SOURCE GROUP ID:	33MWCO				
Annual					
	1990	0.101	365.9	17.3	90123124
	1987	0.165	365.9	17.3	87123124
	1988	0.155	365.9	17.3	88123124
	1989	0.153	365.9	17.3	89123124
	1991	0.107	365.9	17.3	91123124
HIGH 24-Hour					
	1990	1.461	365.9	17.3	90120924
	1987	1.538	365.9	17.3	87101324
	1988	1.709	365.9	17.3	88121724
	1989	1.442	365.9	17.3	89122324
	1991	1.379	365.9	17.3	91110924
SOURCE GROUP ID:	33MWHR				
Annual					
	1990	0.461	-1500.0	1500.0	90123124
	1987	0.379	-1700.0	1600.0	87123124
	1988	0.404	365.1	-31.8	88123124
	1989	0.460	-1300.0	1500.0	89123124
	1991	0.440	-1400.0	1500.0	91123124
HIGH 24-Hour					
	1990	4.371	-900.0	1600.0	90101024
	1987	4.647	358.6	-473.3	87101324
	1988	4.206	376.8	753.2	88110524
	1989	4.590	357.9	-522.4	89102024
	1991	4.328	378.3	851.3	91030324
SOURCE GROUP ID:	22MWAL				
Annual					
	1990	0.341	-1500.0	1600.0	90123124
	1987	0.426	371.7	409.8	87123124
	1988	0.434	371.0	360.7	88123124
	1989	0.397	371.7	409.8	89123124
	1991	0.349	371.7	409.8	91123124
HIGH 24-Hour					
	1990	4.053	-175.6	1117.9	90101024
	1987	5.264	365.1	-31.8	87101324
	1988	4.540	376.8	753.2	88110524
	1989	4.791	365.9	17.3	89031024
	1991	4.495	371.0	360.7	91030924
SOURCE GROUP ID:	22MWCO				
Annual					
	1990	0.099	365.9	17.3	90123124
	1987	0.160	365.9	17.3	87123124
	1988	0.151	365.9	17.3	88123124
	1989	0.150	365.9	17.3	89123124
	1991	0.102	365.9	17.3	91123124
HIGH 24-Hour					
	1990	1.461	365.9	17.3	90120924
	1987	1.538	365.9	17.3	87101324
	1988	1.709	365.9	17.3	88121724
	1989	1.442	365.9	17.3	89122324
	1991	1.379	365.9	17.3	91110924
SOURCE GROUP ID:	22MWHR				
Annual					
	1990	0.320	-1500.0	1600.0	90123124

	1987	0.332	371.0	360.7	87123124
	1988	0.357	371.0	360.7	88123124
	1989	0.320	-1200.0	1700.0	89123124
	1991	0.305	-1400.0	1500.0	91123124
HIGH 24-Hour					
	1990	3.725	-175.6	1117.9	90101024
	1987	4.465	400.0	-100.0	87101324
	1988	4.082	376.8	753.2	88110524
	1989	4.177	363.7	-129.9	89102024
	1991	3.992	371.0	360.7	91030924

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :PMOIL33.087
ISCST3 OUTPUT FILE NUMBER 2 :PMOIL33.088
ISCST3 OUTPUT FILE NUMBER 3 :PMOIL33.089
ISCST3 OUTPUT FILE NUMBER 4 :PMOIL33.090
ISCST3 OUTPUT FILE NUMBER 5 :PMOIL33.091
First title for last output file is: 1987 FPL WEST COUNTY 2200-3300MW CC - OIL FIRING CASES - 2/20/05
Second title for last output file is: PM10 IMPACTS, CT/HRSGs AND COOLING TOWERS, GE 7FB MACHINES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	33MWAL				
Annual					
	1987	0.515	365.9	17.3	87123124
	1988	0.547	365.1	-31.8	88123124
	1989	0.498	365.9	17.3	89123124
	1990	0.464	-2000.0	1800.0	90123124
	1991	0.449	365.1	-31.8	91123124
HIGH 24-Hour					
	1987	5.966	365.1	-31.8	87101324
	1988	5.347	376.8	753.2	88110524
	1989	5.798	359.3	-424.2	89102024
	1990	4.743	-1500.0	2500.0	90101024
	1991	5.848	378.3	851.3	91030324
SOURCE GROUP ID:	33MWCO				
Annual					
	1987	0.165	365.9	17.3	87123124
	1988	0.155	365.9	17.3	88123124
	1989	0.153	365.9	17.3	89123124
	1990	0.101	365.9	17.3	90123124
	1991	0.107	365.9	17.3	91123124
HIGH 24-Hour					
	1987	1.538	365.9	17.3	87101324
	1988	1.709	365.9	17.3	88121724
	1989	1.442	365.9	17.3	89122324
	1990	1.461	365.9	17.3	90120924
	1991	1.379	365.9	17.3	91110924
SOURCE GROUP ID:	33MWHR				
Annual					
	1987	0.406	371.0	360.7	87123124
	1988	0.446	365.1	-31.8	88123124
	1989	0.436	-1800.0	2000.0	89123124
	1990	0.438	-2000.0	1800.0	90123124
	1991	0.421	-2000.0	1800.0	91123124
HIGH 24-Hour					
	1987	5.501	378.3	851.3	87021624
	1988	4.909	371.0	360.7	88110524
	1989	5.349	357.9	-522.4	89102024
	1990	4.558	-1750.0	3000.0	90101024
	1991	5.560	378.3	851.3	91030324
SOURCE GROUP ID:	22MWAL				
Annual					
	1987	0.460	371.7	409.8	87123124
	1988	0.473	371.0	360.7	88123124
	1989	0.428	371.7	409.8	89123124
	1990	0.343	-176.4	870.5	90123124
	1991	0.385	371.0	360.7	91123124
HIGH 24-Hour					
	1987	5.966	365.1	-31.8	87101324
	1988	5.240	376.8	753.2	88110524
	1989	5.527	365.9	17.3	89031024
	1990	4.498	-175.8	1068.4	90101024
	1991	5.319	376.8	753.2	91021424
SOURCE GROUP ID:	22MWCO				
Annual					
	1987	0.160	365.9	17.3	87123124
	1988	0.151	365.9	17.3	88123124
	1989	0.150	365.9	17.3	89123124
	1990	0.099	365.9	17.3	90123124
	1991	0.102	365.9	17.3	91123124
HIGH 24-Hour					
	1987	1.538	365.9	17.3	87101324
	1988	1.709	365.9	17.3	88121724
	1989	1.442	365.9	17.3	89122324
	1990	1.461	365.9	17.3	90120924
	1991	1.379	365.9	17.3	91110924
SOURCE GROUP ID:	22MWHR				
Annual					
	1987	0.366	371.0	360.7	87123124

	1988	0.396	371.0	360.7	88123124
	1989	0.350	371.0	360.7	89123124
	1990	0.318	-176.4	870.5	90123124
	1991	0.327	371.0	360.7	91123124
HIGH 24-Hour					
	1987	5.342	378.3	851.3	87021624
	1988	4.781	376.8	753.2	88110524
	1989	4.971	363.7	-129.9	89102024
	1990	4.187	-175.8	1068.4	90101024
	1991	4.788	378.3	851.3	91030324

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 1987 FPL WEST COUNTY 2200MW CC GENERIC EMIS. 10 G/S   2/20/05
   TITLETWO GENERIC CT LOAD/SIG IMPACT ANALYSIS, GE 7FB MACHINES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME PERIOD 24 8 3 1
   POLLUTID GEN
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** ISCST3 Source Pathway
*****************************************
**
**
SO STARTING
**
** Source ID format
**
** Example: G2A6035D
**
**          G= gas (O= oil)
**          1A= unit ID (1A...1D, 2A...2D.. 3A..3D)
**          60= load % (75= 75%, 10= 100%)
**          35= temperature deg F (59, 95)
**          D= duct burner (gas only, 100% load)
**
** Source Location **
**          Source ID - Type -  X Coord.       Y Coord.

   LOCATION G1A6035     POINT   241.625        659.067
   LOCATION G1B6035     POINT   241.926        615.668
   LOCATION G1C6035     POINT   240.460        530.290
   LOCATION G1D6035     POINT   239.792        487.625
   LOCATION G2A6035     POINT   235.747        251.569
   LOCATION G2B6035     POINT   234.844        211.179
   LOCATION G2C6035     POINT   233.320        126.002
   LOCATION G2D6035     POINT   232.580         83.188

   LOCATION G1A7535     POINT   241.625        659.067
   LOCATION G1B7535     POINT   241.926        615.668
   LOCATION G1C7535     POINT   240.460        530.290
   LOCATION G1D7535     POINT   239.792        487.625
   LOCATION G2A7535     POINT   235.747        251.569
   LOCATION G2B7535     POINT   234.844        211.179
   LOCATION G2C7535     POINT   233.320        126.002
   LOCATION G2D7535     POINT   232.580         83.188

   LOCATION G1A6059     POINT   241.625        659.067
   LOCATION G1B6059     POINT   241.926        615.668
   LOCATION G1C6059     POINT   240.460        530.290
   LOCATION G1D6059     POINT   239.792        487.625
   LOCATION G2A6059     POINT   235.747        251.569
   LOCATION G2B6059     POINT   234.844        211.179
   LOCATION G2C6059     POINT   233.320        126.002
   LOCATION G2D6059     POINT   232.580         83.188

   LOCATION G1A7559     POINT   241.625        659.067
   LOCATION G1B7559     POINT   241.926        615.668
   LOCATION G1C7559     POINT   240.460        530.290
   LOCATION G1D7559     POINT   239.792        487.625
   LOCATION G2A7559     POINT   235.747        251.569
   LOCATION G2B7559     POINT   234.844        211.179
   LOCATION G2C7559     POINT   233.320        126.002
   LOCATION G2D7559     POINT   232.580         83.188

   LOCATION G1A6095     POINT   241.625        659.067
   LOCATION G1B6095     POINT   241.926        615.668
   LOCATION G1C6095     POINT   240.460        530.290
   LOCATION G1D6095     POINT   239.792        487.625
   LOCATION G2A6095     POINT   235.747        251.569
   LOCATION G2B6095     POINT   234.844        211.179
   LOCATION G2C6095     POINT   233.320        126.002
   LOCATION G2D6095     POINT   232.580         83.188

   LOCATION G1A7595     POINT   241.625        659.067
   LOCATION G1B7595     POINT   241.926        615.668
   LOCATION G1C7595     POINT   240.460        530.290
   LOCATION G1D7595     POINT   239.792        487.625
   LOCATION G2A7595     POINT   235.747        251.569
   LOCATION G2B7595     POINT   234.844        211.179
   LOCATION G2C7595     POINT   233.320        126.002
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    LOCATION G2D7595     POINT   232.580          83.188

    LOCATION G1A1035D     POINT   241.625         659.067
    LOCATION G1B1035D     POINT   241.926         615.668
    LOCATION G1C1035D     POINT   240.460         530.290
    LOCATION G1D1035D     POINT   239.792         487.625
    LOCATION G2A1035D     POINT   235.747         251.569
    LOCATION G2B1035D     POINT   234.844         211.179
    LOCATION G2C1035D     POINT   233.320         126.002
    LOCATION G2D1035D     POINT   232.580          83.188

    LOCATION G1A1059D     POINT   241.625         659.067
    LOCATION G1B1059D     POINT   241.926         615.668
    LOCATION G1C1059D     POINT   240.460         530.290
    LOCATION G1D1059D     POINT   239.792         487.625
    LOCATION G2A1059D     POINT   235.747         251.569
    LOCATION G2B1059D     POINT   234.844         211.179
    LOCATION G2C1059D     POINT   233.320         126.002
    LOCATION G2D1059D     POINT   232.580          83.188

    LOCATION G1A1095D     POINT   241.625         659.067
    LOCATION G1B1095D     POINT   241.926         615.668
    LOCATION G1C1095D     POINT   240.460         530.290
    LOCATION G1D1095D     POINT   239.792         487.625
    LOCATION G2A1095D     POINT   235.747         251.569
    LOCATION G2B1095D     POINT   234.844         211.179
    LOCATION G2C1095D     POINT   233.320         126.002
    LOCATION G2D1095D     POINT   232.580          83.188

** Source Parameters **
** POINT:    SRCID          QS        HS          TS         VS         DS
** UNITS:                  (g/s)      (m)         (K)       (m/s)       (m)

** GAS FIRING - 75 AND  60% LOADS
    SRCPARAM G1A6035        2.50      45.42       352.8      13.36      5.79
    SRCPARAM G1B6035        2.50      45.42       352.8      13.36      5.79
    SRCPARAM G1C6035        2.50      45.42       352.8      13.36      5.79
    SRCPARAM G1D6035        2.50      45.42       352.8      13.36      5.79
    SRCPARAM G2A6035        2.50      45.42       352.8      13.36      5.79
    SRCPARAM G2B6035        2.50      45.42       352.8      13.36      5.79
    SRCPARAM G2C6035        2.50      45.42       352.8      13.36      5.79
    SRCPARAM G2D6035        2.50      45.42       352.8      13.36      5.79

    SRCPARAM G1A7535        2.50      45.42       359.2      15.06      5.79
    SRCPARAM G1B7535        2.50      45.42       359.2      15.06      5.79
    SRCPARAM G1C7535        2.50      45.42       359.2      15.06      5.79
    SRCPARAM G1D7535        2.50      45.42       359.2      15.06      5.79
    SRCPARAM G2A7535        2.50      45.42       359.2      15.06      5.79
    SRCPARAM G2B7535        2.50      45.42       359.2      15.06      5.79
    SRCPARAM G2C7535        2.50      45.42       359.2      15.06      5.79
    SRCPARAM G2D7535        2.50      45.42       359.2      15.06      5.79

    SRCPARAM G1A6059        2.50      45.42       354.0      13.20      5.79
    SRCPARAM G1B6059        2.50      45.42       354.0      13.20      5.79
    SRCPARAM G1C6059        2.50      45.42       354.0      13.20      5.79
    SRCPARAM G1D6059        2.50      45.42       354.0      13.20      5.79
    SRCPARAM G2A6059        2.50      45.42       354.0      13.20      5.79
    SRCPARAM G2B6059        2.50      45.42       354.0      13.20      5.79
    SRCPARAM G2C6059        2.50      45.42       354.0      13.20      5.79
    SRCPARAM G2D6059        2.50      45.42       354.0      13.20      5.79

    SRCPARAM G1A7559        2.50      45.42       359.7      14.77      5.79
    SRCPARAM G1B7559        2.50      45.42       359.7      14.77      5.79
    SRCPARAM G1C7559        2.50      45.42       359.7      14.77      5.79
    SRCPARAM G1D7559        2.50      45.42       359.7      14.77      5.79
    SRCPARAM G2A7559        2.50      45.42       359.7      14.77      5.79
    SRCPARAM G2B7559        2.50      45.42       359.7      14.77      5.79
    SRCPARAM G2C7559        2.50      45.42       359.7      14.77      5.79
    SRCPARAM G2D7559        2.50      45.42       359.7      14.77      5.79

    SRCPARAM G1A6095        2.50      45.42       356.6      13.60      5.79
    SRCPARAM G1B6095        2.50      45.42       356.6      13.60      5.79
    SRCPARAM G1C6095        2.50      45.42       356.6      13.60      5.79
    SRCPARAM G1D6095        2.50      45.42       356.6      13.60      5.79
    SRCPARAM G2A6095        2.50      45.42       356.6      13.60      5.79
    SRCPARAM G2B6095        2.50      45.42       356.6      13.60      5.79
    SRCPARAM G2C6095        2.50      45.42       356.6      13.60      5.79
    SRCPARAM G2D6095        2.50      45.42       356.6      13.60      5.79

    SRCPARAM G1A7595        2.50      45.42       360.8      14.19      5.79
    SRCPARAM G1B7595        2.50      45.42       360.8      14.19      5.79
    SRCPARAM G1C7595        2.50      45.42       360.8      14.19      5.79
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   SRCPARAM G1D7595        2.50      45.42    360.8      14.19     5.79
   SRCPARAM G2A7595        2.50      45.42    360.8      14.19     5.79
   SRCPARAM G2B7595        2.50      45.42    360.8      14.19     5.79
   SRCPARAM G2C7595        2.50      45.42    360.8      14.19     5.79
   SRCPARAM G2D7595        2.50      45.42    360.8      14.19     5.79

** NG, DUCT FIRING BASE LOAD ONLY
   SRCPARAM G1A1035D       2.50      45.42    360.2      18.860    5.79
   SRCPARAM G1B1035D       2.50      45.42    360.2      18.860    5.79
   SRCPARAM G1C1035D       2.50      45.42    360.2      18.860    5.79
   SRCPARAM G1D1035D       2.50      45.42    360.2      18.860    5.79
   SRCPARAM G2A1035D       2.50      45.42    360.2      18.860    5.79
   SRCPARAM G2B1035D       2.50      45.42    360.2      18.860    5.79
   SRCPARAM G2C1035D       2.50      45.42    360.2      18.860    5.79
   SRCPARAM G2D1035D       2.50      45.42    360.2      18.860    5.79

   SRCPARAM G1A1059D       2.50      45.42    360.0      18.120    5.79
   SRCPARAM G1B1059D       2.50      45.42    360.0      18.120    5.79
   SRCPARAM G1C1059D       2.50      45.42    360.0      18.120    5.79
   SRCPARAM G1D1059D       2.50      45.42    360.0      18.120    5.79
   SRCPARAM G2A1059D       2.50      45.42    360.0      18.120    5.79
   SRCPARAM G2B1059D       2.50      45.42    360.0      18.120    5.79
   SRCPARAM G2C1059D       2.50      45.42    360.0      18.120    5.79
   SRCPARAM G2D1059D       2.50      45.42    360.0      18.120    5.79

   SRCPARAM G1A1095D       2.50      45.42    360.9      16.690    5.79
   SRCPARAM G1B1095D       2.50      45.42    360.9      16.690    5.79
   SRCPARAM G1C1095D       2.50      45.42    360.9      16.690    5.79
   SRCPARAM G1D1095D       2.50      45.42    360.9      16.690    5.79
   SRCPARAM G2A1095D       2.50      45.42    360.9      16.690    5.79
   SRCPARAM G2B1095D       2.50      45.42    360.9      16.690    5.79
   SRCPARAM G2C1095D       2.50      45.42    360.9      16.690    5.79
   SRCPARAM G2D1095D       2.50      45.42    360.9      16.690    5.79

** Building Downwash **
SO BUILDHGT G1A6035-G1A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035-G1A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035-G1A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035-G1A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035-G1A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035-G1A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1A6035-G1A7595     31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID G1A6035-G1A7595     20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID G1A6035-G1A7595     26.63   29.15   30.79   31.49   31.23   30.03
SO BUILDWID G1A6035-G1A7595     31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID G1A6035-G1A7595     20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID G1A6035-G1A7595     26.63   29.15   30.79   31.49   31.23   29.99


SO BUILDHGT G1B6035-G1B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035-G1B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035-G1B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035-G1B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035-G1B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035-G1B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1B6035-G1B7595     31.09   31.86   31.53   30.34   28.11   25.03
SO BUILDWID G1B6035-G1B7595     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G1B6035-G1B7595     27.64   30.02   30.79   31.49   31.23   30.03
SO BUILDWID G1B6035-G1B7595     31.09   31.99   31.64   30.34   28.11   25.03
SO BUILDWID G1B6035-G1B7595     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G1B6035-G1B7595     27.64   30.02   30.79   31.49   31.23   29.99


SO BUILDHGT G1C6035-G1C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035-G1C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035-G1C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035-G1C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035-G1C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035-G1C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1C6035-G1C7595     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID G1C6035-G1C7595     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G1C6035-G1C7595     27.55   29.92   31.37   31.49   31.23   29.99
SO BUILDWID G1C6035-G1C7595     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID G1C6035-G1C7595     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G1C6035-G1C7595     27.55   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT G1D6035-G1D7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1D6035-G1D7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1D6035-G1D7595     29.57   29.57   29.57   29.57   29.57   29.57
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SO BUILDHGT G1D6035-G1D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1D6035-G1D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1D6035-G1D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1D6035-G1D7595      31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID G1D6035-G1D7595      21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID G1D6035-G1D7595      27.70   29.92   31.37   31.88   31.41   29.99
SO BUILDWID G1D6035-G1D7595      31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID G1D6035-G1D7595      21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID G1D6035-G1D7595      27.70   29.92   31.37   31.88   31.41   29.99

SO BUILDHGT G2A6035-G2A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A6035-G2A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A6035-G2A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A6035-G2A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A6035-G2A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A6035-G2A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G2A6035-G2A7595      31.27   31.88   31.52   30.20   28.25   25.12
SO BUILDWID G2A6035-G2A7595      21.23   16.70   11.66   15.86   20.49   24.50
SO BUILDWID G2A6035-G2A7595      27.77   30.19   31.69   32.24   31.44   30.04
SO BUILDWID G2A6035-G2A7595      31.27   31.88   31.52   30.20   28.25   25.12
SO BUILDWID G2A6035-G2A7595      21.23   16.70   11.66   15.86   20.49   24.50
SO BUILDWID G2A6035-G2A7595      27.77   30.19   31.69   32.24   31.44   30.04

SO BUILDHGT G2B6035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B6035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B6035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B6035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B6035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B6035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G2B6035-G2B7595      31.22   31.85   31.52   30.20   27.97   24.88
SO BUILDWID G2B6035-G2B7595      21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID G2B6035-G2B7595      27.77   29.88   31.36   31.88   31.44   30.04
SO BUILDWID G2B6035-G2B7595      31.27   31.88   31.52   30.20   27.97   24.88
SO BUILDWID G2B6035-G2B7595      21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID G2B6035-G2B7595      27.77   29.88   31.36   31.88   31.44   29.98

SO BUILDHGT G2C6035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C6035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C6035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C6035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C6035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C6035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G2C6035-G2C7595      31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID G2C6035-G2C7595      21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID G2C6035-G2C7595      27.67   30.09   31.36   31.88   31.40   29.98
SO BUILDWID G2C6035-G2C7595      31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID G2C6035-G2C7595      21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID G2C6035-G2C7595      27.67   30.09   31.60   32.15   31.40   29.98

SO BUILDHGT G2D6035-G2D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D6035-G2D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D6035-G2D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D6035-G2D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D6035-G2D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D6035-G2D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G2D6035-G2D7595      31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID G2D6035-G2D7595      21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G2D6035-G2D7595      27.67   29.91   31.36   31.87   31.40   29.98
SO BUILDWID G2D6035-G2D7595      31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID G2D6035-G2D7595      21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G2D6035-G2D7595      27.67   29.91   31.36   31.87   31.40   29.98

SO BUILDHGT G1A1035D-G1A1095D      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035D-G1A1095D      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035D-G1A1095D      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035D-G1A1095D      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035D-G1A1095D      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035D-G1A1095D      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1A1035D-G1A1095D      31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID G1A1035D-G1A1095D      20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID G1A1035D-G1A1095D      26.63   29.15   30.79   31.49   31.23   30.03
SO BUILDWID G1A1035D-G1A1095D      31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID G1A1035D-G1A1095D      20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID G1A1035D-G1A1095D      26.63   29.15   30.79   31.49   31.23   29.99

SO BUILDHGT G1B1035D-G1B1095D      29.57   29.57   29.57   29.57   29.57   29.57
```

SO BUILDHGT G1B1035D-G1B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1B1035D-G1B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1B1035D-G1B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1B1035D-G1B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1B1035D-G1B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G1B1035D-G1B1095D	31.09	31.86	31.53	30.34	28.11	25.03
SO BUILDWID G1B1035D-G1B1095D	21.19	16.71	11.71	15.87	20.45	24.42
SO BUILDWID G1B1035D-G1B1095D	27.64	30.02	30.79	31.49	31.23	30.03
SO BUILDWID G1B1035D-G1B1095D	31.09	31.99	31.64	30.34	28.11	25.03
SO BUILDWID G1B1035D-G1B1095D	21.19	16.71	11.71	15.87	20.45	24.42
SO BUILDWID G1B1035D-G1B1095D	27.64	30.02	30.79	31.49	31.23	29.99

SO BUILDHGT G1C1035D-G1C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1C1035D-G1C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1C1035D-G1C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1C1035D-G1C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1C1035D-G1C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1C1035D-G1C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G1C1035D-G1C1095D	31.23	31.86	31.53	30.24	28.17	24.97
SO BUILDWID G1C1035D-G1C1095D	21.15	16.68	11.71	15.85	20.41	24.35
SO BUILDWID G1C1035D-G1C1095D	27.55	29.92	31.37	31.49	31.23	29.99
SO BUILDWID G1C1035D-G1C1095D	31.23	31.86	31.53	30.24	28.17	24.97
SO BUILDWID G1C1035D-G1C1095D	21.15	16.68	11.71	15.85	20.41	24.35
SO BUILDWID G1C1035D-G1C1095D	27.55	29.92	31.37	31.88	31.41	29.99

SO BUILDHGT G1D1035D-G1D1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1D1035D-G1D1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1D1035D-G1D1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1D1035D-G1D1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1D1035D-G1D1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G1D1035D-G1D1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G1D1035D-G1D1095D	31.23	32.01	31.68	30.39	28.17	25.10
SO BUILDWID G1D1035D-G1D1095D	21.27	16.79	11.79	15.95	20.53	24.49
SO BUILDWID G1D1035D-G1D1095D	27.70	29.92	31.37	31.88	31.41	29.99
SO BUILDWID G1D1035D-G1D1095D	31.23	32.01	31.68	30.39	28.17	25.10
SO BUILDWID G1D1035D-G1D1095D	21.27	16.79	11.79	15.95	20.53	24.49
SO BUILDWID G1D1035D-G1D1095D	27.70	29.92	31.37	31.88	31.41	29.99

SO BUILDHGT G2A1035D-G2A1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A1035D-G2A1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A1035D-G2A1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A1035D-G2A1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A1035D-G2A1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A1035D-G2A1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G2A1035D-G2A1095D	31.27	31.88	31.52	30.20	28.25	25.12
SO BUILDWID G2A1035D-G2A1095D	21.23	16.70	11.66	15.86	20.49	24.50
SO BUILDWID G2A1035D-G2A1095D	27.77	30.19	31.69	32.24	31.44	30.04
SO BUILDWID G2A1035D-G2A1095D	31.27	31.88	31.52	30.20	28.25	25.12
SO BUILDWID G2A1035D-G2A1095D	21.23	16.70	11.66	15.86	20.49	24.50
SO BUILDWID G2A1035D-G2A1095D	27.77	30.19	31.69	32.24	31.44	30.04

SO BUILDHGT G2B1035D-G2B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B1035D-G2B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B1035D-G2B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B1035D-G2B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B1035D-G2B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B1035D-G2B1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G2B1035D-G2B1095D	31.22	31.85	31.52	30.20	27.97	24.88
SO BUILDWID G2B1035D-G2B1095D	21.04	16.56	11.58	15.73	20.31	24.27
SO BUILDWID G2B1035D-G2B1095D	27.77	29.88	31.36	31.88	31.44	30.04
SO BUILDWID G2B1035D-G2B1095D	31.27	31.88	31.52	30.20	27.97	24.88
SO BUILDWID G2B1035D-G2B1095D	21.04	16.56	11.58	15.73	20.31	24.27
SO BUILDWID G2B1035D-G2B1095D	27.77	29.88	31.36	31.88	31.44	29.98

SO BUILDHGT G2C1035D-G2C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C1035D-G2C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C1035D-G2C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C1035D-G2C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C1035D-G2C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C1035D-G2C1095D	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G2C1035D-G2C1095D	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID G2C1035D-G2C1095D	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID G2C1035D-G2C1095D	27.67	30.09	31.36	31.88	31.40	29.98
SO BUILDWID G2C1035D-G2C1095D	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID G2C1035D-G2C1095D	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID G2C1035D-G2C1095D	27.67	30.09	31.60	32.15	31.40	29.98

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SO BUILDHGT G2D1035D-G2D1095D     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D1035D-G2D1095D     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D1035D-G2D1095D     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D1035D-G2D1095D     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D1035D-G2D1095D     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2D1035D-G2D1095D     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G2D1035D-G2D1095D     31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID G2D1035D-G2D1095D     21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G2D1035D-G2D1095D     27.67   29.91   31.36   31.87   31.40   29.98
SO BUILDWID G2D1035D-G2D1095D     31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID G2D1035D-G2D1095D     21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G2D1035D-G2D1095D     27.67   29.91   31.36   31.87   31.40   29.98

   SRCGROUP G6035     G1A6035 G1B6035 G1C6035 G1D6035 G2A6035 G2B6035 G2C6035 G2D6035
   SRCGROUP G7535     G1A7535 G1B7535 G1C7535 G1D7535 G2A7535 G2B7535 G2C7535 G2D7535
   SRCGROUP GD1035    G1A1035D G1B1035D G1C1035D G1D1035D
   SRCGROUP GD1035    G2A1035D G2B1035D G2C1035D G2D1035D

   SRCGROUP G6059     G1A6059 G1B6059 G1C6059 G1D6059 G2A6059 G2B6059 G2C6059 G2D6059
   SRCGROUP G7559     G1A7559 G1B7559 G1C7559 G1D7559 G2A7559 G2B7559 G2C7559 G2D7559
   SRCGROUP GD1059    G1A1059D G1B1059D G1C1059D G1D1059D
   SRCGROUP GD1059    G2A1059D G2B1059D G2C1059D G2D1059D

   SRCGROUP G6095     G1A6095 G1B6095 G1C6095 G1D6095 G2A6095 G2B6095 G2C6095 G2D6095
   SRCGROUP G7595     G1A7595 G1B7595 G1C7595 G1D7595 G2A7595 G2B7595 G2C7595 G2D7595
   SRCGROUP GD1095    G1A1095D G1B1095D G1C1095D G1D1095D
   SRCGROUP GD1095    G2A1095D G2B1095D G2C1095D G2D1095D

SO FINISHED

RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
   DISCCART -2000.00 -1700.00
   DISCCART -2000.00 -1600.00
   DISCCART -2000.00 -1500.00
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CO STARTING
   TITLEONE 1987 FPL WEST COUNTY 2200MW CC GENERIC EMIS. 10 G/S   2/15/05
   TITLETWO GENERIC CT LOAD/SIG IMPACT ANALYSIS, GE 7FB MACHINES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME PERIOD 24 8 3 1
   POLLUTID GEN
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISCST3 Source Pathway
****************************************
**
**
SO STARTING
**
** Source ID format
**
** Example: G2A6035D
**
**         G= gas (O= oil)
**         1A= unit ID (1A...1D, 2A...2D.. 3A..3D)
**         60= load % (75= 75%, 10= 100%)
**         35= temperature deg F (59, 95)
**
** Source Location **
**         Source ID - Type -  X Coord.        Y Coord.

   LOCATION 01A6035     POINT   241.625         659.067
   LOCATION 01B6035     POINT   241.926         615.668
   LOCATION 01C6035     POINT   240.460         530.290
   LOCATION 01D6035     POINT   239.792         487.625
   LOCATION 02A6035     POINT   235.747         251.569
   LOCATION 02B6035     POINT   234.844         211.179
   LOCATION 02C6035     POINT   233.320         126.002
   LOCATION 02D6035     POINT   232.580          83.188

   LOCATION 01A7535     POINT   241.625         659.067
   LOCATION 01B7535     POINT   241.926         615.668
   LOCATION 01C7535     POINT   240.460         530.290
   LOCATION 01D7535     POINT   239.792         487.625
   LOCATION 02A7535     POINT   235.747         251.569
   LOCATION 02B7535     POINT   234.844         211.179
   LOCATION 02C7535     POINT   233.320         126.002
   LOCATION 02D7535     POINT   232.580          83.188

   LOCATION 01A1035     POINT   241.625         659.067
   LOCATION 01B1035     POINT   241.926         615.668
   LOCATION 01C1035     POINT   240.460         530.290
   LOCATION 01D1035     POINT   239.792         487.625
   LOCATION 02A1035     POINT   235.747         251.569
   LOCATION 02B1035     POINT   234.844         211.179
   LOCATION 02C1035     POINT   233.320         126.002
   LOCATION 02D1035     POINT   232.580          83.188

   LOCATION 01A6059     POINT   241.625         659.067
   LOCATION 01B6059     POINT   241.926         615.668
   LOCATION 01C6059     POINT   240.460         530.290
   LOCATION 01D6059     POINT   239.792         487.625
   LOCATION 02A6059     POINT   235.747         251.569
   LOCATION 02B6059     POINT   234.844         211.179
   LOCATION 02C6059     POINT   233.320         126.002
   LOCATION 02D6059     POINT   232.580          83.188

   LOCATION 01A7559     POINT   241.625         659.067
   LOCATION 01B7559     POINT   241.926         615.668
   LOCATION 01C7559     POINT   240.460         530.290
   LOCATION 01D7559     POINT   239.792         487.625
   LOCATION 02A7559     POINT   235.747         251.569
   LOCATION 02B7559     POINT   234.844         211.179
   LOCATION 02C7559     POINT   233.320         126.002
   LOCATION 02D7559     POINT   232.580          83.188

   LOCATION 01A1059     POINT   241.625         659.067
   LOCATION 01B1059     POINT   241.926         615.668
   LOCATION 01C1059     POINT   240.460         530.290
   LOCATION 01D1059     POINT   239.792         487.625
   LOCATION 02A1059     POINT   235.747         251.569
   LOCATION 02B1059     POINT   234.844         211.179
   LOCATION 02C1059     POINT   233.320         126.002
   LOCATION 02D1059     POINT   232.580          83.188
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   LOCATION 01A6095     POINT   241.625       659.067
   LOCATION 01B6095     POINT   241.926       615.668
   LOCATION 01C6095     POINT   240.460       530.290
   LOCATION 01D6095     POINT   239.792       487.625
   LOCATION 02A6095     POINT   235.747       251.569
   LOCATION 02B6095     POINT   234.844       211.179
   LOCATION 02C6095     POINT   233.320       126.002
   LOCATION 02D6095     POINT   232.580        83.188

   LOCATION 01A7595     POINT   241.625       659.067
   LOCATION 01B7595     POINT   241.926       615.668
   LOCATION 01C7595     POINT   240.460       530.290
   LOCATION 01D7595     POINT   239.792       487.625
   LOCATION 02A7595     POINT   235.747       251.569
   LOCATION 02B7595     POINT   234.844       211.179
   LOCATION 02C7595     POINT   233.320       126.002
   LOCATION 02D7595     POINT   232.580        83.188

   LOCATION 01A1095     POINT   241.625       659.067
   LOCATION 01B1095     POINT   241.926       615.668
   LOCATION 01C1095     POINT   240.460       530.290
   LOCATION 01D1095     POINT   239.792       487.625
   LOCATION 02A1095     POINT   235.747       251.569
   LOCATION 02B1095     POINT   234.844       211.179
   LOCATION 02C1095     POINT   233.320       126.002
   LOCATION 02D1095     POINT   232.580        83.188

** Source Parameters **
** POINT:   SRCID          QS        HS          TS        VS        DS
** UNITS:                 (g/s)      (m)         (K)      (m/s)      (m)

** OIL FIRING, BASE, 75,  60% LOADS
   SRCPARAM 01A6035        2.50      45.42      397.4     15.18     5.79
   SRCPARAM 01B6035        2.50      45.42      397.4     15.18     5.79
   SRCPARAM 01C6035        2.50      45.42      397.4     15.18     5.79
   SRCPARAM 01D6035        2.50      45.42      397.4     15.18     5.79
   SRCPARAM 02A6035        2.50      45.42      397.4     15.18     5.79
   SRCPARAM 02B6035        2.50      45.42      397.4     15.18     5.79
   SRCPARAM 02C6035        2.50      45.42      397.4     15.18     5.79
   SRCPARAM 02D6035        2.50      45.42      397.4     15.18     5.79

   SRCPARAM 01A7535        2.50      45.42      405.9     17.26     5.79
   SRCPARAM 01B7535        2.50      45.42      405.9     17.26     5.79
   SRCPARAM 01C7535        2.50      45.42      405.9     17.26     5.79
   SRCPARAM 01D7535        2.50      45.42      405.9     17.26     5.79
   SRCPARAM 02A7535        2.50      45.42      405.9     17.26     5.79
   SRCPARAM 02B7535        2.50      45.42      405.9     17.26     5.79
   SRCPARAM 02C7535        2.50      45.42      405.9     17.26     5.79
   SRCPARAM 02D7535        2.50      45.42      405.9     17.26     5.79

   SRCPARAM 01A1035        2.50      45.42      420.3     22.01     5.79
   SRCPARAM 01B1035        2.50      45.42      420.3     22.01     5.79
   SRCPARAM 01C1035        2.50      45.42      420.3     22.01     5.79
   SRCPARAM 01D1035        2.50      45.42      420.3     22.01     5.79
   SRCPARAM 02A1035        2.50      45.42      420.3     22.01     5.79
   SRCPARAM 02B1035        2.50      45.42      420.3     22.01     5.79
   SRCPARAM 02C1035        2.50      45.42      420.3     22.01     5.79
   SRCPARAM 02D1035        2.50      45.42      420.3     22.01     5.79

   SRCPARAM 01A6059        2.50      45.42      399.3     14.81     5.79
   SRCPARAM 01B6059        2.50      45.42      399.3     14.81     5.79
   SRCPARAM 01C6059        2.50      45.42      399.3     14.81     5.79
   SRCPARAM 01D6059        2.50      45.42      399.3     14.81     5.79
   SRCPARAM 02A6059        2.50      45.42      399.3     14.81     5.79
   SRCPARAM 02B6059        2.50      45.42      399.3     14.81     5.79
   SRCPARAM 02C6059        2.50      45.42      399.3     14.81     5.79
   SRCPARAM 02D6059        2.50      45.42      399.3     14.81     5.79

   SRCPARAM 01A7559        2.50      45.42      407.5     16.79     5.79
   SRCPARAM 01B7559        2.50      45.42      407.5     16.79     5.79
   SRCPARAM 01C7559        2.50      45.42      407.5     16.79     5.79
   SRCPARAM 01D7559        2.50      45.42      407.5     16.79     5.79
   SRCPARAM 02A7559        2.50      45.42      407.5     16.79     5.79
   SRCPARAM 02B7559        2.50      45.42      407.5     16.79     5.79
   SRCPARAM 02C7559        2.50      45.42      407.5     16.79     5.79
   SRCPARAM 02D7559        2.50      45.42      407.5     16.79     5.79

   SRCPARAM 01A1059        2.50      45.42      419.2     20.86     5.79
   SRCPARAM 01B1059        2.50      45.42      419.2     20.86     5.79
   SRCPARAM 01C1059        2.50      45.42      419.2     20.86     5.79
   SRCPARAM 01D1059        2.50      45.42      419.2     20.86     5.79
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   SRCPARAM 02A1059        2.50       45.42      419.2      20.86     5.79
   SRCPARAM 02B1059        2.50       45.42      419.2      20.86     5.79
   SRCPARAM 02C1059        2.50       45.42      419.2      20.86     5.79
   SRCPARAM 02D1059        2.50       45.42      419.2      20.86     5.79

   SRCPARAM 01A6095        2.50       45.42      404.1      13.26     5.79
   SRCPARAM 01B6095        2.50       45.42      404.1      13.26     5.79
   SRCPARAM 01C6095        2.50       45.42      404.1      13.26     5.79
   SRCPARAM 01D6095        2.50       45.42      404.1      13.26     5.79
   SRCPARAM 02A6095        2.50       45.42      404.1      13.26     5.79
   SRCPARAM 02B6095        2.50       45.42      404.1      13.26     5.79
   SRCPARAM 02C6095        2.50       45.42      404.1      13.26     5.79
   SRCPARAM 02D6095        2.50       45.42      404.1      13.26     5.79

   SRCPARAM 01A7595        2.50       45.42      409.5      15.60     5.79
   SRCPARAM 01B7595        2.50       45.42      409.5      15.60     5.79
   SRCPARAM 01C7595        2.50       45.42      409.5      15.60     5.79
   SRCPARAM 01D7595        2.50       45.42      409.5      15.60     5.79
   SRCPARAM 02A7595        2.50       45.42      409.5      15.60     5.79
   SRCPARAM 02B7595        2.50       45.42      409.5      15.60     5.79
   SRCPARAM 02C7595        2.50       45.42      409.5      15.60     5.79
   SRCPARAM 02D7595        2.50       45.42      409.5      15.60     5.79

   SRCPARAM 01A1095        2.50       45.42      418.4      18.79     5.79
   SRCPARAM 01B1095        2.50       45.42      418.4      18.79     5.79
   SRCPARAM 01C1095        2.50       45.42      418.4      18.79     5.79
   SRCPARAM 01D1095        2.50       45.42      418.4      18.79     5.79
   SRCPARAM 02A1095        2.50       45.42      418.4      18.79     5.79
   SRCPARAM 02B1095        2.50       45.42      418.4      18.79     5.79
   SRCPARAM 02C1095        2.50       45.42      418.4      18.79     5.79
   SRCPARAM 02D1095        2.50       45.42      418.4      18.79     5.79

** Building Downwash **
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01A1035-01A7595     31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID 01A1035-01A7595     20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID 01A1035-01A7595     26.63   29.15   30.79   31.49   31.23   30.03
SO BUILDWID 01A1035-01A7595     31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID 01A1035-01A7595     20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID 01A1035-01A7595     26.63   29.15   30.79   31.49   31.23   29.99


SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01B1035-01B7595     31.09   31.86   31.53   30.34   28.11   25.03
SO BUILDWID 01B1035-01B7595     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01B1035-01B7595     27.64   30.02   30.79   31.49   31.23   30.03
SO BUILDWID 01B1035-01B7595     31.09   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 01B1035-01B7595     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01B1035-01B7595     27.64   30.02   30.79   31.49   31.23   29.99


SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01C1035-01C7595     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01C1035-01C7595     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01C1035-01C7595     27.55   29.92   31.37   31.49   31.23   29.99
SO BUILDWID 01C1035-01C7595     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01C1035-01C7595     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01C1035-01C7595     27.55   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT 01D1035-01D7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D1035-01D7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D1035-01D7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D1035-01D7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D1035-01D7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D1035-01D7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01D1035-01D7595     31.23   32.01   31.68   30.39   28.17   25.10
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SO BUILDWID 01D1035-01D7595      21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01D1035-01D7595      27.70   29.92   31.37   31.88   31.41   29.99
SO BUILDWID 01D1035-01D7595      31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01D1035-01D7595      21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01D1035-01D7595      27.70   29.92   31.37   31.88   31.41   29.99

SO BUILDHGT 02A1035-02A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02A1035-02A7595      31.27   31.88   31.52   30.20   28.25   25.12
SO BUILDWID 02A1035-02A7595      21.23   16.70   11.66   15.86   20.49   24.50
SO BUILDWID 02A1035-02A7595      27.77   30.19   31.69   32.24   31.44   30.04
SO BUILDWID 02A1035-02A7595      31.27   31.88   31.52   30.20   28.25   25.12
SO BUILDWID 02A1035-02A7595      21.23   16.70   11.66   15.86   20.49   24.50
SO BUILDWID 02A1035-02A7595      27.77   30.19   31.69   32.24   31.44   30.04

SO BUILDHGT 02B1035-02B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02B1035-02B7595      31.22   31.85   31.52   30.20   27.97   24.88
SO BUILDWID 02B1035-02B7595      21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02B1035-02B7595      27.77   29.88   31.36   31.88   31.44   30.04
SO BUILDWID 02B1035-02B7595      31.27   31.88   31.52   30.20   27.97   24.88
SO BUILDWID 02B1035-02B7595      21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02B1035-02B7595      27.77   29.88   31.36   31.88   31.44   29.98

SO BUILDHGT 02C1035-02C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02C1035-02C7595      31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID 02C1035-02C7595      21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02C1035-02C7595      27.67   30.09   31.36   31.88   31.40   29.98
SO BUILDWID 02C1035-02C7595      31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID 02C1035-02C7595      21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02C1035-02C7595      27.67   30.09   31.60   32.15   31.40   29.98

SO BUILDHGT 02D1035-02D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D1035-02D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D1035-02D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D1035-02D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D1035-02D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D1035-02D7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02D1035-02D7595      31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02D1035-02D7595      21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02D1035-02D7595      27.67   29.91   31.36   31.87   31.40   29.98
SO BUILDWID 02D1035-02D7595      31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02D1035-02D7595      21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02D1035-02D7595      27.67   29.91   31.36   31.87   31.40   29.98
   SRCGROUP 06035     01A6035 01B6035 01C6035 01D6035 02A6035 02B6035 02C6035 02D6035
   SRCGROUP 07535     01A7535 01B7535 01C7535 01D7535 02A7535 02B7535 02C7535 02D7535
   SRCGROUP 01035     01A1035 01B1035 01C1035 01D1035 02A1035 02B1035 02C1035 02D1035

   SRCGROUP 05059     01A6059 01B6059 01C6059 01D6059 02A6059 02B6059 02C6059 02D6059
   SRCGROUP 07559     01A7559 01B7559 01C7559 01D7559 02A7559 02B7559 02C7559 02D7559
   SRCGROUP 01059     01A1059 01B1059 01C1059 01D1059 02A1059 02B1059 02C1059 02D1059

   SRCGROUP 05095     01A6095 01B6095 0165095 01D6095 0265095 0265095 02C6095 02D6095
   SRCGROUP 07595     01A7595 01B7595 01C7595 01D7595 02A7595 02B7595 02C7595 02D7595
   SRCGROUP 01095     01A1095 01B1095 01C1095 01D1095 02A1095 02B1095 02C1095 02D1095

SO FINISHED

RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
   DISCCART -2000.00 -1700.00
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DISCCART -2000.00 -1600.00
DISCCART -2000.00 -1500.00
DISCCART -2000.00 -1400.00
DISCCART -2000.00 -1300.00
DISCCART -2000.00 -1200.00
DISCCART -2000.00 -1100.00
DISCCART -2000.00 -1000.00
DISCCART -2000.00 -900.00
DISCCART -2000.00 -800.00
DISCCART -2000.00 -700.00
DISCCART -2000.00 -600.00
DISCCART -2000.00 -500.00
DISCCART -2000.00 -400.00
DISCCART -2000.00 -300.00
DISCCART -2000.00 -200.00
DISCCART -2000.00 -100.00
DISCCART -2000.00 0.00
DISCCART -2000.00 100.00
DISCCART -2000.00 200.00
DISCCART -2000.00 300.00
DISCCART -2000.00 400.00
DISCCART -2000.00 500.00
DISCCART -2000.00 600.00
DISCCART -2000.00 700.00
DISCCART -2000.00 800.00
DISCCART -2000.00 900.00
DISCCART -2000.00 1000.00
DISCCART -2000.00 1100.00
DISCCART -2000.00 1200.00
DISCCART -2000.00 1300.00
DISCCART -2000.00 1400.00
DISCCART -2000.00 1500.00
DISCCART -2000.00 1600.00
DISCCART -2000.00 1700.00
DISCCART -2000.00 1800.00

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CO STARTING
   TITLEONE 1987 FPL WEST COUNTY 2200-3300MW CC - 2/20/05
   TITLETWO PM10 IMPACTS, CT/HRSGs AND COOLING TOWERS, GE 7FB MACHINES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME PERIOD 24
   POLLUTID GEN
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** ISCST3 Source Pathway
*****************************************
**
**
SO STARTING
**
** Source ID format
**
** Example: G2A6035
**
**          G= gas (O= oil)
**          1A= unit ID (1A...1D, 2A...2D.. 3A..3D)
**          60= load % (75= 75%, 10= 100%)
**          35= temperature deg F (59, 95)
**
** Source Location **
**          Source ID - Type -  X Coord.       Y Coord.

   LOCATION G1A6035     POINT   241.625        659.067
   LOCATION G1B6035     POINT   241.926        615.668
   LOCATION G1C6035     POINT   240.460        530.290
   LOCATION G1D6035     POINT   239.792        487.625
   LOCATION G2A6035     POINT   235.747        251.569
   LOCATION G2B6035     POINT   234.844        211.179
   LOCATION G2C6035     POINT   233.320        126.002
   LOCATION G2D6035     POINT   232.580         83.188
   LOCATION G3A6035     POINT   229.296       -155.460
   LOCATION G3B6035     POINT   228.612       -196.524
   LOCATION G3C6035     POINT   227.177       -281.802
   LOCATION G3D6035     POINT   226.359       -324.524

   LOCATION COOL1_01   POINT   291.974         657.973
   LOCATION COOL1_02   POINT   291.698         639.775
   LOCATION COOL1_03   POINT   291.419         621.417
   LOCATION COOL1_04   POINT   291.142         603.159
   LOCATION COOL1_05   POINT   290.863         584.811
   LOCATION COOL1_06   POINT   290.589         566.743
   LOCATION COOL1_07   POINT   290.307         548.205
   LOCATION COOL1_08   POINT   290.027         529.757
   LOCATION COOL1_09   POINT   289.753         511.689
   LOCATION COOL1_10   POINT   289.474         493.332
   LOCATION COOL1_11   POINT   289.195         474.984
   LOCATION COOL1_12   POINT   310.421         657.652
   LOCATION COOL1_13   POINT   310.137         638.925
   LOCATION COOL1_14   POINT   309.863         620.857
   LOCATION COOL1_15   POINT   309.587         602.689
   LOCATION COOL1_16   POINT   309.310         584.481
   LOCATION COOL1_17   POINT   309.031         566.103
   LOCATION COOL1_18   POINT   308.750         547.615
   LOCATION COOL1_19   POINT   308.474         529.427
   LOCATION COOL1_20   POINT   308.200         511.349
   LOCATION COOL1_21   POINT   307.921         492.961
   LOCATION COOL1_22   POINT   307.641         474.584
   LOCATION COOL2_01   POINT   285.832         253.469
   LOCATION COOL2_02   POINT   285.555         235.271
   LOCATION COOL2_03   POINT   285.276         216.913
   LOCATION COOL2_04   POINT   284.999         198.656
   LOCATION COOL2_05   POINT   284.721         180.308
   LOCATION COOL2_06   POINT   284.446         162.240
   LOCATION COOL2_07   POINT   284.165         143.702
   LOCATION COOL2_08   POINT   283.885         125.254
   LOCATION COOL2_09   POINT   283.610         107.186
   LOCATION COOL2_10   POINT   283.331          88.828
   LOCATION COOL2_11   POINT   283.053          70.480
   LOCATION COOL2_12   POINT   304.279         253.149
   LOCATION COOL2_13   POINT   303.994         234.421
   LOCATION COOL2_14   POINT   303.720         216.353
   LOCATION COOL2_15   POINT   303.444         198.185
   LOCATION COOL2_16   POINT   303.168         179.978
   LOCATION COOL2_17   POINT   302.889         161.600
   LOCATION COOL2_18   POINT   302.608         143.112
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   LOCATION COOL2_19   POINT   302.332        124.924
   LOCATION COOL2_20   POINT   302.057        106.846
   LOCATION COOL2_21   POINT   301.778         88.458
   LOCATION COOL2_22   POINT   301.499         70.080
   LOCATION COOL3_01   POINT   279.641       -154.204
   LOCATION COOL3_02   POINT   279.364       -172.402
   LOCATION COOL3_03   POINT   279.086       -190.760
   LOCATION COOL3_04   POINT   278.808       -209.017
   LOCATION COOL3_05   POINT   278.530       -227.365
   LOCATION COOL3_06   POINT   278.255       -245.433
   LOCATION COOL3_07   POINT   277.974       -263.971
   LOCATION COOL3_08   POINT   277.694       -282.419
   LOCATION COOL3_09   POINT   277.419       -300.487
   LOCATION COOL3_10   POINT   277.141       -318.845
   LOCATION COOL3_11   POINT   276.862       -337.193
   LOCATION COOL3_12   POINT   298.088       -154.524
   LOCATION COOL3_13   POINT   297.804       -173.252
   LOCATION COOL3_14   POINT   297.529       -191.320
   LOCATION COOL3_15   POINT   297.253       -209.488
   LOCATION COOL3_16   POINT   296.977       -227.695
   LOCATION COOL3_17   POINT   296.698       -246.073
   LOCATION COOL3_18   POINT   296.417       -264.561
   LOCATION COOL3_19   POINT   296.141       -282.749
   LOCATION COOL3_20   POINT   295.866       -300.827
   LOCATION COOL3_21   POINT   295.587       -319.215
   LOCATION COOL3_22   POINT   295.308       -337.593

** Source Parameters **
** POINT:   SRCID         QS        HS         TS         VS        DS
** UNITS:                (g/s)      (m)        (K)       (m/s)      (m)

** GAS FIRING - 75 AND  50% LOADS
   SRCPARAM G1A6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G1B6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G1C6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G1D6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G2A6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G2B6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G2C6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G2D6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G3A6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G3B6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G3C6035       1.30      45.42      352.8      13.36     5.79
   SRCPARAM G3D6035       1.30      45.42      352.8      13.36     5.79

   SRCPARAM COOL1_01     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_02     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_03     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_04     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_05     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_06     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_07     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_08     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_09     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_10     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_11     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_12     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_13     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_14     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_15     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_16     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_17     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_18     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_19     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_20     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_21     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL1_22     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_01     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_02     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_03     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_04     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_05     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_06     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_07     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_08     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_09     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_10     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_11     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_12     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_13     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_14     0.007     19.800      309.0       6.72    11.59
   SRCPARAM COOL2_15     0.007     19.800      309.0       6.72    11.59
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   SRCPARAM COOL2_16    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL2_17    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL2_18    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL2_19    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL2_20    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL2_21    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL2_22    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_01    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_02    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_03    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_04    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_05    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_06    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_07    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_08    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_09    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_10    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_11    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_12    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_13    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_14    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_15    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_16    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_17    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_18    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_19    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_20    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_21    0.007      19.800   309.0      6.72     11.59
   SRCPARAM COOL3_22    0.007      19.800   309.0      6.72     11.59

** Building Downwash **
SO BUILDHGT G1A6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1A6035     31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID G1A6035     20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID G1A6035     26.63   29.15   30.79   31.49   31.23   30.03
SO BUILDWID G1A6035     31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID G1A6035     20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID G1A6035     26.63   29.15   30.79   31.49   31.23   29.99


SO BUILDHGT G1B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1B6035     31.09   31.86   31.53   30.34   28.11   25.03
SO BUILDWID G1B6035     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G1B6035     27.64   30.02   30.79   31.49   31.23   30.03
SO BUILDWID G1B6035     31.09   31.99   31.64   30.34   28.11   25.03
SO BUILDWID G1B6035     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G1B6035     27.64   30.02   30.79   31.49   31.23   29.99


SO BUILDHGT G1C6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1C6035     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID G1C6035     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G1C6035     27.55   29.92   31.37   31.49   31.23   29.99
SO BUILDWID G1C6035     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID G1C6035     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G1C6035     27.55   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT G1D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1D6035     31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID G1D6035     21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID G1D6035     27.70   29.92   31.37   31.88   31.41   29.99
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SO BUILDWID G1D6035	31.23	32.01	31.68	30.39	28.17	25.10
SO BUILDWID G1D6035	21.27	16.79	11.79	15.95	20.53	24.49
SO BUILDWID G1D6035	27.70	29.92	31.37	31.88	31.41	29.99
SO BUILDHGT G2A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G2A6035	31.27	31.88	31.52	30.20	28.25	25.12
SO BUILDWID G2A6035	21.23	16.70	11.66	15.86	20.49	24.50
SO BUILDWID G2A6035	27.77	30.19	31.69	32.24	31.44	30.04
SO BUILDWID G2A6035	31.27	31.88	31.52	30.20	28.25	25.12
SO BUILDWID G2A6035	21.23	16.70	11.66	15.86	20.49	24.50
SO BUILDWID G2A6035	27.77	30.19	31.69	32.24	31.44	30.04
SO BUILDHGT G2B6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2B6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G2B6035	31.22	31.85	31.52	30.20	27.97	24.88
SO BUILDWID G2B6035	21.04	16.56	11.58	15.73	20.31	24.27
SO BUILDWID G2B6035	27.77	29.88	31.36	31.88	31.44	30.04
SO BUILDWID G2B6035	31.27	31.88	31.52	30.20	27.97	24.88
SO BUILDWID G2B6035	21.04	16.56	11.58	15.73	20.31	24.27
SO BUILDWID G2B6035	27.77	29.88	31.36	31.88	31.44	29.98
SO BUILDHGT G2C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G2C6035	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID G2C6035	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID G2C6035	27.67	30.09	31.36	31.88	31.40	29.98
SO BUILDWID G2C6035	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID G2C6035	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID G2C6035	27.67	30.09	31.60	32.15	31.40	29.98
SO BUILDHGT G2D6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2D6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2D6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2D6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2D6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2D6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G2D6035	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID G2D6035	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID G2D6035	27.67	29.91	31.36	31.87	31.40	29.98
SO BUILDWID G2D6035	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID G2D6035	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID G2D6035	27.67	29.91	31.36	31.87	31.40	29.98
SO BUILDHGT G3A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G3A6035	31.30	31.93	31.59	30.29	28.11	24.99
SO BUILDWID G3A6035	21.16	16.69	11.70	15.85	20.42	24.38
SO BUILDWID G3A6035	27.59	29.96	31.43	31.94	31.47	30.06
SO BUILDWID G3A6035	31.30	31.93	31.59	30.29	28.11	24.99
SO BUILDWID G3A6035	21.16	16.69	11.70	15.85	20.42	24.38
SO BUILDWID G3A6035	27.59	29.96	31.43	31.94	31.47	30.06
SO BUILDHGT G3C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C6035	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G3C6035	31.36	31.99	31.64	30.34	28.28	25.03

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SO BUILDWID G3C6035     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G3C6035     27.64   30.02   31.48   31.94   31.47   30.06
SO BUILDWID G3C6035     31.36   31.99   31.64   30.34   28.28   25.03
SO BUILDWID G3C6035     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G3C6035     27.64   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT G3D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3D6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G3D6035     31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID G3D6035     21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID G3D6035     27.80   30.02   31.48   32.00   31.54   30.12
SO BUILDWID G3D6035     31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID G3D6035     21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID G3D6035     27.80   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT G3B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B6035     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G3B6035     31.30   31.99   31.64   30.34   28.11   25.03
SO BUILDWID G3B6035     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G3B6035     27.64   29.96   31.43   31.94   31.47   30.06
SO BUILDWID G3B6035     31.30   31.99   31.64   30.34   28.11   25.03
SO BUILDWID G3B6035     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G3B6035     27.64   29.96   31.43   31.94   31.47   30.06

SO BUILDHGT COOL1_01    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_01    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_01    66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_01    21.19   15.47   10.47   14.63  200.16  191.77
SO BUILDWID COOL1_01   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_01    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_01   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_01   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_02    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_02    29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_02    66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_02    21.19   16.71  199.77   14.63   19.26   23.30
SO BUILDWID COOL1_02   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_02    66.41   98.53  127.65  152.89   28.11  188.82
SO BUILDWID COOL1_02   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_03    15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_03    29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_03    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_03    66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_03    21.19   16.71   11.71  202.47   19.26   23.30
SO BUILDWID COOL1_03    26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_03    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_03   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_03   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_04    15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_04    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_04    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04    15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_04   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77   15.87   20.45   24.42
SO BUILDWID COOL1_04   26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_04   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_05   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_05   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_05   27.64   29.15   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_05   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_05  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_06   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_06   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_06   21.15  201.97  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_06   27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_06   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_06  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_06  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_07   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_07   66.41   98.53   31.68   30.39   28.17   25.10
SO BUILDWID COOL1_07   21.15   16.68  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07   27.64   30.02   30.79   31.49   73.39   39.50
SO BUILDWID COOL1_07   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_07  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_08   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_08   21.27   16.68   11.71   15.85  200.16  191.77
SO BUILDWID COOL1_08   27.64   30.02   30.79   31.49   73.39   39.50
SO BUILDWID COOL1_08   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_08  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_08  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_09   21.27   16.79  199.77   15.85   20.41   24.35
SO BUILDWID COOL1_09  177.55   30.02   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17  188.82
SO BUILDWID COOL1_09  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_09  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_10   29.57   29.57   29.57   29.57   15.54   15.54
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SO	BUILDHGT	COOL1_10	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_10	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_10	15.54	29.57	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_10	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_10	21.27	16.79	11.79	202.47	20.41	24.35
SO	BUILDWID	COOL1_10	27.55	29.92	31.48	32.00	73.39	39.50
SO	BUILDWID	COOL1_10	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_10	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_10	177.55	29.92	133.52	105.05	73.39	39.50
SO	BUILDHGT	COOL1_11	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_11	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL1_11	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL1_11	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_11	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_11	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_11	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_11	198.41	201.97	199.77	15.95	20.53	24.49
SO	BUILDWID	COOL1_11	27.55	29.92	31.48	32.00	73.39	39.50
SO	BUILDWID	COOL1_11	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_11	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_11	177.55	157.94	133.52	105.05	73.39	39.50
SO	BUILDHGT	COOL1_12	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL1_12	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_12	66.41	98.53	31.53	30.24	28.11	25.03
SO	BUILDWID	COOL1_12	21.19	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_12	177.55	157.94	133.52	105.05	73.39	39.50
SO	BUILDWID	COOL1_12	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_12	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_12	177.55	157.94	133.52	105.05	73.39	39.50
SO	BUILDHGT	COOL1_13	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL1_13	29.57	29.57	15.54	29.57	29.57	15.54
SO	BUILDHGT	COOL1_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_13	66.41	98.53	31.53	30.24	28.03	25.03
SO	BUILDWID	COOL1_13	21.19	16.71	199.77	14.63	19.26	191.77
SO	BUILDWID	COOL1_13	177.55	157.94	133.52	105.05	73.39	39.50
SO	BUILDWID	COOL1_13	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_13	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_13	177.55	157.94	133.52	105.05	73.39	39.50
SO	BUILDHGT	COOL1_14	15.54	15.54	29.57	29.57	29.57	15.54
SO	BUILDHGT	COOL1_14	15.54	29.57	29.57	15.54	29.57	29.57
SO	BUILDHGT	COOL1_14	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_14	66.41	98.53	31.68	30.24	28.03	188.82
SO	BUILDWID	COOL1_14	198.41	16.71	11.71	202.47	19.26	23.30
SO	BUILDWID	COOL1_14	26.63	157.94	133.52	105.05	73.39	39.50
SO	BUILDWID	COOL1_14	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_14	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_14	177.55	157.94	133.52	105.05	73.39	39.50
SO	BUILDHGT	COOL1_15	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL1_15	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL1_15	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_15	66.41	98.53	31.68	30.24	28.03	24.97
SO	BUILDWID	COOL1_15	198.41	201.97	199.77	15.87	20.45	23.30
SO	BUILDWID	COOL1_15	26.63	157.94	133.52	105.05	73.39	39.50
SO	BUILDWID	COOL1_15	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_15	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_15	177.55	157.94	133.52	105.05	73.39	39.50
SO	BUILDHGT	COOL1_16	15.54	15.54	29.57	29.57	29.57	29.57

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SO BUILDHGT COOL1_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_16   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_16   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_16   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_16   26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_16   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_16  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_16  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_17   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_17   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_17   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_17   27.64   29.15   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_17   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_17  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_17  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_18   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_18   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_18   21.15   16.68  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_18   27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_18   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_18  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_18  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_19   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_19   21.27  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19   27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_19   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_19  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_20   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_20   66.41   98.53  127.65  152.89  173.49   25.10
SO BUILDWID COOL1_20   21.27   16.79  199.77   15.85   20.41  191.77
SO BUILDWID COOL1_20   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_20   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_20  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_20  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_21   27.55   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_21  177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77   15.95   20.53   24.35
SO BUILDWID COOL1_22   27.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_22  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL2_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_01   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_01   67.09   32.14   31.76   30.20   27.97   24.88
SO BUILDWID COOL2_01   21.04   16.70   11.66   15.86  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_01   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_01  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_02   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_02   67.09   32.14   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_02   21.04   16.56  199.54   15.86   20.49   24.50
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_02   67.09   99.20  128.30  153.50   27.97  189.28
SO BUILDWID COOL2_02  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_03   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_03   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_03   67.09   31.85   31.52   30.42   28.15  189.28
SO BUILDWID COOL2_03   21.04   16.56   11.58  201.78   20.49   24.50
SO BUILDWID COOL2_03   27.77  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_03   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_03  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_04   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_04   67.09   31.85   31.52   30.23   28.15  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54   15.73   20.31   24.50
SO BUILDWID COOL2_04   27.77   30.19  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_04   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_04  176.76   56.87  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_05   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDWID COOL2_05   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_05   27.77   30.19   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_05   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78  199.42  190.99
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SO BUILDWID COOL2_05  176.76   56.87   52.71  104.37   72.79   39.00

SO BUILDHGT COOL2_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_06   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_06   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_06   21.14  202.23  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_06   27.77   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_06   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_06  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_06  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_07   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_07   21.14   16.62  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07   27.49   29.88   31.36   32.24   72.79   39.00
SO BUILDWID COOL2_07   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_07  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_08   67.09   99.20  128.30   30.23   28.02   24.96
SO BUILDWID COOL2_08   21.14   16.62   11.59   15.77  199.42  190.99
SO BUILDWID COOL2_08   27.49   29.88   31.36   32.24   72.79   39.00
SO BUILDWID COOL2_08   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_08  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_08  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_09   21.14   16.68  199.54   15.77   20.40   24.40
SO BUILDWID COOL2_09  176.76   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02  189.28
SO BUILDWID COOL2_09  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_09  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10   21.14   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_10   27.67   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_10  176.76   30.09  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_11   27.67   30.09   31.36   31.88   72.79   39.00
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SO	BUILDWID	COOL2_11	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_11	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_11	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_12	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_12	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_12	67.09	99.20	31.76	30.42	27.97	24.88
SO	BUILDWID	COOL2_12	21.04	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_12	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_12	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_12	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_12	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_13	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_13	29.57	29.57	15.54	29.57	29.57	15.54
SO	BUILDHGT	COOL2_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_13	67.09	99.20	31.76	30.42	28.15	24.88
SO	BUILDWID	COOL2_13	21.04	16.56	199.54	15.86	20.49	190.99
SO	BUILDWID	COOL2_13	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_13	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_13	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_13	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	29.57	29.57	15.54
SO	BUILDHGT	COOL2_14	15.54	29.57	29.57	15.54	29.57	29.57
SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_14	67.09	99.20	128.30	30.42	28.15	189.28
SO	BUILDWID	COOL2_14	198.77	16.56	11.58	201.78	20.49	24.50
SO	BUILDWID	COOL2_14	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_14	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_14	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_14	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_15	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_15	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_15	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_15	67.09	99.20	31.52	30.23	28.15	25.03
SO	BUILDWID	COOL2_15	198.77	202.23	199.54	15.73	20.31	24.50
SO	BUILDWID	COOL2_15	27.77	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_15	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_15	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_15	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_16	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_16	29.57	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_16	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_16	67.09	99.20	31.52	30.23	28.15	25.03
SO	BUILDWID	COOL2_16	21.14	202.23	199.54	201.78	20.31	24.50
SO	BUILDWID	COOL2_16	27.77	30.19	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_16	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_16	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_16	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_17	29.57	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_17	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_17	67.09	99.20	128.30	30.23	28.02	25.03

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SO BUILDWID COOL2_17   21.14  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_17   27.77   30.19   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_17   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_17  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_17  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_18   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_18   21.14   16.62  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_18   27.49   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_18  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_18  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_19   21.14  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19   27.49   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_19  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_20   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03   24.96
SO BUILDWID COOL2_20   21.14   16.68  199.54   15.77   20.40  190.99
SO BUILDWID COOL2_20   27.49   29.88   31.36   46.94   72.79   39.00
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_20  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_20  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_21   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_21   27.67   29.88   31.36   46.94   72.79   39.00
SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_21  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_22   27.67  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_22  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL3_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_01   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_01   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_01   21.19   16.69   11.70   15.85  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_01   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_01  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_02   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_02   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_02   21.19   16.71  200.71   15.85   20.42   24.38
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_02   67.70   99.99  129.24  154.57   28.11  190.50
SO BUILDWID COOL3_02  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_03   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_03   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_03   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_03   21.19   16.71   11.71  203.54   20.42   24.38
SO BUILDWID COOL3_03   27.59  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_03   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_03  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_03  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_04   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_04   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_04   27.59   29.96  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_04   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_04  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_05   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_05   67.70   99.99   31.79   30.34   28.11   25.03
SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54   20.45   24.42
SO BUILDWID COOL3_05   27.64   29.96   31.43  105.42   73.58   39.50
SO BUILDWID COOL3_05   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_05  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_06   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_06   67.70   99.99   31.79   30.50   28.28   25.03
SO BUILDWID COOL3_06   21.19  203.45  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_06   27.64   29.96   31.43  105.42   73.58   39.50
SO BUILDWID COOL3_06   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_06  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_06  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_07   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_07   29.57   29.57   29.57   29.57   15.54   15.54
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SO BUILDHGT COOL3_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_07   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_07   21.19   16.71  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_07   27.64   29.96   31.43   31.94   73.58   39.50
SO BUILDWID COOL3_07   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_07  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_07  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_08   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_08   21.35   16.71   11.71   15.87  201.18  192.71
SO BUILDWID COOL3_08   27.64   30.02   31.43   31.94   73.58   39.50
SO BUILDWID COOL3_08   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_08  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_08  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_09   67.70   99.99  129.24  154.57   28.28   25.20
SO BUILDWID COOL3_09   21.35   16.86  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_09  178.38   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_09   67.70   99.99  129.24  154.57   28.28  190.50
SO BUILDWID COOL3_09  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_09  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_10   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_10   21.35   16.86   11.85  203.54   20.45   24.42
SO BUILDWID COOL3_10   27.64   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_10   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_10  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_10  178.38   30.02  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_11   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_11  200.01  203.45  200.71   16.02   20.61   24.58
SO BUILDWID COOL3_11   27.64   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_11   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_11  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_11  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_12   67.70   99.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_12   21.19  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_12  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_12   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_12  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_12  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_13   15.54   15.54   29.57   29.57   29.57   29.57
```

SO	BUILDHGT	COOL3_13	29.57	29.57	15.54	29.57	29.57	15.54
SO	BUILDHGT	COOL3_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_13	67.70	99.99	31.64	30.34	28.11	25.03
SO	BUILDWID	COOL3_13	21.19	16.71	200.71	15.85	20.42	192.71
SO	BUILDWID	COOL3_13	178.38	158.63	134.06	105.42	73.58	39.50
SO	BUILDWID	COOL3_13	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_13	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_13	178.38	158.63	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_14	15.54	15.54	15.54	29.57	29.57	15.54
SO	BUILDHGT	COOL3_14	15.54	29.57	29.57	15.54	29.57	29.57
SO	BUILDHGT	COOL3_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_14	67.70	99.99	129.24	30.34	28.11	190.50
SO	BUILDWID	COOL3_14	200.01	16.71	11.71	203.54	20.42	24.38
SO	BUILDWID	COOL3_14	178.38	158.63	134.06	105.42	73.58	39.50
SO	BUILDWID	COOL3_14	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_14	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_14	178.38	158.63	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_15	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL3_15	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL3_15	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_15	67.70	99.99	31.79	30.34	28.11	25.03
SO	BUILDWID	COOL3_15	200.01	203.45	200.71	15.87	20.45	24.38
SO	BUILDWID	COOL3_15	27.59	158.63	134.06	105.42	73.58	39.50
SO	BUILDWID	COOL3_15	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_15	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_15	178.38	158.63	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_16	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL3_16	29.57	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL3_16	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_16	67.70	99.99	31.79	30.50	28.28	25.03
SO	BUILDWID	COOL3_16	21.19	203.45	200.71	15.87	20.45	24.42
SO	BUILDWID	COOL3_16	27.59	29.96	134.06	105.42	73.58	39.50
SO	BUILDWID	COOL3_16	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_16	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_16	178.38	158.63	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_17	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL3_17	29.57	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL3_17	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL3_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_17	67.70	99.99	129.24	30.50	28.28	25.20
SO	BUILDWID	COOL3_17	21.19	203.45	200.71	203.54	20.45	24.42
SO	BUILDWID	COOL3_17	27.64	29.96	31.43	105.42	73.58	39.50
SO	BUILDWID	COOL3_17	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_17	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_17	178.38	158.63	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_18	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL3_18	29.57	29.57	15.54	15.54	15.54	29.57
SO	BUILDHGT	COOL3_18	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL3_18	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_18	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_18	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_18	67.70	99.99	129.24	30.50	28.28	25.20
SO	BUILDWID	COOL3_18	21.19	16.71	200.71	203.54	201.18	24.42
SO	BUILDWID	COOL3_18	27.64	29.96	31.43	105.42	73.58	39.50
SO	BUILDWID	COOL3_18	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_18	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_18	178.38	158.63	134.06	105.42	73.58	39.50

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SO BUILDHGT COOL3_19    15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_19    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_19    67.70   99.99  129.24  154.57   28.28   25.20
SO BUILDWID COOL3_19    21.35  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19    27.64   29.96   31.43  105.42   73.58   39.50
SO BUILDWID COOL3_19    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_19   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_20    15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_20    29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_20    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_20    67.70   99.99  129.24  154.57  175.19   25.20
SO BUILDWID COOL3_20    21.35   16.86  200.71   15.87   20.45  192.71
SO BUILDWID COOL3_20    27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_20    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_20   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_20   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21    15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_21    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_21    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21   200.01   16.86   11.85  203.54   20.45   24.42
SO BUILDWID COOL3_21    27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_21    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_21   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_22    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_22    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22   200.01  203.45  200.71   16.02   20.61   24.42
SO BUILDWID COOL3_22    27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_22    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_22   178.38  158.63  134.06  105.42   73.58   39.50

   SRCGROUP 33MWALL G1A6035-G3D6035 COOL1_1-COOL1_22 COOL2_1-COOL2_22 COOL3_1-COOL3_22
   SRCGROUP 33MWCOOL COOL1_1-COOL1_22 COOL2_1-COOL2_22 COOL3_1-COOL3_22
   SRCGROUP 33MWHRSG G1A6035-G3D6035

   SRCGROUP 22MWALL G1A6035-G2D6035 COOL1_1-COOL1_22 COOL2_1-COOL2_22
   SRCGROUP 22MWCOOL COOL1_1-COOL1_22 COOL2_1-COOL2_22
   SRCGROUP 22MWHRSG G1A6035-G2D6035

SO FINISHED

RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
   DISCCART -2000.00 -1700.00
   DISCCART -2000.00 -1600.00
   DISCCART -2000.00 -1500.00
   DISCCART -2000.00 -1400.00
   DISCCART -2000.00 -1300.00
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CO STARTING
   TITLEONE 1987 FPL WEST COUNTY 2200-3300MW CC - OIL FIRING CASES - 2/20/05
   TITLETWO PM10 IMPACTS, CT/HRSGs AND COOLING TOWERS, GE 7FB MACHINES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME PERIOD 24
   POLLUTID GEN
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** ISCST3 Source Pathway
*****************************************
**
**
SO STARTING
**
** Source ID format
**
** Example: G2A6035
**
**          G= gas (O= oil)
**          1A= unit ID (1A...1D, 2A...2D.. 3A..3D)
**          60= load % (75= 75%, 10= 100%)
**          35= temperature deg F (59, 95)
**
** Source Location **
**          Source ID - Type -  X Coord.       Y Coord.
** CT/HRSG 60% LOAD, 95 deg F
   LOCATION O1A6095     POINT   241.625        659.067
   LOCATION O1B6095     POINT   241.926        615.668
   LOCATION O1C6095     POINT   240.460        530.290
   LOCATION O1D6095     POINT   239.792        487.625
   LOCATION O2A6095     POINT   235.747        251.569
   LOCATION O2B6095     POINT   234.844        211.179
   LOCATION O2C6095     POINT   233.320        126.002
   LOCATION O2D6095     POINT   232.580         83.188
   LOCATION O3A6095     POINT   229.296       -155.460
   LOCATION O3B6095     POINT   227.177       -281.802
   LOCATION O3C6095     POINT   226.359       -324.524
   LOCATION O3D6095     POINT   228.612       -196.524

   LOCATION COOL1_01  POINT   291.974        657.973
   LOCATION COOL1_02  POINT   291.698        639.775
   LOCATION COOL1_03  POINT   291.419        621.417
   LOCATION COOL1_04  POINT   291.142        603.159
   LOCATION COOL1_05  POINT   290.863        584.811
   LOCATION COOL1_06  POINT   290.589        566.743
   LOCATION COOL1_07  POINT   290.307        548.205
   LOCATION COOL1_08  POINT   290.027        529.757
   LOCATION COOL1_09  POINT   289.753        511.689
   LOCATION COOL1_10  POINT   289.474        493.332
   LOCATION COOL1_11  POINT   289.195        474.984
   LOCATION COOL1_12  POINT   310.421        657.652
   LOCATION COOL1_13  POINT   310.137        638.925
   LOCATION COOL1_14  POINT   309.863        620.857
   LOCATION COOL1_15  POINT   309.587        602.689
   LOCATION COOL1_16  POINT   309.310        584.481
   LOCATION COOL1_17  POINT   309.031        566.103
   LOCATION COOL1_18  POINT   308.750        547.615
   LOCATION COOL1_19  POINT   308.474        529.427
   LOCATION COOL1_20  POINT   308.200        511.349
   LOCATION COOL1_21  POINT   307.921        492.961
   LOCATION COOL1_22  POINT   307.641        474.584
   LOCATION COOL2_01  POINT   285.832        253.469
   LOCATION COOL2_02  POINT   285.555        235.271
   LOCATION COOL2_03  POINT   285.276        216.913
   LOCATION COOL2_04  POINT   284.999        198.656
   LOCATION COOL2_05  POINT   284.721        180.308
   LOCATION COOL2_06  POINT   284.446        162.240
   LOCATION COOL2_07  POINT   284.165        143.702
   LOCATION COOL2_08  POINT   283.885        125.254
   LOCATION COOL2_09  POINT   283.610        107.186
   LOCATION COOL2_10  POINT   283.331         88.828
   LOCATION COOL2_11  POINT   283.053         70.480
   LOCATION COOL2_12  POINT   304.279        253.149
   LOCATION COOL2_13  POINT   303.994        234.421
   LOCATION COOL2_14  POINT   303.720        216.353
   LOCATION COOL2_15  POINT   303.444        198.185
   LOCATION COOL2_16  POINT   303.168        179.978
   LOCATION COOL2_17  POINT   302.889        161.600
   LOCATION COOL2_18  POINT   302.608        143.112
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   LOCATION COOL2_19   POINT   302.332        124.924
   LOCATION COOL2_20   POINT   302.057        106.846
   LOCATION COOL2_21   POINT   301.778         88.458
   LOCATION COOL2_22   POINT   301.499         70.080
   LOCATION COOL3_01   POINT   279.641       -154.204
   LOCATION COOL3_02   POINT   279.364       -172.402
   LOCATION COOL3_03   POINT   279.086       -190.760
   LOCATION COOL3_04   POINT   278.808       -209.017
   LOCATION COOL3_05   POINT   278.530       -227.365
   LOCATION COOL3_06   POINT   278.255       -245.433
   LOCATION COOL3_07   POINT   277.974       -263.971
   LOCATION COOL3_08   POINT   277.694       -282.419
   LOCATION COOL3_09   POINT   277.419       -300.487
   LOCATION COOL3_10   POINT   277.141       -318.845
   LOCATION COOL3_11   POINT   276.862       -337.193
   LOCATION COOL3_12   POINT   298.088       -154.524
   LOCATION COOL3_13   POINT   297.804       -173.252
   LOCATION COOL3_14   POINT   297.529       -191.320
   LOCATION COOL3_15   POINT   297.253       -209.488
   LOCATION COOL3_16   POINT   296.977       -227.695
   LOCATION COOL3_17   POINT   296.698       -246.073
   LOCATION COOL3_18   POINT   296.417       -264.561
   LOCATION COOL3_19   POINT   296.141       -282.749
   LOCATION COOL3_20   POINT   295.866       -300.827
   LOCATION COOL3_21   POINT   295.587       -319.215
   LOCATION COOL3_22   POINT   295.308       -337.593

** Source Parameters **
** POINT:   SRCID            QS          HS          TS          VS         DS
** UNITS:                  (g/s)        (m)         (K)        (m/s)       (m)

** CT/HRSG 50% LOAD, 95 deg F

   SRCPARAM 01A6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 01B6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 01C6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 01D6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 02A6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 02B6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 02C6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 02D6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 03A6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 03B6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 03C6095         2.19       45.42       404.1       13.26      5.79
   SRCPARAM 03D6095         2.19       45.42       404.1       13.26      5.79

   SRCPARAM COOL1_01      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_02      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_03      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_04      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_05      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_06      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_07      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_08      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_09      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_10      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_11      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_12      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_13      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_14      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_15      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_16      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_17      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_18      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_19      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_20      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_21      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL1_22      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_01      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_02      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_03      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_04      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_05      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_06      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_07      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_08      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_09      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_10      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_11      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_12      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_13      0.007      19.800       309.0        6.72     11.59
   SRCPARAM COOL2_14      0.007      19.800       309.0        6.72     11.59
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   SRCPARAM COOL2_15   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL2_16   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL2_17   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL2_18   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL2_19   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL2_20   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL2_21   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL2_22   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_01   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_02   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_03   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_04   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_05   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_06   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_07   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_08   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_09   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_10   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_11   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_12   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_13   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_14   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_15   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_16   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_17   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_18   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_19   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_20   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_21   0.007     19.800   309.0     6.72    11.59
   SRCPARAM COOL3_22   0.007     19.800   309.0     6.72    11.59

** Building Downwash **
SO BUILDHGT 01A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01A6095    31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID 01A6095    20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID 01A6095    26.63   29.15   30.79   31.49   31.23   30.03
SO BUILDWID 01A6095    31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID 01A6095    20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID 01A6095    26.63   29.15   30.79   31.49   31.23   29.99


SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01B6095    31.09   31.86   31.53   30.34   28.11   25.03
SO BUILDWID 01B6095    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01B6095    27.64   30.02   30.79   31.49   31.23   30.03
SO BUILDWID 01B6095    31.09   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 01B6095    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01B6095    27.64   30.02   30.79   31.49   31.23   29.99


SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01C6095    31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01C6095    21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01C6095    27.55   29.92   31.37   31.49   31.23   29.99
SO BUILDWID 01C6095    31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01C6095    21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01C6095    27.55   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01D6095    31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01D6095    21.27   16.79   11.79   15.95   20.53   24.49
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SO BUILDWID 01D6095	27.70	29.92	31.37	31.88	31.41	29.99
SO BUILDWID 01D6095	31.23	32.01	31.68	30.39	28.17	25.10
SO BUILDWID 01D6095	21.27	16.79	11.79	15.95	20.53	24.49
SO BUILDWID 01D6095	27.70	29.92	31.37	31.88	31.41	29.99

SO BUILDHGT 02A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 02A6095	31.27	31.88	31.52	30.20	28.25	25.12
SO BUILDWID 02A6095	21.23	16.70	11.66	15.86	20.49	24.50
SO BUILDWID 02A6095	27.77	30.19	31.69	32.24	31.44	30.04
SO BUILDWID 02A6095	31.27	31.88	31.52	30.20	28.25	25.12
SO BUILDWID 02A6095	21.23	16.70	11.66	15.86	20.49	24.50
SO BUILDWID 02A6095	27.77	30.19	31.69	32.24	31.44	30.04

SO BUILDHGT 02B6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 02B6095	31.22	31.85	31.52	30.20	27.97	24.88
SO BUILDWID 02B6095	21.04	16.56	11.58	15.73	20.31	24.27
SO BUILDWID 02B6095	27.77	29.88	31.36	31.88	31.44	30.04
SO BUILDWID 02B6095	31.27	31.88	31.52	30.20	27.97	24.88
SO BUILDWID 02B6095	21.04	16.56	11.58	15.73	20.31	24.27
SO BUILDWID 02B6095	27.77	29.88	31.36	31.88	31.44	29.98

SO BUILDHGT 02C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 02C6095	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID 02C6095	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID 02C6095	27.67	30.09	31.36	31.88	31.40	29.98
SO BUILDWID 02C6095	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID 02C6095	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID 02C6095	27.67	30.09	31.60	32.15	31.40	29.98

SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 02D6095	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID 02D6095	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID 02D6095	27.67	29.91	31.36	31.87	31.40	29.98
SO BUILDWID 02D6095	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID 02D6095	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID 02D6095	27.67	29.91	31.36	31.87	31.40	29.98

SO BUILDHGT 03A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03A6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 03A6095	31.30	31.93	31.59	30.29	28.11	24.99
SO BUILDWID 03A6095	21.16	16.69	11.70	15.85	20.42	24.38
SO BUILDWID 03A6095	27.59	29.96	31.43	31.94	31.47	30.06
SO BUILDWID 03A6095	31.30	31.93	31.59	30.29	28.11	24.99
SO BUILDWID 03A6095	21.16	16.69	11.70	15.85	20.42	24.38
SO BUILDWID 03A6095	27.59	29.96	31.43	31.94	31.47	30.06

SO BUILDHGT 03C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03C6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 03C6095	29.57	29.57	29.57	29.57	29.57	29.57

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SO BUILDWID 03C6095     31.36   31.99   31.64   30.34   28.28   25.03
SO BUILDWID 03C6095     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03C6095     27.64   30.02   31.48   31.94   31.47   30.06
SO BUILDWID 03C6095     31.36   31.99   31.64   30.34   28.28   25.03
SO BUILDWID 03C6095     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03C6095     27.64   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT 03D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 03D6095     31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID 03D6095     21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID 03D6095     27.80   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 03D6095     31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID 03D6095     21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID 03D6095     27.80   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT 03B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 03B6095     31.30   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 03B6095     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03B6095     27.64   29.96   31.43   31.94   31.47   30.06
SO BUILDWID 03B6095     31.30   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 03B6095     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03B6095     27.64   29.96   31.43   31.94   31.47   30.06

SO BUILDHGT COOL1_01    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_01    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_01    66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_01    21.19   15.47   10.47   14.63  200.16  191.77
SO BUILDWID COOL1_01   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_01    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_01   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_01   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_02    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_02    29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_02    66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_02    21.19   16.71  199.77   14.63   19.26   23.30
SO BUILDWID COOL1_02   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_02    66.41   98.53  127.65  152.89   28.11  188.82
SO BUILDWID COOL1_02   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_03    15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_03    29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_03    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_03    66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_03    21.19   16.71   11.71  202.47   19.26   23.30
SO BUILDWID COOL1_03    26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_03    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_03   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_03   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_04    15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_04    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_04    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04    15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_04   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77   15.87   20.45   24.42
SO BUILDWID COOL1_04   26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_04   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_05   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_05   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_05   27.64   29.15   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_05   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_05  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_06   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_06   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_06   21.15  201.97  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_06   27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_06   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_06  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_06  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_07   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_07   66.41   98.53   31.68   30.39   28.17   25.10
SO BUILDWID COOL1_07   21.15   16.68  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07   27.64   30.02   30.79   31.49   73.39   39.50
SO BUILDWID COOL1_07   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_07  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_08   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_08   21.27   16.68   11.71   15.85  200.16  191.77
SO BUILDWID COOL1_08   27.64   30.02   30.79   31.49   73.39   39.50
SO BUILDWID COOL1_08   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_08  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_08  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_09   21.27   16.79  199.77   15.85   20.41   24.35
SO BUILDWID COOL1_09  177.55   30.02   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17  188.82
SO BUILDWID COOL1_09  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_09  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   29.57   29.57   29.57   15.54   29.57   29.57
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SO BUILDHGT COOL1_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10   21.27   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_10   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_10  177.55   29.92  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77   15.95   20.53   24.49
SO BUILDWID COOL1_11   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_11  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_12   66.41   98.53   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_12   21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_12   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_12  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_13   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_13   66.41   98.53   31.53   30.24   28.03   25.03
SO BUILDWID COOL1_13   21.19   16.71  199.77   14.63   19.26  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_13   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_13  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_14   15.54   15.54   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_14   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_14   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_14   66.41   98.53   31.68   30.24   28.03  188.82
SO BUILDWID COOL1_14  198.41   16.71   11.71  202.47   19.26   23.30
SO BUILDWID COOL1_14   26.63  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_14   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_14  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_15   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_15   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_15   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_15  198.41  201.97  199.77   15.87   20.45   23.30
SO BUILDWID COOL1_15   26.63  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_15   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_15  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_15  177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDHGT COOL1_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_16   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_16   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_16   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_16   26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_16   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_16  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_16  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_17   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_17   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_17   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_17   27.64   29.15   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_17   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_17  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_17  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_18   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_18   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_18   21.15   16.68  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_18   27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_18   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_18  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_18  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_19   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_19   21.27  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19   27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_19   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_19  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_20   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_20   66.41   98.53  127.65  152.89  173.49   25.10
SO BUILDWID COOL1_20   21.27   16.79  199.77   15.85   20.41  191.77
SO BUILDWID COOL1_20   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_20   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_20  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_20  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_21   27.55   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_21  177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77   15.95   20.53   24.35
SO BUILDWID COOL1_22   27.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_22  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL2_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_01   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_01   67.09   32.14   31.76   30.20   27.97   24.88
SO BUILDWID COOL2_01   21.04   16.70   11.66   15.86  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_01   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_01  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_02   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_02   67.09   32.14   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_02   21.04   16.56  199.54   15.86   20.49   24.50
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_02   67.09   99.20  128.30  153.50   27.97  189.28
SO BUILDWID COOL2_02  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_03   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_03   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_03   67.09   31.85   31.52   30.42   28.15  189.28
SO BUILDWID COOL2_03   21.04   16.56   11.58  201.78   20.49   24.50
SO BUILDWID COOL2_03   27.77  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_03   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_03  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_04   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_04   67.09   31.85   31.52   30.23   28.15  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54   15.73   20.31   24.50
SO BUILDWID COOL2_04   27.77   30.19  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_04   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_04  176.76   56.87  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_05   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDWID COOL2_05   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_05   27.77   30.19   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_05   67.09   99.20  128.30  153.50  174.03  189.28
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SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_05  176.76   56.87   52.71  104.37   72.79   39.00

SO BUILDHGT COOL2_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_06   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_06   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_06   21.14  202.23  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_06   27.77   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_06   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_06  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_06  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_07   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_07   21.14   16.62  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07   27.49   29.88   31.36   32.24   72.79   39.00
SO BUILDWID COOL2_07   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_07  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_08   67.09   99.20  128.30   30.23   28.02   24.96
SO BUILDWID COOL2_08   21.14   16.62   11.59   15.77  199.42  190.99
SO BUILDWID COOL2_08   27.49   29.88   31.36   32.24   72.79   39.00
SO BUILDWID COOL2_08   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_08  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_08  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_09   21.14   16.68  199.54   15.77   20.40   24.40
SO BUILDWID COOL2_09  176.76   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02  189.28
SO BUILDWID COOL2_09  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_09  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10   21.14   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_10   27.67   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_10  176.76   30.09  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54   15.85   20.41   24.40
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SO BUILDWID COOL2_11   27.67   30.09   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_11  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_12   67.09   99.20   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_12   21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_12   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_12  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_13   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_13   67.09   99.20   31.76   30.42   28.15   24.88
SO BUILDWID COOL2_13   21.04   16.56  199.54   15.86   20.49  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_13   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_13  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_14   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_14   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_14   67.09   99.20  128.30   30.42   28.15  189.28
SO BUILDWID COOL2_14  198.77   16.56   11.58  201.78   20.49   24.50
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_14   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_14  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_15   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_15   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_15   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_15  198.77  202.23  199.54   15.73   20.31   24.50
SO BUILDWID COOL2_15   27.77  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_15   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_15  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_15  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_16   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_16   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_16   21.14  202.23  199.54  201.78   20.31   24.50
SO BUILDWID COOL2_16   27.77   30.19  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_16   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_16  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_16  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_17   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDWID COOL2_17   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_17   21.14  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_17   27.77   30.19   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_17   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_17  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_17  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_18   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_18   21.14   16.62  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_18   27.49   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_18  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_18  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_19   21.14  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19   27.49   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_19  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_20   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03   24.96
SO BUILDWID COOL2_20   21.14   16.68  199.54   15.77   20.40  190.99
SO BUILDWID COOL2_20   27.49   29.88   31.36   46.94   72.79   39.00
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_20  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_20  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_21   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_21   27.67   29.88   31.36   46.94   72.79   39.00
SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_21  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_22   27.67  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_22  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL3_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_01   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_01   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_01   21.19   16.69   11.70   15.85  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_01   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_01  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_02   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_02   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_02   21.19   16.71  200.71   15.85   20.42   24.38
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_02   67.70   99.99  129.24  154.57   28.11  190.50
SO BUILDWID COOL3_02  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_03   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_03   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_03   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_03   21.19   16.71   11.71  203.54   20.42   24.38
SO BUILDWID COOL3_03   27.59  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_03   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_03  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_03  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_04   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_04   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_04   27.59   29.96  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_04   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_04  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_05   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_05   67.70   99.99   31.79   30.34   28.11   25.03
SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54   20.45   24.42
SO BUILDWID COOL3_05   27.64   29.96   31.43  105.42   73.58   39.50
SO BUILDWID COOL3_05   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_05  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_06   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_06   67.70   99.99   31.79   30.50   28.28   25.03
SO BUILDWID COOL3_06   21.19  203.45  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_06   27.64   29.96   31.43  105.42   73.58   39.50
SO BUILDWID COOL3_06   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_06  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_06  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_07   29.57   29.57   15.54   15.54   15.54   29.57
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SO	BUILDHGT	COOL3_07	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL3_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_07	67.70	99.99	129.24	30.50	28.28	25.20
SO	BUILDWID	COOL3_07	21.19	16.71	200.71	203.54	201.18	24.42
SO	BUILDWID	COOL3_07	27.64	29.96	31.43	31.94	73.58	39.50
SO	BUILDWID	COOL3_07	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_07	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_07	178.38	158.63	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_08	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL3_08	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL3_08	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL3_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_08	67.70	99.99	129.24	30.50	28.28	25.20
SO	BUILDWID	COOL3_08	21.35	16.71	11.71	15.87	201.18	192.71
SO	BUILDWID	COOL3_08	27.64	30.02	31.43	31.94	73.58	39.50
SO	BUILDWID	COOL3_08	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_08	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_08	178.38	158.63	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_09	15.54	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL3_09	29.57	29.57	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL3_09	15.54	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL3_09	15.54	15.54	15.54	15.54	29.57	15.54
SO	BUILDHGT	COOL3_09	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_09	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_09	67.70	99.99	129.24	154.57	28.28	25.20
SO	BUILDWID	COOL3_09	21.35	16.86	200.71	15.87	20.45	24.42
SO	BUILDWID	COOL3_09	178.38	30.02	31.48	32.00	73.58	39.50
SO	BUILDWID	COOL3_09	67.70	99.99	129.24	154.57	28.28	190.50
SO	BUILDWID	COOL3_09	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_09	178.38	158.63	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_10	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_10	29.57	29.57	29.57	15.54	29.57	29.57
SO	BUILDHGT	COOL3_10	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL3_10	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_10	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_10	15.54	29.57	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_10	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_10	21.35	16.86	11.85	203.54	20.45	24.42
SO	BUILDWID	COOL3_10	27.64	30.02	31.48	32.00	73.58	39.50
SO	BUILDWID	COOL3_10	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_10	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_10	178.38	30.02	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_11	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_11	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL3_11	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL3_11	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_11	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_11	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_11	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_11	200.01	203.45	200.71	16.02	20.61	24.58
SO	BUILDWID	COOL3_11	27.64	30.02	31.48	32.00	73.58	39.50
SO	BUILDWID	COOL3_11	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_11	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_11	178.38	158.63	134.06	105.42	73.58	39.50

SO	BUILDHGT	COOL3_12	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL3_12	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL3_12	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL3_12	67.70	99.99	31.64	30.34	28.11	25.03
SO	BUILDWID	COOL3_12	21.19	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_12	178.38	158.63	134.06	105.42	73.58	39.50
SO	BUILDWID	COOL3_12	67.70	99.99	129.24	154.57	175.19	190.50
SO	BUILDWID	COOL3_12	200.01	203.45	200.71	203.54	201.18	192.71
SO	BUILDWID	COOL3_12	178.38	158.63	134.06	105.42	73.58	39.50

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SO BUILDHGT COOL3_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_13   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_13   67.70   99.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_13   21.19   16.71  200.71   15.85   20.42  192.71
SO BUILDWID COOL3_13  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_13   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_13  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_13  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_14   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_14   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_14   67.70   99.99  129.24   30.34   28.11  190.50
SO BUILDWID COOL3_14  200.01   16.71   11.71  203.54   20.42   24.38
SO BUILDWID COOL3_14  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_14   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_14  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_14  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_15   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_15   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_15   67.70   99.99   31.79   30.34   28.11   25.03
SO BUILDWID COOL3_15  200.01  203.45  200.71   15.87   20.45   24.38
SO BUILDWID COOL3_15   27.59  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_15   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_15  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_15  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_16   29.57   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_16   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_16   67.70   99.99   31.79   30.50   28.28   25.03
SO BUILDWID COOL3_16   21.19  203.45  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_16   27.59   29.96  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_16   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_16  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_16  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_17   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_17   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_17   21.19  203.45  200.71  203.54   20.45   24.42
SO BUILDWID COOL3_17   27.64   29.96   31.43  105.42   73.58   39.50
SO BUILDWID COOL3_17   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_17  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_17  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_18   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_18   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_18   21.19   16.71  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_18   27.64   29.96   31.43  105.42   73.58   39.50
SO BUILDWID COOL3_18   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_18  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_18  178.38  158.63  134.06  105.42   73.58   39.50
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SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_19   67.70   99.99  129.24  154.57   28.28   25.20
SO BUILDWID COOL3_19   21.35  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19   27.64   29.96   31.43  105.42   73.58   39.50
SO BUILDWID COOL3_19   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_19  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_20   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_20   67.70   99.99  129.24  154.57  175.19   25.20
SO BUILDWID COOL3_20   21.35   16.86  200.71   15.87   20.45  192.71
SO BUILDWID COOL3_20   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_20   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_20  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_20  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_21   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21  200.01   16.86   11.85  203.54   20.45   24.42
SO BUILDWID COOL3_21   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_21   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_21  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_22   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22  200.01  203.45  200.71   16.02   20.61   24.42
SO BUILDWID COOL3_22   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_22   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_22  178.38  158.63  134.06  105.42   73.58   39.50

   SRCGROUP 33MWALL 01A6095-03D6095 COOL1_1-COOL1_22 COOL2_1-COOL2_22 COOL3_1-COOl3_22
   SRCGROUP 33MWCOOL COOL1_1-COOL1_22 COOL2_1-COOL2_22 COOL3_1-COOl3_22
   SRCGROUP 33MWHRSG 01A6095-03D6095

   SRCGROUP 22MWALL 01A6095-02D6095 COOL1_1-COOL1_22 COOL2_1-COOL2_22
   SRCGROUP 22MWCOOL COOL1_1-COOL1_22 COOL2_1-COOL2_22
   SRCGROUP 22MWHRSG 01A6095-02D6095

SO FINISHED

RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
   DISCCART -2000.00 -1700.00
   DISCCART -2000.00 -1600.00
   DISCCART -2000.00 -1500.00
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ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :GCTGAS22.087
ISCST3 OUTPUT FILE NUMBER 2 :GCTGAS22.088
ISCST3 OUTPUT FILE NUMBER 3 :GCTGAS22.089
ISCST3 OUTPUT FILE NUMBER 4 :GCTGAS22.090
ISCST3 OUTPUT FILE NUMBER 5 :GCTGAS22.091
First title for last output file is: West County Energy Center, G-CLASS 2200 MW, SIG Analysis, Gas Firing Cases - 2
Second title for last output file is: Generic 10 g/s Emission Rate From Each of Two Power Blocks - 1987 Met

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	G1095				
Annual					
	1987	0.287	371.0	360.7	87123124
	1988	0.310	370.3	311.6	88123124
	1989	0.281	-1750.0	2250.0	89123124
	1990	0.276	-2500.0	2250.0	90123124
	1991	0.265	-2250.0	2000.0	91123124
HIGH 1-Hour					
	1987	22.911	376.1	704.1	87021614
	1988	23.051	376.8	753.2	88112309
	1989	20.413	368.8	213.5	89031016
	1990	19.816	207.1	-864.5	90050111
	1991	33.013	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	18.618	377.5	802.2	87021615
	1988	13.412	400.0	700.0	88110515
	1989	14.215	363.0	-178.9	89031018
	1990	8.680	379.0	900.3	90022312
	1991	22.436	378.3	851.3	91030312
HIGH 8-Hour					
	1987	13.698	377.5	802.2	87021616
	1988	9.703	370.3	311.6	88110516
	1989	7.818	363.7	-129.9	89031016
	1990	5.411	361.5	-277.1	90011316
	1991	14.439	377.5	802.2	91030316
HIGH 24-Hour					
	1987	5.938	377.5	802.2	87021624
	1988	4.869	376.1	704.1	88110524
	1989	4.902	363.7	-129.9	89102024
	1990	4.244	-175.8	1068.4	90101024
	1991	5.313	377.5	802.2	91030324
SOURCE GROUP ID:	G1059				
Annual					
	1987	0.251	371.0	360.7	87123124
	1988	0.273	370.3	311.6	88123124
	1989	0.258	-2000.0	2500.0	89123124
	1990	0.258	-2750.0	2250.0	90123124
	1991	0.247	-2500.0	2000.0	91123124
HIGH 1-Hour					
	1987	21.459	376.8	753.2	87021616
	1988	21.697	376.8	753.2	88112309
	1989	19.042	368.8	213.5	89031016
	1990	19.749	207.1	-864.5	90050111
	1991	31.884	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	17.457	377.5	802.2	87021615
	1988	12.347	400.0	700.0	88110515
	1989	13.214	363.0	-178.9	89031018
	1990	8.231	379.0	900.3	90022312
	1991	21.434	378.3	851.3	91030312
HIGH 8-Hour					
	1987	12.830	377.5	802.2	87021616
	1988	8.814	370.3	311.6	88110516
	1989	7.322	363.7	-129.9	89031016
	1990	5.151	361.5	-277.1	90011316
	1991	13.713	377.5	802.2	91030316
HIGH 24-Hour					
	1987	5.562	377.5	802.2	87021624
	1988	4.399	376.1	704.1	88110524
	1989	4.574	363.7	-129.9	89102024
	1990	3.955	-175.8	1068.4	90101024
	1991	5.044	377.5	802.2	91030324
SOURCE GROUP ID:	G1035				
Annual					
	1987	0.235	371.0	360.7	87123124
	1988	0.255	370.3	311.6	88123124
	1989	0.240	-2000.0	2500.0	89123124
	1990	0.239	-2750.0	2250.0	90123124

	1991	0.230	-3000.0	2250.0	91123124
HIGH 1-Hour					
	1987	19.860	376.8	753.2	87021616
	1988	20.140	376.8	753.2	88112309
	1989	17.487	368.8	213.5	89031016
	1990	19.652	207.1	-864.5	90050111
	1991	30.476	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	16.117	377.5	802.2	87021615
	1988	11.308	300.0	1100.0	88112309
	1989	12.083	363.0	-178.9	89031018
	1990	7.828	379.0	900.3	90022312
	1991	20.244	378.3	851.3	91030312
HIGH 8-Hour					
	1987	11.835	377.5	802.2	87021616
	1988	7.838	370.3	311.6	88110516
	1989	6.754	363.7	-129.9	89031016
	1990	4.834	361.5	-277.1	90011316
	1991	12.861	377.5	802.2	91030316
HIGH 24-Hour					
	1987	5.129	377.5	802.2	87021624
	1988	3.989	376.1	704.1	88110524
	1989	4.244	363.7	-129.9	89102024
	1990	3.628	-175.8	1068.4	90101024
	1991	4.734	377.5	802.2	91030324
SOURCE GROUP ID:	G7595				
Annual					
	1987	0.511	371.0	360.7	87123124
	1988	0.540	370.3	311.6	88123124
	1989	0.463	371.0	360.7	89123124
	1990	0.461	-176.4	870.5	90123124
	1991	0.438	370.3	311.6	91123124
HIGH 1-Hour					
	1987	31.913	376.1	704.1	87021614
	1988	31.287	376.8	753.2	88112309
	1989	29.999	400.0	-100.0	89110307
	1990	21.545	369.5	262.6	90020510
	1991	40.345	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	25.916	377.5	802.2	87021615
	1988	20.519	369.5	262.6	88110515
	1989	20.586	363.0	-178.9	89031018
	1990	13.840	379.7	949.4	90022312
	1991	28.578	378.3	851.3	91030312
HIGH 8-Hour					
	1987	19.188	377.5	802.2	87021616
	1988	15.622	370.3	311.6	88110516
	1989	12.140	363.7	-129.9	89031016
	1990	8.668	361.5	-277.1	90011316
	1991	19.010	377.5	802.2	91030316
HIGH 24-Hour					
	1987	8.517	377.5	802.2	87021624
	1988	7.648	376.1	704.1	88110524
	1989	7.889	363.7	-129.9	89102024
	1990	6.425	-175.8	1068.4	90101024
	1991	7.783	376.1	704.1	91021424
SOURCE GROUP ID:	G7559				
Annual					
	1987	0.477	371.0	360.7	87123124
	1988	0.503	370.3	311.6	88123124
	1989	0.431	371.0	360.7	89123124
	1990	0.431	-176.4	870.5	90123124
	1991	0.406	370.3	311.6	91123124
HIGH 1-Hour					
	1987	30.359	376.1	704.1	87021614
	1988	29.860	376.8	753.2	88112309
	1989	28.240	400.0	-100.0	89110307
	1990	20.354	207.1	-864.5	90050111
	1991	39.320	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	24.686	377.5	802.2	87021615
	1988	19.173	400.0	700.0	88110515
	1989	19.441	363.0	-178.9	89031018
	1990	12.831	379.7	949.4	90022312
	1991	27.607	378.3	851.3	91030312
HIGH 8-Hour					
	1987	18.256	377.5	802.2	87021616
	1988	14.506	370.3	311.6	88110516
	1989	11.282	363.7	-129.9	89031016
	1990	8.020	361.5	-277.1	90011316
	1991	18.269	377.5	802.2	91030316
HIGH 24-Hour					

	1987	8.060	377.5	802.2	87021624
	1988	7.108	376.1	704.1	88110524
	1989	7.325	363.7	-129.9	89102024
	1990	6.070	-175.8	1068.4	90101024
	1991	7.274	376.1	704.1	91021424
SOURCE GROUP ID:	G7535				
Annual					
	1987	0.431	371.0	360.7	87123124
	1988	0.460	370.3	311.6	88123124
	1989	0.394	-1500.0	2000.0	89123124
	1990	0.392	-176.4	870.5	90123124
	1991	0.372	370.3	311.6	91123124
HIGH 1-Hour					
	1987	28.952	376.1	704.1	87021614
	1988	28.577	376.8	753.2	88112309
	1989	26.702	400.0	-100.0	89110307
	1990	20.275	207.1	-864.5	90050111
	1991	38.255	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	23.552	377.5	802.2	87021615
	1988	18.057	400.0	700.0	88110515
	1989	18.427	363.0	-178.9	89031018
	1990	12.029	379.0	900.3	90022312
	1991	26.679	378.3	851.3	91030312
HIGH 8-Hour					
	1987	17.399	377.5	802.2	87021616
	1988	13.539	370.3	311.6	88110516
	1989	10.543	363.7	-129.9	89031016
	1990	7.449	361.5	-277.1	90011316
	1991	17.569	377.5	802.2	91030316
HIGH 24-Hour					
	1987	7.646	377.5	802.2	87021624
	1988	6.662	376.1	704.1	88110524
	1989	6.861	363.7	-129.9	89102024
	1990	5.723	-175.8	1068.4	90101024
	1991	6.749	376.1	704.1	91021424

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :GCTOIL22.087
ISCST3 OUTPUT FILE NUMBER 2 :GCTOIL22.088
ISCST3 OUTPUT FILE NUMBER 3 :GCTOIL22.089
ISCST3 OUTPUT FILE NUMBER 4 :GCTOIL22.090
ISCST3 OUTPUT FILE NUMBER 5 :GCTOIL22.091
First title for last output file is: West County Energy Center, G-CLASS 2200 MW, SIG Analysis, Oil Firing Cases - 2
Second title for last output file is: Generic 10 g/s Emission From Each of the Two Power Blocks - 1987 Met

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	01095				
Annual					
	1987	0.138	371.0	360.7	87123124
	1988	0.149	370.3	311.6	88123124
	1989	0.124	-3000.0	3500.0	89123124
	1990	0.124	-5000.0	3500.0	90123124
	1991	0.124	-4500.0	3000.0	91123124
HIGH 1-Hour					
	1987	13.367	376.8	753.2	87021616
	1988	14.043	376.8	753.2	88112309
	1989	11.596	368.8	213.5	89031016
	1990	10.875	1100.0	1300.0	90081611
	1991	22.176	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	10.701	377.5	802.2	87021615
	1988	6.994	300.0	1100.0	88112309
	1989	7.886	363.0	-178.9	89031018
	1990	4.416	379.0	900.3	90022312
	1991	14.730	378.3	851.3	91030312
HIGH 8-Hour					
	1987	7.836	377.5	802.2	87021616
	1988	4.692	370.3	311.6	88110516
	1989	4.225	363.7	-129.9	89031016
	1990	2.853	361.5	-277.1	90011316
	1991	9.084	377.5	802.2	91030316
HIGH 24-Hour					
	1987	3.327	377.5	802.2	87021624
	1988	2.354	376.1	704.1	88110524
	1989	2.590	363.7	-129.9	89102024
	1990	2.059	-175.9	1019.0	90101024
	1991	3.278	377.5	802.2	91030324
SOURCE GROUP ID:	01059				
Annual					
	1987	0.100	371.0	360.7	87123124
	1988	0.111	370.3	311.6	88123124
	1989	0.109	-3500.0	4000.0	89123124
	1990	0.114	-5000.0	3500.0	90123124
	1991	0.114	-4500.0	3000.0	91123124
HIGH 1-Hour					
	1987	11.788	376.8	753.2	87021616
	1988	12.452	376.8	753.2	88112309
	1989	10.121	368.8	213.5	89031016
	1990	10.812	1100.0	1300.0	90081611
	1991	20.579	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	9.404	377.5	802.2	87021615
	1988	6.162	300.0	1100.0	88112309
	1989	6.845	363.0	-178.9	89031018
	1990	4.110	379.0	900.3	90022312
	1991	13.433	378.3	851.3	91030312
HIGH 8-Hour					
	1987	6.950	377.5	802.2	87021616
	1988	4.121	370.3	311.6	88110516
	1989	3.843	363.7	-129.9	89031016
	1990	2.640	361.5	-277.1	90011316
	1991	8.299	377.5	802.2	91030316
HIGH 24-Hour					
	1987	2.959	377.5	802.2	87021624
	1988	1.988	376.1	704.1	88110524
	1989	2.370	363.7	-129.9	89102024
	1990	1.849	-175.9	1019.0	90101024
	1991	2.961	377.5	802.2	91030324
SOURCE GROUP ID:	01035				
Annual					
	1987	0.093	-4000.0	3000.0	87123124
	1988	0.103	370.3	311.6	88123124
	1989	0.103	-3500.0	4000.0	89123124
	1990	0.108	-5000.0	3500.0	90123124

	1991	0.109	-4500.0	3000.0	91123124
HIGH 1-Hour					
	1987	11.095	500.0	700.0	87012212
	1988	11.656	376.8	753.2	88112309
	1989	9.393	368.8	213.5	89031016
	1990	10.779	1100.0	1300.0	90081611
	1991	19.745	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	8.758	377.5	802.2	87021615
	1988	5.748	300.0	1100.0	88112309
	1989	6.395	363.0	-178.9	89031018
	1990	3.950	379.0	900.3	90022312
	1991	12.769	378.3	851.3	91030312
HIGH 8-Hour					
	1987	6.508	377.5	802.2	87021616
	1988	3.885	370.3	311.6	88110516
	1989	3.658	363.7	-129.9	89031016
	1990	2.531	361.5	-277.1	90011316
	1991	7.911	377.5	802.2	91030316
HIGH 24-Hour					
	1987	2.790	377.5	802.2	87021624
	1988	1.870	400.0	700.0	88110524
	1989	2.277	363.7	-129.9	89102024
	1990	1.750	-175.9	1019.0	90101024
	1991	2.824	377.5	802.2	91030324
SOURCE GROUP ID:	07595				
Annual					
	1987	0.238	371.0	360.7	87123124
	1988	0.255	370.3	311.6	88123124
	1989	0.216	371.0	360.7	89123124
	1990	0.199	-176.4	870.5	90123124
	1991	0.210	370.3	311.6	91123124
HIGH 1-Hour					
	1987	19.840	376.1	704.1	87021614
	1988	20.211	376.8	753.2	88112309
	1989	17.614	400.0	-100.0	89110307
	1990	11.518	369.5	262.6	90020510
	1991	28.276	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	15.870	377.5	802.2	87021615
	1988	11.147	400.0	700.0	88110515
	1989	12.156	363.0	-178.9	89031018
	1990	6.436	379.0	900.3	90022312
	1991	19.638	378.3	851.3	91030312
HIGH 8-Hour					
	1987	11.669	377.5	802.2	87021616
	1988	8.178	370.3	311.6	88110516
	1989	6.450	363.0	-178.9	89031016
	1990	4.125	361.5	-277.1	90011316
	1991	12.476	377.5	802.2	91030316
HIGH 24-Hour					
	1987	4.982	377.5	802.2	87021624
	1988	3.886	376.1	704.1	88110524
	1989	4.043	363.7	-129.9	89102024
	1990	3.214	-175.8	1068.4	90101024
	1991	4.512	377.5	802.2	91030324
SOURCE GROUP ID:	07559				
Annual					
	1987	0.223	371.0	360.7	87123124
	1988	0.242	370.3	311.6	88123124
	1989	0.204	371.0	360.7	89123124
	1990	0.182	-176.4	870.5	90123124
	1991	0.198	370.3	311.6	91123124
HIGH 1-Hour					
	1987	18.694	376.1	704.1	87021614
	1988	19.135	376.8	753.2	88112309
	1989	16.494	368.8	213.5	89031016
	1990	11.175	1100.0	1300.0	90081611
	1991	27.381	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	14.971	377.5	802.2	87021615
	1988	10.345	400.0	700.0	88110515
	1989	11.386	363.0	-178.9	89031018
	1990	5.989	379.0	900.3	90022312
	1991	18.838	378.3	851.3	91030312
HIGH 8-Hour					
	1987	10.997	377.5	802.2	87021616
	1988	7.502	370.3	311.6	88110516
	1989	6.025	363.0	-178.9	89031016
	1990	3.853	361.5	-277.1	90011316
	1991	11.910	377.5	802.2	91030316
HIGH 24-Hour					

	1987	4.690	377.5	802.2	87021624
	1988	3.612	376.1	704.1	88110524
	1989	3.769	363.7	-129.9	89102024
	1990	3.016	-175.8	1068.4	90101024
	1991	4.307	377.5	802.2	91030324
SOURCE GROUP ID:	07535				
Annual					
	1987	0.199	371.0	360.7	87123124
	1988	0.215	370.3	311.6	88123124
	1989	0.179	371.0	360.7	89123124
	1990	0.168	-176.4	870.5	90123124
	1991	0.172	370.3	311.6	91123124
HIGH 1-Hour					
	1987	17.720	376.1	704.1	87021614
	1988	18.216	376.8	753.2	88112309
	1989	15.593	368.8	213.5	89031016
	1990	11.128	1100.0	1300.0	90081611
	1991	26.530	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	14.198	377.5	802.2	87021615
	1988	9.674	400.0	700.0	88110515
	1989	10.736	363.0	-178.9	89031018
	1990	5.636	379.0	900.3	90022312
	1991	18.128	378.3	851.3	91030312
HIGH 8-Hour					
	1987	10.422	377.5	802.2	87021616
	1988	6.953	370.3	311.6	88110516
	1989	5.676	363.0	-178.9	89031016
	1990	3.648	361.5	-277.1	90011316
	1991	11.413	377.5	802.2	91030316
HIGH 24-Hour					
	1987	4.443	377.5	802.2	87021624
	1988	3.382	376.1	704.1	88110524
	1989	3.487	363.7	-129.9	89102024
	1990	2.839	-175.8	1068.4	90101024
	1991	4.124	377.5	802.2	91030324

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :GCTGAS33.087
ISCST3 OUTPUT FILE NUMBER 2 :GCTGAS33.088
ISCST3 OUTPUT FILE NUMBER 3 :GCTGAS33.089
ISCST3 OUTPUT FILE NUMBER 4 :GCTGAS33.090
ISCST3 OUTPUT FILE NUMBER 5 :GCTGAS33.091
First title for last output file is: West County Energy Center, G-CLASS 3300 MW, SIG Analysis, Gas Firing Cases - 2
Second title for last output file is: Generic 10 g/s Emission From Each of the Three Power Blocks - 1987 Met

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	G1095				
Annual					
	1987	0.345	-2500.0	2000.0	87123124
	1988	0.347	364.4	-80.8	88123124
	1989	0.413	-2000.0	2250.0	89123124
	1990	0.409	-2250.0	2000.0	90123124
	1991	0.392	-2500.0	2000.0	91123124
HIGH 1-Hour					
	1987	22.911	376.1	704.1	87021614
	1988	23.996	0.0	-1400.0	88072511
	1989	23.369	293.3	1099.0	89050114
	1990	27.513	200.0	-1200.0	90050111
	1991	39.300	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	18.619	377.5	802.2	87021615
	1988	15.208	300.0	1100.0	88112309
	1989	15.140	356.4	-620.5	89031018
	1990	9.805	255.6	-864.9	90020515
	1991	23.834	293.3	1099.0	91030315
HIGH 8-Hour					
	1987	13.919	377.5	802.2	87021616
	1988	9.703	370.3	311.6	88110516
	1989	8.433	357.1	-571.4	89031016
	1990	6.107	-1000.0	2000.0	90033016
	1991	16.467	377.5	802.2	91030316
HIGH 24-Hour					
	1987	6.081	377.5	802.2	87021624
	1988	4.984	370.3	311.6	88110524
	1989	5.148	357.9	-522.4	89102024
	1990	4.606	-1750.0	3000.0	90101024
	1991	6.117	377.5	802.2	91030324
SOURCE GROUP ID:	G1059				
Annual					
	1987	0.322	-2500.0	2000.0	87123124
	1988	0.306	364.4	-80.8	88123124
	1989	0.382	-2000.0	2250.0	89123124
	1990	0.382	-2750.0	2250.0	90123124
	1991	0.364	-2500.0	2000.0	91123124
HIGH 1-Hour					
	1987	21.459	376.8	753.2	87021616
	1988	23.853	0.0	-1400.0	88072511
	1989	22.405	293.3	1099.0	89050114
	1990	27.410	200.0	-1200.0	90050111
	1991	37.902	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	17.459	377.5	802.2	87021615
	1988	14.236	300.0	1100.0	88112309
	1989	14.078	356.4	-620.5	89031018
	1990	9.137	200.0	-1200.0	90050112
	1991	22.853	293.3	1099.0	91030315
HIGH 8-Hour					
	1987	13.034	377.5	802.2	87021616
	1988	8.814	370.3	311.6	88110516
	1989	7.874	357.1	-571.4	89031016
	1990	5.798	-1000.0	2000.0	90033016
	1991	15.660	377.5	802.2	91030316
HIGH 24-Hour					
	1987	5.696	377.5	802.2	87021624
	1988	4.504	370.3	311.6	88110524
	1989	4.809	357.9	-522.4	89102024
	1990	4.377	-1750.0	3000.0	90101024
	1991	5.812	377.5	802.2	91030324
SOURCE GROUP ID:	G1035				
Annual					
	1987	0.299	-2750.0	2250.0	87123124
	1988	0.284	364.4	-80.8	88123124
	1989	0.355	-2250.0	2500.0	89123124
	1990	0.354	-2750.0	2250.0	90123124

	1991	0.339	-2750.0	2000.0	91123124
HIGH 1-Hour					
	1987	19.860	376.8	753.2	87021616
	1988	23.642	0.0	-1400.0	88072511
	1989	21.484	293.3	1099.0	89050114
	1990	27.263	200.0	-1200.0	90050111
	1991	36.135	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	16.119	377.5	802.2	87021615
	1988	13.087	300.0	1100.0	88112309
	1989	12.875	356.4	-620.5	89031018
	1990	9.088	200.0	-1200.0	90050112
	1991	21.628	293.3	1099.0	91030315
HIGH 8-Hour					
	1987	12.028	377.5	802.2	87021616
	1988	7.950	293.3	1099.0	88112308
	1989	7.237	357.1	-571.4	89031016
	1990	5.416	-1000.0	2000.0	90033016
	1991	14.707	377.5	802.2	91030316
HIGH 24-Hour					
	1987	5.255	377.5	802.2	87021624
	1988	4.089	370.3	311.6	88110524
	1989	4.469	357.9	-522.4	89102024
	1990	4.086	-1750.0	3000.0	90101024
	1991	5.461	377.5	802.2	91030324
SOURCE GROUP ID:	G7595				
Annual					
	1987	0.561	371.0	360.7	87123124
	1988	0.611	364.4	-80.8	88123124
	1989	0.636	-1500.0	1700.0	89123124
	1990	0.639	-1800.0	1700.0	90123124
	1991	0.609	-1700.0	1600.0	91123124
HIGH 1-Hour					
	1987	31.913	376.1	704.1	87021614
	1988	33.413	300.0	1100.0	88112307
	1989	32.463	293.3	1099.0	89050114
	1990	28.547	200.0	-1100.0	90050111
	1991	48.631	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	25.918	377.5	802.2	87021615
	1988	22.020	300.0	1100.0	88112309
	1989	22.169	356.4	-620.5	89031018
	1990	15.730	255.6	-864.9	90020515
	1991	30.489	293.3	1099.0	91030315
HIGH 8-Hour					
	1987	19.580	377.5	802.2	87021616
	1988	15.622	370.3	311.6	88110516
	1989	12.984	357.9	-522.4	89031016
	1990	9.553	355.7	-669.5	90011316
	1991	21.746	377.5	802.2	91030316
HIGH 24-Hour					
	1987	8.770	377.5	802.2	87021624
	1988	7.810	370.3	311.6	88110524
	1989	8.305	357.9	-522.4	89102024
	1990	6.614	-175.8	1068.4	90101024
	1991	8.204	377.5	802.2	91030324
SOURCE GROUP ID:	G7559				
Annual					
	1987	0.523	371.0	360.7	87123124
	1988	0.568	364.4	-80.8	88123124
	1989	0.610	-1600.0	1800.0	89123124
	1990	0.610	-1800.0	1700.0	90123124
	1991	0.580	-1700.0	1600.0	91123124
HIGH 1-Hour					
	1987	30.359	376.1	704.1	87021614
	1988	31.750	300.0	1100.0	88112307
	1989	31.187	293.3	1099.0	89050114
	1990	28.395	200.0	-1100.0	90050111
	1991	47.388	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	24.689	377.5	802.2	87021615
	1988	20.960	300.0	1100.0	88112309
	1989	20.910	356.4	-620.5	89031018
	1990	14.713	255.6	-864.9	90020515
	1991	29.587	293.3	1099.0	91030315
HIGH 8-Hour					
	1987	18.617	377.5	802.2	87021616
	1988	14.506	370.3	311.6	88110516
	1989	12.042	357.9	-522.4	89031016
	1990	8.826	355.7	-669.5	90011316
	1991	20.908	377.5	802.2	91030316
HIGH 24-Hour					

	1987	8.292	377.5	802.2	87021624
	1988	7.263	376.1	704.1	88110524
	1989	7.701	357.9	-522.4	89102024
	1990	6.347	-1500.0	2500.0	90101024
	1991	7.873	377.5	802.2	91030324
SOURCE GROUP ID:	G7535				
Annual					
	1987	0.477	-2000.0	1700.0	87123124
	1988	0.518	364.4	-80.8	88123124
	1989	0.573	-1700.0	1900.0	89123124
	1990	0.571	-2000.0	1800.0	90123124
	1991	0.541	-1900.0	1700.0	91123124
HIGH 1-Hour					
	1987	28.952	376.1	704.1	87021614
	1988	30.108	300.0	1100.0	88112307
	1989	29.844	293.3	1099.0	89050114
	1990	28.246	200.0	-1200.0	90050111
	1991	46.051	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	23.554	377.5	802.2	87021615
	1988	19.911	300.0	1100.0	88112309
	1989	19.782	356.4	-620.5	89031018
	1990	13.760	255.6	-864.9	90020515
	1991	28.622	293.3	1099.0	91030315
HIGH 8-Hour					
	1987	17.729	377.5	802.2	87021616
	1988	13.539	370.3	311.6	88110516
	1989	11.270	357.1	-571.4	89031016
	1990	8.178	355.7	-669.5	90011316
	1991	20.096	377.5	802.2	91030316
HIGH 24-Hour					
	1987	7.856	377.5	802.2	87021624
	1988	6.810	376.1	704.1	88110524
	1989	7.203	357.9	-522.4	89102024
	1990	6.059	-1500.0	2500.0	90101024
	1991	7.550	377.5	802.2	91030324

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :GCTOIL33.087
ISCST3 OUTPUT FILE NUMBER 2 :GCTOIL33.088
ISCST3 OUTPUT FILE NUMBER 3 :GCTOIL33.089
ISCST3 OUTPUT FILE NUMBER 4 :GCTOIL33.090
ISCST3 OUTPUT FILE NUMBER 5 :GCTOIL33.091
First title for last output file is: West County Energy Center, G-CLASS 3300 MW, SIG Analysis, Oil Firing Cases - 2
Second title for last output file is: Generic 10 g/s Emission From Each of the Three Power Blocks - 1987 Met

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	01095				
Annual					
	1987	0.158	-3500.0	2500.0	87123124
	1988	0.166	364.4	-80.8	88123124
	1989	0.184	-2750.0	3000.0	89123124
	1990	0.185	-4000.0	3000.0	90123124
	1991	0.182	-4500.0	3000.0	91123124
HIGH 1-Hour					
	1987	13.367	376.8	753.2	87021616
	1988	14.734	-700.0	-900.0	88071511
	1989	13.196	600.0	-1400.0	89080612
	1990	13.907	1000.0	-1200.0	90081212
	1991	25.566	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	10.702	377.5	802.2	87021615
	1988	7.888	300.0	1100.0	88112309
	1989	8.263	356.4	-620.5	89031018
	1990	5.532	2000.0	-2500.0	90081212
	1991	15.116	378.3	851.3	91030312
HIGH 8-Hour					
	1987	7.941	377.5	802.2	87021616
	1988	4.727	293.3	1099.0	88112308
	1989	4.536	357.1	-571.4	89031016
	1990	3.100	355.7	-669.5	90011316
	1991	10.331	377.5	802.2	91030316
HIGH 24-Hour					
	1987	3.395	377.5	802.2	87021624
	1988	2.406	370.3	311.6	88110524
	1989	2.716	357.9	-522.4	89102024
	1990	2.267	-3000.0	4500.0	90101024
	1991	3.754	377.5	802.2	91030324
SOURCE GROUP ID:	01059				
Annual					
	1987	0.145	-4500.0	3000.0	87123124
	1988	0.141	-6000.0	500.0	88123124
	1989	0.163	-3500.0	3500.0	89123124
	1990	0.169	-5000.0	3500.0	90123124
	1991	0.168	-4500.0	3000.0	91123124
HIGH 1-Hour					
	1987	11.788	376.8	753.2	87021616
	1988	12.764	-800.0	1100.0	88072611
	1989	13.029	600.0	-1500.0	89080612
	1990	13.805	1000.0	-1200.0	90081212
	1991	23.725	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	9.405	377.5	802.2	87021615
	1988	6.956	300.0	1100.0	88112309
	1989	7.180	356.4	-620.5	89031018
	1990	5.506	2000.0	-2500.0	90081212
	1991	13.794	378.3	851.3	91030312
HIGH 8-Hour					
	1987	7.047	377.5	802.2	87021616
	1988	4.240	377.5	802.2	88022016
	1989	4.112	357.1	-571.4	89031016
	1990	2.870	355.7	-669.5	90011316
	1991	9.448	377.5	802.2	91030316
HIGH 24-Hour					
	1987	3.022	377.5	802.2	87021624
	1988	2.029	400.0	700.0	88110524
	1989	2.475	357.9	-522.4	89102024
	1990	2.077	-3000.0	4500.0	90101024
	1991	3.400	377.5	802.2	91030324
SOURCE GROUP ID:	01035				
Annual					
	1987	0.138	-4500.0	3000.0	87123124
	1988	0.135	-6000.0	500.0	88123124
	1989	0.154	-3500.0	3500.0	89123124
	1990	0.160	-5500.0	3500.0	90123124

	1991	0.160	-4500.0	3000.0	91123124
HIGH 1-Hour					
	1987	11.095	500.0	700.0	87012212
	1988	11.656	376.8	753.2	88112309
	1989	12.947	600.0	-1500.0	89080612
	1990	13.751	1000.0	-1200.0	90081212
	1991	22.763	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	8.759	377.5	802.2	87021615
	1988	6.491	300.0	1100.0	88112309
	1989	6.712	356.4	-620.5	89031018
	1990	5.499	2000.0	-2500.0	90081212
	1991	13.118	378.3	851.3	91030312
HIGH 8-Hour					
	1987	6.601	377.5	802.2	87021616
	1988	3.945	400.0	-100.0	88110516
	1989	3.908	357.1	-571.4	89031016
	1990	2.752	355.7	-669.5	90011316
	1991	9.011	377.5	802.2	91030316
HIGH 24-Hour					
	1987	2.850	377.5	802.2	87021624
	1988	1.899	400.0	700.0	88110524
	1989	2.377	357.9	-522.4	89102024
	1990	1.979	-3000.0	4500.0	90101024
	1991	3.244	377.5	802.2	91030324
SOURCE GROUP ID:	07595				
Annual					
	1987	0.259	371.0	360.7	87123124
	1988	0.286	364.4	-80.8	88123124
	1989	0.274	-2250.0	2500.0	89123124
	1990	0.276	-3000.0	2250.0	90123124
	1991	0.269	-3000.0	2250.0	91123124
HIGH 1-Hour					
	1987	19.840	376.1	704.1	87021614
	1988	20.211	376.8	753.2	88112309
	1989	17.715	293.3	1099.0	89050114
	1990	15.234	250.0	-2500.0	90081209
	1991	32.775	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	15.872	377.5	802.2	87021615
	1988	11.858	300.0	1100.0	88112309
	1989	12.762	356.4	-620.5	89031018
	1990	7.638	-3000.0	250.0	90070712
	1991	20.121	378.3	851.3	91030312
HIGH 8-Hour					
	1987	11.828	377.5	802.2	87021616
	1988	8.178	370.3	311.6	88110516
	1989	6.938	357.1	-571.4	89031016
	1990	4.483	355.7	-669.5	90011316
	1991	14.131	377.5	802.2	91030316
HIGH 24-Hour					
	1987	5.082	377.5	802.2	87021624
	1988	3.961	370.3	311.6	88110524
	1989	4.215	357.9	-522.4	89102024
	1990	3.283	-175.9	1019.0	90101024
	1991	5.155	377.5	802.2	91030324
SOURCE GROUP ID:	07559				
Annual					
	1987	0.243	371.0	360.7	87123124
	1988	0.272	364.4	-80.8	88123124
	1989	0.261	-2500.0	2750.0	89123124
	1990	0.261	-3500.0	2500.0	90123124
	1991	0.252	-3000.0	2250.0	91123124
HIGH 1-Hour					
	1987	18.694	376.1	704.1	87021614
	1988	19.135	376.8	753.2	88112309
	1989	16.821	293.3	1099.0	89050114
	1990	15.227	250.0	-2500.0	90081209
	1991	31.703	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	14.973	377.5	802.2	87021615
	1988	11.194	300.0	1100.0	88112309
	1989	11.958	356.4	-620.5	89031018
	1990	7.573	-3000.0	250.0	90070712
	1991	19.307	378.3	851.3	91030312
HIGH 8-Hour					
	1987	11.146	377.5	802.2	87021616
	1988	7.502	370.3	311.6	88110516
	1989	6.477	357.1	-571.4	89031016
	1990	4.187	355.7	-669.5	90011316
	1991	13.505	377.5	802.2	91030316
HIGH 24-Hour					

	1987	4.784	377.5	802.2	87021624
	1988	3.685	370.3	311.6	88110524
	1989	3.932	357.9	-522.4	89102024
	1990	3.083	-175.9	1019.0	90101024
	1991	4.924	377.5	802.2	91030324
SOURCE GROUP ID:	07535				
Annual					
	1987	0.216	371.0	360.7	87123124
	1988	0.241	364.4	-80.8	88123124
	1989	0.249	-2500.0	2750.0	89123124
	1990	0.249	-3500.0	2500.0	90123124
	1991	0.241	-3000.0	2250.0	91123124
HIGH 1-Hour					
	1987	17.720	376.1	704.1	87021614
	1988	18.216	376.8	753.2	88112309
	1989	15.994	293.3	1099.0	89050114
	1990	15.227	250.0	-2500.0	90081209
	1991	30.675	300.0	1100.0	91030314
HIGH 3-Hour					
	1987	14.200	377.5	802.2	87021615
	1988	10.597	300.0	1100.0	88112309
	1989	11.275	356.4	-620.5	89031018
	1990	6.475	255.6	-864.9	90020515
	1991	18.584	378.3	851.3	91030312
HIGH 8-Hour					
	1987	10.560	377.5	802.2	87021616
	1988	6.953	370.3	311.6	88110516
	1989	6.102	357.1	-571.4	89031016
	1990	3.964	355.7	-669.5	90011316
	1991	12.950	377.5	802.2	91030316
HIGH 24-Hour					
	1987	4.531	377.5	802.2	87021624
	1988	3.453	370.3	311.6	88110524
	1989	3.650	357.9	-522.4	89102024
	1990	2.938	-3000.0	4500.0	90101024
	1991	4.717	377.5	802.2	91030324

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :PMGAS33.087
ISCST3 OUTPUT FILE NUMBER 2 :PMGAS33.088
ISCST3 OUTPUT FILE NUMBER 3 :PMGAS33.089
ISCST3 OUTPUT FILE NUMBER 4 :PMGAS33.090
ISCST3 OUTPUT FILE NUMBER 5 :PMGAS33.091
First title for last output file is: 1987 FPL WEST COUNTY 2200-3300MW CC - GAS FIRING CASES - 2/12/05
Second title for last output file is: PM10 IMPACTS, CT/HRSGs AND COOLING TOWERS, G-CLASS MACHINES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	33MWAL				
Annual					
	1987	0.269	365.9	17.3	87123124
	1988	0.251	364.4	-80.8	88123124
	1989	0.244	365.9	17.3	89123124
	1990	0.221	-1700.0	1600.0	90123124
	1991	0.213	370.3	311.6	91123124
HIGH 24-Hour					
	1987	3.052	358.6	-473.3	87101324
	1988	3.220	376.1	704.1	88110524
	1989	2.829	360.0	-375.2	89031024
	1990	2.334	-175.8	1068.4	90101024
	1991	3.129	376.1	704.1	91021424
SOURCE GROUP ID:	33MWCO				
Annual					
	1987	0.136	365.9	17.3	87123124
	1988	0.117	365.9	17.3	88123124
	1989	0.120	365.9	17.3	89123124
	1990	0.079	365.9	17.3	90123124
	1991	0.081	365.9	17.3	91123124
HIGH 24-Hour					
	1987	1.265	365.9	17.3	87101324
	1988	1.580	365.9	17.3	88121724
	1989	1.372	365.9	17.3	89122424
	1990	1.176	360.0	-375.2	90072724
	1991	1.245	365.9	17.3	91110924
SOURCE GROUP ID:	33MWHR				
Annual					
	1987	0.170	371.0	360.7	87123124
	1988	0.185	364.4	-80.8	88123124
	1989	0.192	-1500.0	1700.0	89123124
	1990	0.193	-1800.0	1700.0	90123124
	1991	0.184	-1700.0	1600.0	91123124
HIGH 24-Hour					
	1987	2.652	377.5	802.2	87021624
	1988	2.362	370.3	311.6	88110524
	1989	2.512	357.9	-522.4	89102024
	1990	2.000	-175.8	1068.4	90101024
	1991	2.481	377.5	802.2	91030324
SOURCE GROUP ID:	22MWAL				
Annual					
	1987	0.244	371.7	409.8	87123124
	1988	0.231	370.3	311.6	88123124
	1989	0.215	371.7	409.8	89123124
	1990	0.165	-176.5	821.1	90123124
	1991	0.192	370.3	311.6	91123124
HIGH 24-Hour					
	1987	3.048	365.1	-31.8	87101324
	1988	3.170	376.1	704.1	88110524
	1989	2.784	365.9	17.3	89031024
	1990	2.254	-175.8	1068.4	90101024
	1991	3.079	376.1	704.1	91021424
SOURCE GROUP ID:	22MWCO				
Annual					
	1987	0.131	365.9	17.3	87123124
	1988	0.112	365.9	17.3	88123124
	1989	0.118	365.9	17.3	89123124
	1990	0.077	365.9	17.3	90123124
	1991	0.076	365.9	17.3	91123124
HIGH 24-Hour					
	1987	1.265	365.9	17.3	87101324
	1988	1.580	365.9	17.3	88121724
	1989	1.372	365.9	17.3	89122424
	1990	1.174	365.9	17.3	90072724
	1991	1.245	365.9	17.3	91110924
SOURCE GROUP ID:	22MWHR				
Annual					
	1987	0.155	371.0	360.7	87123124

	1988	0.163	370.3	311.6	88123124
	1989	0.140	371.0	360.7	89123124
	1990	0.139	-176.4	870.5	90123124
	1991	0.132	370.3	311.6	91123124
HIGH 24-Hour					
	1987	2.575	377.5	802.2	87021624
	1988	2.313	376.1	704.1	88110524
	1989	2.386	363.7	-129.9	89102024
	1990	1.943	-175.8	1068.4	90101024
	1991	2.354	376.1	704.1	91021424

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :PMOIL33g.087
ISCST3 OUTPUT FILE NUMBER 2 :PMOIL33g.088
ISCST3 OUTPUT FILE NUMBER 3 :PMOIL33g.089
ISCST3 OUTPUT FILE NUMBER 4 :PMOIL33g.090
ISCST3 OUTPUT FILE NUMBER 5 :PMOIL33g.091
First title for last output file is: 1987 FPL WEST COUNTY 2200-3300MW CC - OIL FIRING CASES - 2/20/05
Second title for last output file is: PM10 IMPACTS, CT/HRSGs AND COOLING TOWERS, G-CLASS MACHINES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	33MWAL				
Annual					
	1987	0.609	365.1	-31.8	87123124
	1988	0.672	364.4	-80.8	88123124
	1989	0.603	-2250.0	2500.0	89123124
	1990	0.601	-3000.0	2250.0	90123124
	1991	0.582	-3000.0	2250.0	91123124
HIGH 24-Hour					
	1987	10.942	377.5	802.2	87021624
	1988	9.075	376.1	704.1	88110524
	1989	9.011	357.9	-522.4	89102024
	1990	7.206	-175.9	1019.0	90101024
	1991	11.334	377.5	802.2	91030324
SOURCE GROUP ID:	33MWCO				
Annual					
	1987	0.136	365.9	17.3	87123124
	1988	0.117	365.9	17.3	88123124
	1989	0.120	365.9	17.3	89123124
	1990	0.079	365.9	17.3	90123124
	1991	0.081	365.9	17.3	91123124
HIGH 24-Hour					
	1987	1.265	365.9	17.3	87101324
	1988	1.580	365.9	17.3	88121724
	1989	1.372	365.9	17.3	89122424
	1990	1.176	360.0	-375.2	90072724
	1991	1.245	365.9	17.3	91110924
SOURCE GROUP ID:	33MWHR				
Annual					
	1987	0.541	371.0	360.7	87123124
	1988	0.606	364.4	-80.8	88123124
	1989	0.583	-2500.0	2750.0	89123124
	1990	0.582	-3500.0	2500.0	90123124
	1991	0.563	-3000.0	2250.0	91123124
HIGH 24-Hour					
	1987	10.677	377.5	802.2	87021624
	1988	8.224	370.3	311.6	88110524
	1989	8.776	357.9	-522.4	89102024
	1990	6.880	-175.9	1019.0	90101024
	1991	10.989	377.5	802.2	91030324
SOURCE GROUP ID:	22MWAL				
Annual					
	1987	0.561	371.0	360.7	87123124
	1988	0.608	370.3	311.6	88123124
	1989	0.520	371.0	360.7	89123124
	1990	0.430	-176.4	870.5	90123124
	1991	0.501	370.3	311.6	91123124
HIGH 24-Hour					
	1987	10.710	377.5	802.2	87021624
	1988	8.918	376.1	704.1	88110524
	1989	8.587	363.7	-129.9	89102024
	1990	7.042	-175.8	1068.4	90101024
	1991	9.905	377.5	802.2	91030324
SOURCE GROUP ID:	22MWCO				
Annual					
	1987	0.131	365.9	17.3	87123124
	1988	0.112	365.9	17.3	88123124
	1989	0.118	365.9	17.3	89123124
	1990	0.077	365.9	17.3	90123124
	1991	0.076	365.9	17.3	91123124
HIGH 24-Hour					
	1987	1.265	365.9	17.3	87101324
	1988	1.580	365.9	17.3	88121724
	1989	1.372	365.9	17.3	89122424
	1990	1.174	365.9	17.3	90072724
	1991	1.245	365.9	17.3	91110924
SOURCE GROUP ID:	22MWHR				
Annual					
	1987	0.497	371.0	360.7	87123124

	1988	0.540	370.3	311.6	88123124
	1989	0.454	371.0	360.7	89123124
	1990	0.405	-176.4	870.5	90123124
	1991	0.442	370.3	311.6	91123124
HIGH 24-Hour					
	1987	10.467	377.5	802.2	87021624
	1988	8.060	376.1	704.1	88110524
	1989	8.411	363.7	-129.9	89102024
	1990	6.730	-175.8	1068.4	90101024
	1991	9.611	377.5	802.2	91030324

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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**
*****************************************
** ISCST3 Control Pathway
*****************************************
**
CO STARTING
   TITLEONE West County Energy Center, G-CLASS 2200 MW, SIG Analysis, Gas Firing Cases - 2/11/05
   TITLETWO Generic 10 g/s Emission Rate From Each of Two Power Blocks - 1987 Met
   MODELOPT DFAULT CONC  RURAL
   AVERTIME 1 3 8 24 PERIOD
   POLLUTID OTHER
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** ISCST3 Source Pathway
*****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION G1A1095 POINT   241.776   615.680
   LOCATION G1B1095 POINT   240.478   530.190
   LOCATION G1C1095 POINT   239.832   487.635
   LOCATION G2A1095 POINT   234.731   211.030
   LOCATION G2B1095 POINT   233.435   125.690
   LOCATION G2C1095 POINT   232.787   83.015

   LOCATION G1A1059 POINT   241.776   615.680
   LOCATION G1B1059 POINT   240.478   530.190
   LOCATION G1C1059 POINT   239.832   487.635
   LOCATION G2A1059 POINT   234.731   211.030
   LOCATION G2B1059 POINT   233.435   125.690
   LOCATION G2C1059 POINT   232.787   83.015

   LOCATION G1A1035 POINT   241.776   615.680
   LOCATION G1B1035 POINT   240.478   530.190
   LOCATION G1C1035 POINT   239.832   487.635
   LOCATION G2A1035 POINT   234.731   211.030
   LOCATION G2B1035 POINT   233.435   125.690
   LOCATION G2C1035 POINT   232.787   83.015

   LOCATION G1A7595 POINT   241.776   615.680
   LOCATION G1B7595 POINT   240.478   530.190
   LOCATION G1C7595 POINT   239.832   487.635
   LOCATION G2A7595 POINT   234.731   211.030
   LOCATION G2B7595 POINT   233.435   125.690
   LOCATION G2C7595 POINT   232.787   83.015

   LOCATION G1A7559 POINT   241.776   615.680
   LOCATION G1B7559 POINT   240.478   530.190
   LOCATION G1C7559 POINT   239.832   487.635
   LOCATION G2A7559 POINT   234.731   211.030
   LOCATION G2B7559 POINT   233.435   125.690
   LOCATION G2C7559 POINT   232.787   83.015

   LOCATION G1A7535 POINT   241.776   615.680
   LOCATION G1B7535 POINT   240.478   530.190
   LOCATION G1C7535 POINT   239.832   487.635
   LOCATION G2A7535 POINT   234.731   211.030
   LOCATION G2B7535 POINT   233.435   125.690
   LOCATION G2C7535 POINT   232.787   83.015

** Source Parameters **
** Baseload, DB, 95 F
   SRCPARAM G1A1095 3.3333   45.42   361.0   16.6   6.71
   SRCPARAM G1B1095 3.3333   45.42   361.0   16.6   6.71
   SRCPARAM G1C1095 3.3333   45.42   361.0   16.6   6.71
   SRCPARAM G2A1095 3.3333   45.42   361.0   16.6   6.71
   SRCPARAM G2B1095 3.3333   45.42   361.0   16.6   6.71
   SRCPARAM G2C1095 3.3333   45.42   361.0   16.6   6.71
** Baseload, DB, 59 F
   SRCPARAM G1A1059 3.3333   45.42   360.0   17.5   6.71
   SRCPARAM G1B1059 3.3333   45.42   360.0   17.5   6.71
   SRCPARAM G1C1059 3.3333   45.42   360.0   17.5   6.71
   SRCPARAM G2A1059 3.3333   45.42   360.0   17.5   6.71
   SRCPARAM G2B1059 3.3333   45.42   360.0   17.5   6.71
   SRCPARAM G2C1059 3.3333   45.42   360.0   17.5   6.71
** Baseload, DB, 35 F
   SRCPARAM G1A1035 3.3333   45.42   360.0   18.5   6.71
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   SRCPARAM G1B1035 3.3333   45.42   360.0   18.5   6.71
   SRCPARAM G1C1035 3.3333   45.42   360.0   18.5   6.71
   SRCPARAM G2A1035 3.3333   45.42   360.0   18.5   6.71
   SRCPARAM G2B1035 3.3333   45.42   360.0   18.5   6.71
   SRCPARAM G2C1035 3.3333   45.42   360.0   18.5   6.71
** 75% Load, 95 F
   SRCPARAM G1A7595 3.3333   45.42   356.0   12.9   6.71
   SRCPARAM G1B7595 3.3333   45.42   356.0   12.9   6.71
   SRCPARAM G1C7595 3.3333   45.42   356.0   12.9   6.71
   SRCPARAM G2A7595 3.3333   45.42   356.0   12.9   6.71
   SRCPARAM G2B7595 3.3333   45.42   356.0   12.9   6.71
   SRCPARAM G2C7595 3.3333   45.42   356.0   12.9   6.71
** 75% Load, 59 F
   SRCPARAM G1A7559 3.3333   45.42   354.0   13.7   6.71
   SRCPARAM G1B7559 3.3333   45.42   354.0   13.7   6.71
   SRCPARAM G1C7559 3.3333   45.42   354.0   13.7   6.71
   SRCPARAM G2A7559 3.3333   45.42   354.0   13.7   6.71
   SRCPARAM G2B7559 3.3333   45.42   354.0   13.7   6.71
   SRCPARAM G2C7559 3.3333   45.42   354.0   13.7   6.71
** 75% Load, 35 F
   SRCPARAM G1A7535 3.3333   45.42   354.0   14.3   6.71
   SRCPARAM G1B7535 3.3333   45.42   354.0   14.3   6.71
   SRCPARAM G1C7535 3.3333   45.42   354.0   14.3   6.71
   SRCPARAM G2A7535 3.3333   45.42   354.0   14.3   6.71
   SRCPARAM G2B7535 3.3333   45.42   354.0   14.3   6.71
   SRCPARAM G2C7535 3.3333   45.42   354.0   14.3   6.71
** Building Downwash **
SO BUILDHGT G1A1035-G1A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035-G1A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035-G1A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035-G1A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035-G1A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1A1035-G1A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1A1035-G1A7595    31.23   31.86   31.53   30.34   28.11   25.03
SO BUILDWID G1A1035-G1A7595    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G1A1035-G1A7595    27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID G1A1035-G1A7595    31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID G1A1035-G1A7595    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G1A1035-G1A7595    27.64   30.02   31.48   32.00   31.54   29.99


SO BUILDHGT G1B1035-G1B7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B1035-G1B7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B1035-G1B7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B1035-G1B7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B1035-G1B7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1B1035-G1B7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1B1035-G1B7595    31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID G1B1035-G1B7595    21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G1B1035-G1B7595    27.55   29.92   31.37   31.88   31.41   29.99
SO BUILDWID G1B1035-G1B7595    31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID G1B1035-G1B7595    21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G1B1035-G1B7595    27.55   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT G1C1035-G1C7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C1035-G1C7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C1035-G1C7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C1035-G1C7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C1035-G1C7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G1C1035-G1C7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G1C1035-G1C7595    31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID G1C1035-G1C7595    21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID G1C1035-G1C7595    27.70   29.92   31.37   31.88   31.41   29.99
SO BUILDWID G1C1035-G1C7595    31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID G1C1035-G1C7595    21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID G1C1035-G1C7595    27.70   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT G2A1035-G2A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A1035-G2A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A1035-G2A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A1035-G2A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A1035-G2A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2A1035-G2A7595    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G2A1035-G2A7595    31.22   31.85   31.52   30.20   27.97   24.88
SO BUILDWID G2A1035-G2A7595    21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID G2A1035-G2A7595    27.49   29.88   31.36   31.88   31.44   30.04
SO BUILDWID G2A1035-G2A7595    31.27   31.88   31.52   30.20   27.97   24.88
SO BUILDWID G2A1035-G2A7595    21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID G2A1035-G2A7595    27.49   29.88   31.36   31.88   31.44   29.98
```

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SO BUILDHGT G2B1035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B1035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B1035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B1035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B1035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2B1035-G2B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G2B1035-G2B7595      31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID G2B1035-G2B7595      21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID G2B1035-G2B7595      27.67   30.09   31.36   31.88   31.40   29.98
SO BUILDWID G2B1035-G2B7595      31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID G2B1035-G2B7595      21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID G2B1035-G2B7595      27.67   30.09   31.60   32.15   31.40   29.98

SO BUILDHGT G2C1035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C1035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C1035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C1035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C1035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G2C1035-G2C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G2C1035-G2C7595      31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID G2C1035-G2C7595      21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G2C1035-G2C7595      27.67   29.91   31.36   31.87   31.40   29.98
SO BUILDWID G2C1035-G2C7595      31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID G2C1035-G2C7595      21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID G2C1035-G2C7595      27.67   29.91   31.36   31.87   31.40   29.98

SO BUILDHGT G3B1035-G3B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B1035-G3B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B1035-G3B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B1035-G3B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B1035-G3B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3B1035-G3B7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G3B1035-G3B7595      31.36   31.99   31.64   30.34   28.28   25.03
SO BUILDWID G3B1035-G3B7595      21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G3B1035-G3B7595      27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID G3B1035-G3B7595      31.36   31.99   31.64   30.34   28.28   25.03
SO BUILDWID G3B1035-G3B7595      21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G3B1035-G3B7595      27.64   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT G3C1035-G3C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3C1035-G3C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3C1035-G3C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3C1035-G3C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3C1035-G3C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3C1035-G3C7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G3C1035-G3C7595      31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID G3C1035-G3C7595      21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID G3C1035-G3C7595      27.80   30.02   31.48   32.00   31.54   30.12
SO BUILDWID G3C1035-G3C7595      31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID G3C1035-G3C7595      21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID G3C1035-G3C7595      27.80   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT G3A1035-G3A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3A1035-G3A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3A1035-G3A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3A1035-G3A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3A1035-G3A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT G3A1035-G3A7595      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID G3A1035-G3A7595      31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID G3A1035-G3A7595      21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G3A1035-G3A7595      27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID G3A1035-G3A7595      31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID G3A1035-G3A7595      21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID G3A1035-G3A7595      27.64   30.02   31.48   32.00   31.54   30.12

   SRCGROUP G1095      G1A1095 G1B1095 G1C1095 G2A1095 G2B1095 G2C1095
   SRCGROUP G1059      G1A1059 G1B1059 G1C1059 G2A1059 G2B1059 G2C1059
   SRCGROUP G1035      G1A1035 G1B1035 G1C1035 G2A1035 G2B1035 G2C1035

   SRCGROUP G7595      G1A7595 G1B7595 G1C7595 G2A7595 G2B7595 G2C7595
   SRCGROUP G7559      G1A7559 G1B7559 G1C7559 G2A7559 G2B7559 G2C7559
   SRCGROUP G7535      G1A7535 G1B7535 G1C7535 G2A7535 G2B7535 G2C7535

SO FINISHED
**
*******************************************
** ISCST3 Receptor Pathway
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****************************************
**
**
RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
   DISCCART -2000.00 -1700.00
   DISCCART -2000.00 -1600.00
   DISCCART -2000.00 -1500.00
   DISCCART -2000.00 -1400.00
   DISCCART -2000.00 -1300.00
   DISCCART -2000.00 -1200.00
   DISCCART -2000.00 -1100.00
   DISCCART -2000.00 -1000.00
   DISCCART -2000.00 -900.00
   DISCCART -2000.00 -800.00
   DISCCART -2000.00 -700.00
```

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**
*****************************************
** ISCST3 Control Pathway
*****************************************
**
CO STARTING
   TITLEONE West County Energy Center, G-CLASS 2200 MW, SIG Analysis, Oil Firing Cases - 2/12/05
   TITLETWO Generic 10 g/s Emission From Each of the Two Power Blocks - 1987 Met
   MODELOPT DFAULT CONC  RURAL
   AVERTIME 1 3 8 24 PERIOD
   POLLUTID OTHER
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** ISCST3 Source Pathway
*****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION 01A1095 POINT   241.776   615.680
   LOCATION 01B1095 POINT   240.478   530.190
   LOCATION 01C1095 POINT   239.832   487.635
   LOCATION 02A1095 POINT   234.731   211.030
   LOCATION 02B1095 POINT   233.435   125.690
   LOCATION 02C1095 POINT   232.787   83.015

   LOCATION 01A1059 POINT   241.776   615.680
   LOCATION 01B1059 POINT   240.478   530.190
   LOCATION 01C1059 POINT   239.832   487.635
   LOCATION 02A1059 POINT   234.731   211.030
   LOCATION 02B1059 POINT   233.435   125.690
   LOCATION 02C1059 POINT   232.787   83.015

   LOCATION 01A1035 POINT   241.776   615.680
   LOCATION 01B1035 POINT   240.478   530.190
   LOCATION 01C1035 POINT   239.832   487.635
   LOCATION 02A1035 POINT   234.731   211.030
   LOCATION 02B1035 POINT   233.435   125.690
   LOCATION 02C1035 POINT   232.787   83.015

   LOCATION 01A7595 POINT   241.776   615.680
   LOCATION 01B7595 POINT   240.478   530.190
   LOCATION 01C7595 POINT   239.832   487.635
   LOCATION 02A7595 POINT   234.731   211.030
   LOCATION 02B7595 POINT   233.435   125.690
   LOCATION 02C7595 POINT   232.787   83.015

   LOCATION 01A7559 POINT   241.776   615.680
   LOCATION 01B7559 POINT   240.478   530.190
   LOCATION 01C7559 POINT   239.832   487.635
   LOCATION 02A7559 POINT   234.731   211.030
   LOCATION 02B7559 POINT   233.435   125.690
   LOCATION 02C7559 POINT   232.787   83.015

   LOCATION 01A7535 POINT   241.776   615.680
   LOCATION 01B7535 POINT   240.478   530.190
   LOCATION 01C7535 POINT   239.832   487.635
   LOCATION 02A7535 POINT   234.731   211.030
   LOCATION 02B7535 POINT   233.435   125.690
   LOCATION 02C7535 POINT   232.787   83.015

** Source Parameters **
** Baseload, 95 F
   SRCPARAM 01A1095 3.3333   45.42   419.0   19.3   6.71
   SRCPARAM 01B1095 3.3333   45.42   419.0   19.3   6.71
   SRCPARAM 01C1095 3.3333   45.42   419.0   19.3   6.71
   SRCPARAM 02A1095 3.3333   45.42   419.0   19.3   6.71
   SRCPARAM 02B1095 3.3333   45.42   419.0   19.3   6.71
   SRCPARAM 02C1095 3.3333   45.42   419.0   19.3   6.71
** Baseload, 59 F
   SRCPARAM 01A1059 3.3333   45.42   418.0   20.8   6.71
   SRCPARAM 01B1059 3.3333   45.42   418.0   20.8   6.71
   SRCPARAM 01C1059 3.3333   45.42   418.0   20.8   6.71
   SRCPARAM 02A1059 3.3333   45.42   418.0   20.8   6.71
   SRCPARAM 02B1059 3.3333   45.42   418.0   20.8   6.71
   SRCPARAM 02C1059 3.3333   45.42   418.0   20.8   6.71
** Baseload, 35 F
   SRCPARAM 01A1035 3.3333   45.42   418.0   21.6   6.71
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   SRCPARAM 01B1035 3.3333   45.42   418.0   21.6   6.71
   SRCPARAM 01C1035 3.3333   45.42   418.0   21.6   6.71
   SRCPARAM 02A1035 3.3333   45.42   418.0   21.6   6.71
   SRCPARAM 02B1035 3.3333   45.42   418.0   21.6   6.71
   SRCPARAM 02C1035 3.3333   45.42   418.0   21.6   6.71
** 75% Load, 95 F
   SRCPARAM 01A7595 3.3333   45.42   410.0   15.3   6.71
   SRCPARAM 01B7595 3.3333   45.42   410.0   15.3   6.71
   SRCPARAM 01C7595 3.3333   45.42   410.0   15.3   6.71
   SRCPARAM 02A7595 3.3333   45.42   410.0   15.3   6.71
   SRCPARAM 02B7595 3.3333   45.42   410.0   15.3   6.71
   SRCPARAM 02C7595 3.3333   45.42   410.0   15.3   6.71
** 75% Load, 59 F
   SRCPARAM 01A7559 3.3333   45.42   407.0   16.1   6.71
   SRCPARAM 01B7559 3.3333   45.42   407.0   16.1   6.71
   SRCPARAM 01C7559 3.3333   45.42   407.0   16.1   6.71
   SRCPARAM 02A7559 3.3333   45.42   407.0   16.1   6.71
   SRCPARAM 02B7559 3.3333   45.42   407.0   16.1   6.71
   SRCPARAM 02C7559 3.3333   45.42   407.0   16.1   6.71
** 75% Load, 35 F
   SRCPARAM 01A7535 3.3333   45.42   407.0   16.7   6.71
   SRCPARAM 01B7535 3.3333   45.42   407.0   16.7   6.71
   SRCPARAM 01C7535 3.3333   45.42   407.0   16.7   6.71
   SRCPARAM 02A7535 3.3333   45.42   407.0   16.7   6.71
   SRCPARAM 02B7535 3.3333   45.42   407.0   16.7   6.71
   SRCPARAM 02C7535 3.3333   45.42   407.0   16.7   6.71

** Building Downwash **
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A1035-01A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01A1035-01A7595     31.23   31.86   31.53   30.34   28.11   25.03
SO BUILDWID 01A1035-01A7595     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01A1035-01A7595     27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 01A1035-01A7595     31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 01A1035-01A7595     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01A1035-01A7595     27.64   30.02   31.48   32.00   31.54   29.99


SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B1035-01B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01B1035-01B7595     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01B1035-01B7595     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01B1035-01B7595     27.55   29.92   31.37   31.88   31.41   29.99
SO BUILDWID 01B1035-01B7595     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01B1035-01B7595     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01B1035-01B7595     27.55   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C1035-01C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01C1035-01C7595     31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01C1035-01C7595     21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01C1035-01C7595     27.70   29.92   31.37   31.88   31.41   29.99
SO BUILDWID 01C1035-01C7595     31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01C1035-01C7595     21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01C1035-01C7595     27.70   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT 02A1035-02A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A1035-02A7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02A1035-02A7595     31.22   31.85   31.52   30.20   27.97   24.88
SO BUILDWID 02A1035-02A7595     21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02A1035-02A7595     27.49   29.88   31.36   31.88   31.44   30.04
SO BUILDWID 02A1035-02A7595     31.27   31.88   31.52   30.20   27.97   24.88
SO BUILDWID 02A1035-02A7595     21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02A1035-02A7595     27.49   29.88   31.36   31.88   31.44   29.98
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SO BUILDHGT 02B1035-02B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B1035-02B7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02B1035-02B7595     31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID 02B1035-02B7595     21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02B1035-02B7595     27.67   30.09   31.36   31.88   31.40   29.98
SO BUILDWID 02B1035-02B7595     31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID 02B1035-02B7595     21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02B1035-02B7595     27.67   30.09   31.60   32.15   31.40   29.98

SO BUILDHGT 02C1035-02C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C1035-02C7595     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02C1035-02C7595     31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02C1035-02C7595     21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02C1035-02C7595     27.67   29.91   31.36   31.87   31.40   29.98
SO BUILDWID 02C1035-02C7595     31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02C1035-02C7595     21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02C1035-02C7595     27.67   29.91   31.36   31.87   31.40   29.98

   SRCGROUP 01095 01A1095 01B1095 01C1095 02A1095 02B1095 02C1095
   SRCGROUP 01059 01A1059 01B1059 01C1059 02A1059 02B1059 02C1059
   SRCGROUP 01035 01A1035 01B1035 01C1035 02A1035 02B1035 02C1035

   SRCGROUP 07595 01A7595 01B7595 01C7595 02A7595 02B7595 02C7595
   SRCGROUP 07559 01A7559 01B7559 01C7559 02A7559 02B7559 02C7559
   SRCGROUP 07535 01A7535 01B7535 01C7535 02A7535 02B7535 02C7535
SO FINISHED
**
******************************************
** ISCST3 Receptor Pathway
******************************************
**
**
RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
   DISCCART -2000.00 -1700.00
   DISCCART -2000.00 -1600.00
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**
*****************************************
** ISCST3 Control Pathway
*****************************************
**
CO STARTING
   TITLEONE 1987 FPL WEST COUNTY 2200-3300MW CC - GAS FIRING CASES - 2/12/05
   TITLETWO PM10 IMPACTS, CT/HRSGs AND COOLING TOWERS, G-CLASS MACHINES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME 24 PERIOD
   POLLUTID OTHER
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** ISCST3 Source Pathway
*****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION G1A7595 POINT   241.776   615.680
   LOCATION G1B7595 POINT   240.478   530.190
   LOCATION G1C7595 POINT   239.832   487.635
   LOCATION G2A7595 POINT   234.731   211.030
   LOCATION G2B7595 POINT   233.435   125.690
   LOCATION G2C7595 POINT   232.787   83.015
   LOCATION G3A7595 POINT   228.539   -196.733
   LOCATION G3B7595 POINT   227.244   -282.053
   LOCATION G3C7595 POINT   226.598   -324.588

   LOCATION COOL1_01   POINT   291.974        657.973
   LOCATION COOL1_02   POINT   291.698        639.775
   LOCATION COOL1_03   POINT   291.419        621.417
   LOCATION COOL1_04   POINT   291.142        603.159
   LOCATION COOL1_05   POINT   290.863        584.811
   LOCATION COOL1_06   POINT   290.589        566.743
   LOCATION COOL1_07   POINT   290.307        548.205
   LOCATION COOL1_08   POINT   290.027        529.757
   LOCATION COOL1_09   POINT   289.753        511.689
   LOCATION COOL1_10   POINT   289.474        493.332
   LOCATION COOL1_11   POINT   289.195        474.984
   LOCATION COOL1_12   POINT   310.421        657.652
   LOCATION COOL1_13   POINT   310.137        638.925
   LOCATION COOL1_14   POINT   309.863        620.857
   LOCATION COOL1_15   POINT   309.587        602.689
   LOCATION COOL1_16   POINT   309.310        584.481
   LOCATION COOL1_17   POINT   309.031        566.103
   LOCATION COOL1_18   POINT   308.750        547.615
   LOCATION COOL1_19   POINT   308.474        529.427
   LOCATION COOL1_20   POINT   308.200        511.349
   LOCATION COOL1_21   POINT   307.921        492.961
   LOCATION COOL1_22   POINT   307.641        474.584
   LOCATION COOL2_01   POINT   285.832        253.469
   LOCATION COOL2_02   POINT   285.555        235.271
   LOCATION COOL2_03   POINT   285.276        216.913
   LOCATION COOL2_04   POINT   284.999        198.656
   LOCATION COOL2_05   POINT   284.721        180.308
   LOCATION COOL2_06   POINT   284.446        162.240
   LOCATION COOL2_07   POINT   284.165        143.702
   LOCATION COOL2_08   POINT   283.885        125.254
   LOCATION COOL2_09   POINT   283.610        107.186
   LOCATION COOL2_10   POINT   283.331         88.828
   LOCATION COOL2_11   POINT   283.053         70.480
   LOCATION COOL2_12   POINT   304.279        253.149
   LOCATION COOL2_13   POINT   303.994        234.421
   LOCATION COOL2_14   POINT   303.720        216.353
   LOCATION COOL2_15   POINT   303.444        198.185
   LOCATION COOL2_16   POINT   303.168        179.978
   LOCATION COOL2_17   POINT   302.889        161.600
   LOCATION COOL2_18   POINT   302.608        143.112
   LOCATION COOL2_19   POINT   302.332        124.924
   LOCATION COOL2_20   POINT   302.057        106.846
   LOCATION COOL2_21   POINT   301.778         88.458
   LOCATION COOL2_22   POINT   301.499         70.080
   LOCATION COOL3_01   POINT   279.641       -154.204
   LOCATION COOL3_02   POINT   279.364       -172.402
   LOCATION COOL3_03   POINT   279.086       -190.760
   LOCATION COOL3_04   POINT   278.808       -209.017
   LOCATION COOL3_05   POINT   278.530       -227.365
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   LOCATION COOL3_06   POINT   278.255        -245.433
   LOCATION COOL3_07   POINT   277.974        -263.971
   LOCATION COOL3_08   POINT   277.694        -282.419
   LOCATION COOL3_09   POINT   277.419        -300.487
   LOCATION COOL3_10   POINT   277.141        -318.845
   LOCATION COOL3_11   POINT   276.862        -337.193
   LOCATION COOL3_12   POINT   298.088        -154.524
   LOCATION COOL3_13   POINT   297.804        -173.252
   LOCATION COOL3_14   POINT   297.529        -191.320
   LOCATION COOL3_15   POINT   297.253        -209.488
   LOCATION COOL3_16   POINT   296.977        -227.695
   LOCATION COOL3_17   POINT   296.698        -246.073
   LOCATION COOL3_18   POINT   296.417        -264.561
   LOCATION COOL3_19   POINT   296.141        -282.749
   LOCATION COOL3_20   POINT   295.866        -300.827
   LOCATION COOL3_21   POINT   295.587        -319.215
   LOCATION COOL3_22   POINT   295.308        -337.593
** Source Parameters **
** 75% Load, 95 F
** Emission Rate - 80% of 10 lb/hr
   SRCPARAM G1A7595 1.008   45.42   356.0   12.9   6.71
   SRCPARAM G1B7595 1.008   45.42   356.0   12.9   6.71
   SRCPARAM G1C7595 1.008   45.42   356.0   12.9   6.71
   SRCPARAM G2A7595 1.008   45.42   356.0   12.9   6.71
   SRCPARAM G2B7595 1.008   45.42   356.0   12.9   6.71
   SRCPARAM G2C7595 1.008   45.42   356.0   12.9   6.71
   SRCPARAM G3A7595 1.008   45.42   356.0   12.9   6.71
   SRCPARAM G3B7595 1.008   45.42   356.0   12.9   6.71
   SRCPARAM G3C7595 1.008   45.42   356.0   12.9   6.71

   SRCPARAM COOL1_01     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_02     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_03     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_04     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_05     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_06     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_07     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_08     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_09     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_10     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_11     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_12     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_13     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_14     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_15     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_16     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_17     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_18     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_19     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_20     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_21     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL1_22     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_01     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_02     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_03     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_04     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_05     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_06     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_07     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_08     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_09     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_10     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_11     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_12     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_13     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_14     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_15     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_16     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_17     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_18     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_19     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_20     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_21     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL2_22     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL3_01     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL3_02     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL3_03     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL3_04     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL3_05     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL3_06     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL3_07     0.007       19.800     309.0       6.72      11.59
   SRCPARAM COOL3_08     0.007       19.800     309.0       6.72      11.59
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   SRCPARAM COOL3_09    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_10    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_11    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_12    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_13    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_14    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_15    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_16    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_17    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_18    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_19    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_20    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_21    0.007      19.800    309.0      6.72     11.59
   SRCPARAM COOL3_22    0.007      19.800    309.0      6.72     11.59

** Building Downwash **
SO BUILDHGT G1A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDWID G1A7595     31.23  31.86  31.53  30.34  28.11  25.03
SO BUILDWID G1A7595     21.19  16.71  11.71  15.87  20.45  24.42
SO BUILDWID G1A7595     27.64  30.02  31.48  32.00  31.54  30.12
SO BUILDWID G1A7595     31.36  31.99  31.64  30.34  28.11  25.03
SO BUILDWID G1A7595     21.19  16.71  11.71  15.87  20.45  24.42
SO BUILDWID G1A7595     27.64  30.02  31.48  32.00  31.54  29.99


SO BUILDHGT G1B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDWID G1B7595     31.23  31.86  31.53  30.24  28.17  24.97
SO BUILDWID G1B7595     21.15  16.68  11.71  15.85  20.41  24.35
SO BUILDWID G1B7595     27.55  29.92  31.37  31.88  31.41  29.99
SO BUILDWID G1B7595     31.23  31.86  31.53  30.24  28.17  24.97
SO BUILDWID G1B7595     21.15  16.68  11.71  15.85  20.41  24.35
SO BUILDWID G1B7595     27.55  29.92  31.37  31.88  31.41  29.99


SO BUILDHGT G1C7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1C7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1C7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1C7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1C7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G1C7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDWID G1C7595     31.23  32.01  31.68  30.39  28.17  25.10
SO BUILDWID G1C7595     21.27  16.79  11.79  15.95  20.53  24.49
SO BUILDWID G1C7595     27.70  29.92  31.37  31.88  31.41  29.99
SO BUILDWID G1C7595     31.23  32.01  31.68  30.39  28.17  25.10
SO BUILDWID G1C7595     21.27  16.79  11.79  15.95  20.53  24.49
SO BUILDWID G1C7595     27.70  29.92  31.37  31.88  31.41  29.99


SO BUILDHGT G2A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2A7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDWID G2A7595     31.22  31.85  31.52  30.20  27.97  24.88
SO BUILDWID G2A7595     21.04  16.56  11.58  15.73  20.31  24.27
SO BUILDWID G2A7595     27.49  29.88  31.36  31.88  31.44  30.04
SO BUILDWID G2A7595     31.27  31.88  31.52  30.20  27.97  24.88
SO BUILDWID G2A7595     21.04  16.56  11.58  15.73  20.31  24.27
SO BUILDWID G2A7595     27.49  29.88  31.36  31.88  31.44  29.98


SO BUILDHGT G2B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDHGT G2B7595     29.57  29.57  29.57  29.57  29.57  29.57
SO BUILDWID G2B7595     31.22  31.85  31.52  30.23  28.15  25.03
SO BUILDWID G2B7595     21.14  16.62  11.59  15.77  20.40  24.40
SO BUILDWID G2B7595     27.67  30.09  31.36  31.88  31.40  29.98
SO BUILDWID G2B7595     31.22  31.85  31.52  30.23  28.15  25.03
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SO BUILDWID G2B7595	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID G2B7595	27.67	30.09	31.60	32.15	31.40	29.98
SO BUILDHGT G2C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G2C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G2C7595	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID G2C7595	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID G2C7595	27.67	29.91	31.36	31.87	31.40	29.98
SO BUILDWID G2C7595	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID G2C7595	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID G2C7595	27.67	29.91	31.36	31.87	31.40	29.98
SO BUILDHGT G3B7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3B7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3B7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3B7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3B7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3B7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G3B7595	31.36	31.99	31.64	30.34	28.28	25.03
SO BUILDWID G3B7595	21.19	16.71	11.71	15.87	20.45	24.42
SO BUILDWID G3B7595	27.64	30.02	31.48	32.00	31.54	30.12
SO BUILDWID G3B7595	31.36	31.99	31.64	30.34	28.28	25.03
SO BUILDWID G3B7595	21.19	16.71	11.71	15.87	20.45	24.42
SO BUILDWID G3B7595	27.64	30.02	31.48	32.00	31.54	30.12
SO BUILDHGT G3C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3C7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G3C7595	31.36	32.12	31.79	30.50	28.28	25.20
SO BUILDWID G3C7595	21.35	16.86	11.85	16.02	20.61	24.58
SO BUILDWID G3C7595	27.80	30.02	31.48	32.00	31.54	30.12
SO BUILDWID G3C7595	31.36	32.12	31.79	30.50	28.28	25.20
SO BUILDWID G3C7595	21.35	16.86	11.85	16.02	20.61	24.58
SO BUILDWID G3C7595	27.80	30.02	31.48	32.00	31.54	30.12
SO BUILDHGT G3A7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT G3A7595	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID G3A7595	31.36	31.99	31.64	30.34	28.11	25.03
SO BUILDWID G3A7595	21.19	16.71	11.71	15.87	20.45	24.42
SO BUILDWID G3A7595	27.64	30.02	31.48	32.00	31.54	30.12
SO BUILDWID G3A7595	31.36	31.99	31.64	30.34	28.11	25.03
SO BUILDWID G3A7595	21.19	16.71	11.71	15.87	20.45	24.42
SO BUILDWID G3A7595	27.64	30.02	31.48	32.00	31.54	30.12
SO BUILDHGT COOL1_01	15.54	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT COOL1_01	29.57	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDWID COOL1_01	66.41	31.86	31.53	30.24	28.11	25.03
SO BUILDWID COOL1_01	21.19	201.97	199.77	202.47	200.16	191.77
SO BUILDWID COOL1_01	177.55	157.94	133.52	105.05	73.39	39.50
SO BUILDWID COOL1_01	66.41	98.53	127.65	152.89	173.49	188.82
SO BUILDWID COOL1_01	198.41	201.97	199.77	202.47	200.16	191.77
SO BUILDWID COOL1_01	177.55	157.94	133.52	105.05	73.39	39.50
SO BUILDHGT COOL1_02	15.54	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT COOL1_02	29.57	29.57	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_02	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_02	15.54	15.54	15.54	15.54	29.57	15.54
SO BUILDHGT COOL1_02	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_02	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDWID COOL1_02	66.41	31.86	31.53	30.24	28.11	25.03
SO BUILDWID COOL1_02	21.19	16.71	199.77	202.47	200.16	191.77
SO BUILDWID COOL1_02	177.55	157.94	133.52	105.05	73.39	39.50

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SO BUILDWID COOL1_02   66.41   98.53  127.65  152.89   28.11  188.82
SO BUILDWID COOL1_02  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_03   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_03   21.19   16.71   11.71  202.47  200.16  191.77
SO BUILDWID COOL1_03  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_03   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_03  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_03  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_04   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77   15.87   20.45   24.42
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_04   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_05   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_05   27.64  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_05   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_05  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_06   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_06   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_06   21.15  201.97  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_06   27.64   30.02  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_06   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_06  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_06  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_07   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_07   66.41   98.53   31.68   30.39   28.17   25.10
SO BUILDWID COOL1_07   21.15   16.68  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_07   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_07  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_08   66.41   98.53  127.65   30.39   28.17   25.10
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SO BUILDWID COOL1_08   21.27   16.68   11.71   15.85  200.16  191.77
SO BUILDWID COOL1_08   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_08   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_08  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_08  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_09   21.27   16.79  199.77   15.85   20.41   24.35
SO BUILDWID COOL1_09  177.55   30.02   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17  188.82
SO BUILDWID COOL1_09  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_09  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10   21.27   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_10   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_10  177.55   29.92  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77   15.95   20.53   24.49
SO BUILDWID COOL1_11   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_11  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_12   66.41   98.53   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_12   21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_12   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_12  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_13   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_13   66.41   98.53   31.53   30.24   28.03   25.03
SO BUILDWID COOL1_13   21.19   16.71  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_13   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_13  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_14   15.54   15.54   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_14   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_14   66.41   98.53   31.68   30.24   28.03  188.82
SO BUILDWID COOL1_14  198.41   16.71   11.71  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_14   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_14  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_15   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_15   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_15  198.41  201.97  199.77   15.87   20.45  191.77
SO BUILDWID COOL1_15  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_15   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_15  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_15  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_16   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_16   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_16  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_16   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_16  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_16  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_17   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_17   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_17   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_17   27.64  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_17   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_17  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_17  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_18   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_18   66.41   98.53  127.65   29.17   28.17   25.10
SO BUILDWID COOL1_18   21.15   16.68  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_18   27.64   29.17  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_18   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_18  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_18  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_19   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_19   21.27  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19   27.64   30.02  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_19   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_19  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_20   29.57   29.57   29.57   15.54   15.54   15.54
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SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_20   66.41   98.53  127.65  152.89  173.49   25.10
SO BUILDWID COOL1_20   21.27   16.79  199.77   15.85   20.41  191.77
SO BUILDWID COOL1_20   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_20   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_20  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_20  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_21   27.55   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_21  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77   15.95   20.53   24.35
SO BUILDWID COOL1_22   27.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_22  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL2_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_01   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_01   67.09   32.14   31.76   30.20   27.97   24.88
SO BUILDWID COOL2_01   21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_01   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_01  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_02   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_02   67.09   32.14   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_02   21.04   16.56  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_02   67.09   99.20  128.30  153.50   27.97  189.28
SO BUILDWID COOL2_02  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_03   67.09   31.85   31.52   30.42   28.15  189.28
SO BUILDWID COOL2_03   21.04   16.56   11.58  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_03   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_03  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_04   15.54   29.57   29.57   29.57   29.57   15.54
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SO BUILDHGT COOL2_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_04   67.09   31.85   31.52   30.23   28.15  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54   15.73   20.31   24.27
SO BUILDWID COOL2_04  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_04   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_04  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_05   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_05   27.49  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_05   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_05  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_06   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_06   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_06   21.14  202.23  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_06   27.49   29.88  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_06   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_06  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_06  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_07   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_07   21.14   16.62  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07   27.49   29.88   31.36  104.37   72.79   39.00
SO BUILDWID COOL2_07   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_07  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_08   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_08   67.09   99.20  128.30   30.23   28.02   24.96
SO BUILDWID COOL2_08   21.14   16.62   11.59   15.77  199.42  190.99
SO BUILDWID COOL2_08   27.49   29.88   31.36  104.37   72.79   39.00
SO BUILDWID COOL2_08   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_08  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_08  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_09   21.14   16.68  199.54   15.77   20.40   24.40
SO BUILDWID COOL2_09  176.76   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02  189.28
SO BUILDWID COOL2_09  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_09  176.76  157.16  132.78  104.37   72.79   39.00
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SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10   21.14   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_10   27.67   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_10  176.76   30.09  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_11   27.67   30.09   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_11  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_12   67.09   99.20   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_12   21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_12   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_12  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_13   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_13   67.09   99.20   31.76   30.42   28.15   24.88
SO BUILDWID COOL2_13   21.04   16.56  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_13   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_13  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_14   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_14   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_14   67.09   99.20  128.30   30.42   28.15  189.28
SO BUILDWID COOL2_14  198.77   16.56   11.58  201.78  199.42  190.99
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_14   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_14  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_15   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_15   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_15  198.77  202.23  199.54   15.73   20.31  190.99
SO BUILDWID COOL2_15  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_15   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_15  198.77  202.23  199.54  201.78  199.42  190.99
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SO BUILDWID COOL2_15  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_16   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_16   21.14  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_16  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_16   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_16  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_16  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_17   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_17   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_17   21.14  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_17   27.49  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_17   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_17  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_17  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_18   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_18   21.14   16.62  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_18   27.49   28.91  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_18  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_18  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_19   21.14  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19   27.49   29.88  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_19  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_20   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03   24.96
SO BUILDWID COOL2_20   21.14   16.68  199.54   15.77   20.40  190.99
SO BUILDWID COOL2_20   27.49   29.88   31.36  104.37   72.79   39.00
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_20  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_20  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_21   27.67   29.88   31.36  104.37   72.79   39.00
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SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_21  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_22   27.67  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_22  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL3_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_01   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_01   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_01   21.19  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_01   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_01  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_02   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_02   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_02   21.19   16.71  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_02   67.70   99.99  129.24  154.57   28.11  190.50
SO BUILDWID COOL3_02  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_03   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_03   21.19   16.71   11.71  203.54  201.18  192.71
SO BUILDWID COOL3_03  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_03   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_03  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_03  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_04   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_04  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_04   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_04  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_05   67.70   99.99   31.79   30.34   28.11   25.03
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SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54   20.45   24.42
SO BUILDWID COOL3_05   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_05   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_05  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_06   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_06   67.70   99.99   31.79   30.50   28.28   25.03
SO BUILDWID COOL3_06   21.19  203.45  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_06   27.64   30.02  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_06   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_06  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_06  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_07   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_07   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_07   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_07   21.19   16.71  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_07   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_07   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_07  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_07  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_08   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_08   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_08   21.35   16.71   11.71   15.87  201.18  192.71
SO BUILDWID COOL3_08   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_08   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_08  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_08  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_09   67.70   99.99  129.24  154.57   28.28   25.20
SO BUILDWID COOL3_09   21.35   16.86  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_09  178.38   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_09   67.70   99.99  129.24  154.57   28.28  190.50
SO BUILDWID COOL3_09  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_09  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_10   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_10   21.35   16.86   11.85  203.54   20.45   24.42
SO BUILDWID COOL3_10   27.64   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_10   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_10  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_10  178.38   30.02  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_11   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_11  200.01  203.45  200.71   16.02   20.61   24.58
SO BUILDWID COOL3_11   27.64   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_11   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_11  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_11  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_12   67.70   99.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_12   21.19  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_12  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_12   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_12  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_12  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_13   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_13   67.70   99.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_13   21.19   16.71  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_13  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_13   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_13  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_13  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_14   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_14   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_14   67.70   99.99  129.24   30.34   28.11  190.50
SO BUILDWID COOL3_14  200.01   16.71   11.71  203.54  201.18  192.71
SO BUILDWID COOL3_14  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_14   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_14  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_14  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_15   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_15   67.70   99.99   31.79   30.34   28.11   25.03
SO BUILDWID COOL3_15  200.01  203.45  200.71   15.87   20.45  192.71
SO BUILDWID COOL3_15  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_15   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_15  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_15  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_16   29.57   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_16   67.70   99.99   31.79   30.50   28.28   25.03
SO BUILDWID COOL3_16   21.19  203.45  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_16  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_16   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_16  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_16  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_17   29.57   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_17   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_17   21.19  203.45  200.71  203.54   20.45   24.42
SO BUILDWID COOL3_17   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_17   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_17  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_17  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_18   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_18   67.70   99.99  129.24   29.05   28.28   25.20
SO BUILDWID COOL3_18   21.19   16.71  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_18   27.64   29.05  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_18   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_18  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_18  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_19   67.70   99.99  129.24  154.57   28.28   25.20
SO BUILDWID COOL3_19   21.35  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19   27.64   30.02  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_19   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_19  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_20   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_20   67.70   99.99  129.24  154.57  175.19   25.20
SO BUILDWID COOL3_20   21.35   16.86  200.71   15.87   20.45  192.71
SO BUILDWID COOL3_20   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_20   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_20  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_20  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_21   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21  200.01   16.86   11.85  203.54   20.45   24.42
SO BUILDWID COOL3_21   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_21   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_21  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_22   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22  200.01  203.45  200.71   16.02   20.61   24.42
SO BUILDWID COOL3_22   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_22   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_22  178.38  158.63  134.06  105.42   73.58   39.50

   SRCGROUP 33MWALL G1A7595-G3D7595 COOL1_1-COOL1_22 COOL2_1-COOL2_22 COOL3_1-COOL3_22
   SRCGROUP 33MWCOOL COOL1_1-COOL1_22 COOL2_1-COOL2_22 COOL3_1-COOL3_22
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   SRCGROUP 33MWHRSG G1A5035-G3D5035

   SRCGROUP 22MWALL G1A7595-G2D7595 COOL1_1-COOL1_22 COOL2_1-COOL2_22
   SRCGROUP 22MWCOOL COOL1_1-COOL1_22 COOL2_1-COOL2_22
   SRCGROUP 22MWHRSG G1A5035-G2D5035
SO FINISHED
**
*******************************************
** ISCST3 Receptor Pathway
*******************************************
**
**
RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
   DISCCART -2000.00 -1700.00
   DISCCART -2000.00 -1600.00
   DISCCART -2000.00 -1500.00
   DISCCART -2000.00 -1400.00
   DISCCART -2000.00 -1300.00
   DISCCART -2000.00 -1200.00
   DISCCART -2000.00 -1100.00
   DISCCART -2000.00 -1000.00
   DISCCART -2000.00 -900.00
   DISCCART -2000.00 -800.00
   DISCCART -2000.00 -700.00
   DISCCART -2000.00 -600.00
   DISCCART -2000.00 -500.00
   DISCCART -2000.00 -400.00
   DISCCART -2000.00 -300.00
   DISCCART -2000.00 -200.00
   DISCCART -2000.00 -100.00
   DISCCART -2000.00 0.00
   DISCCART -2000.00 100.00
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**
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** ISCST3 Control Pathway
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**
CO STARTING
   TITLEONE 1987 FPL WEST COUNTY 2200-3300MW CC - OIL FIRING CASES - 2/20/05
   TITLETWO PM10 IMPACTS, CT/HRSGs AND COOLING TOWERS, G-CLASS MACHINES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME 24 PERIOD
   POLLUTID OTHER
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
******************************************
** ISCST3 Source Pathway
******************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION 01A7559 POINT   241.776   615.680
   LOCATION 01B7559 POINT   240.478   530.190
   LOCATION 01C7559 POINT   239.832   487.635
   LOCATION 02A7559 POINT   234.731   211.030
   LOCATION 02B7559 POINT   233.435   125.690
   LOCATION 02C7559 POINT   232.787   83.015
   LOCATION 03A7559 POINT   228.539   -196.733
   LOCATION 03B7559 POINT   227.244   -282.053
   LOCATION 03C7559 POINT   226.598   -324.588

   LOCATION COOL1_01   POINT   291.974        657.973
   LOCATION COOL1_02   POINT   291.698        639.775
   LOCATION COOL1_03   POINT   291.419        621.417
   LOCATION COOL1_04   POINT   291.142        603.159
   LOCATION COOL1_05   POINT   290.863        584.811
   LOCATION COOL1_06   POINT   290.589        566.743
   LOCATION COOL1_07   POINT   290.307        548.205
   LOCATION COOL1_08   POINT   290.027        529.757
   LOCATION COOL1_09   POINT   289.753        511.689
   LOCATION COOL1_10   POINT   289.474        493.332
   LOCATION COOL1_11   POINT   289.195        474.984
   LOCATION COOL1_12   POINT   310.421        657.652
   LOCATION COOL1_13   POINT   310.137        638.925
   LOCATION COOL1_14   POINT   309.863        620.857
   LOCATION COOL1_15   POINT   309.587        602.689
   LOCATION COOL1_16   POINT   309.310        584.481
   LOCATION COOL1_17   POINT   309.031        566.103
   LOCATION COOL1_18   POINT   308.750        547.615
   LOCATION COOL1_19   POINT   308.474        529.427
   LOCATION COOL1_20   POINT   308.200        511.349
   LOCATION COOL1_21   POINT   307.921        492.961
   LOCATION COOL1_22   POINT   307.641        474.584
   LOCATION COOL2_01   POINT   285.832        253.469
   LOCATION COOL2_02   POINT   285.555        235.271
   LOCATION COOL2_03   POINT   285.276        216.913
   LOCATION COOL2_04   POINT   284.999        198.656
   LOCATION COOL2_05   POINT   284.721        180.308
   LOCATION COOL2_06   POINT   284.446        162.240
   LOCATION COOL2_07   POINT   284.165        143.702
   LOCATION COOL2_08   POINT   283.885        125.254
   LOCATION COOL2_09   POINT   283.610        107.186
   LOCATION COOL2_10   POINT   283.331         88.828
   LOCATION COOL2_11   POINT   283.053         70.480
   LOCATION COOL2_12   POINT   304.279        253.149
   LOCATION COOL2_13   POINT   303.994        234.421
   LOCATION COOL2_14   POINT   303.720        216.353
   LOCATION COOL2_15   POINT   303.444        198.185
   LOCATION COOL2_16   POINT   303.168        179.978
   LOCATION COOL2_17   POINT   302.889        161.600
   LOCATION COOL2_18   POINT   302.608        143.112
   LOCATION COOL2_19   POINT   302.332        124.924
   LOCATION COOL2_20   POINT   302.057        106.846
   LOCATION COOL2_21   POINT   301.778         88.458
   LOCATION COOL2_22   POINT   301.499         70.080
   LOCATION COOL3_01   POINT   279.641       -154.204
   LOCATION COOL3_02   POINT   279.364       -172.402
   LOCATION COOL3_03   POINT   279.086       -190.760
   LOCATION COOL3_04   POINT   278.808       -209.017
   LOCATION COOL3_05   POINT   278.530       -227.365
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   LOCATION COOL3_06   POINT   278.255        -245.433
   LOCATION COOL3_07   POINT   277.974        -263.971
   LOCATION COOL3_08   POINT   277.694        -282.419
   LOCATION COOL3_09   POINT   277.419        -300.487
   LOCATION COOL3_10   POINT   277.141        -318.845
   LOCATION COOL3_11   POINT   276.862        -337.193
   LOCATION COOL3_12   POINT   298.088        -154.524
   LOCATION COOL3_13   POINT   297.804        -173.252
   LOCATION COOL3_14   POINT   297.529        -191.320
   LOCATION COOL3_15   POINT   297.253        -209.488
   LOCATION COOL3_16   POINT   296.977        -227.695
   LOCATION COOL3_17   POINT   296.698        -246.073
   LOCATION COOL3_18   POINT   296.417        -264.561
   LOCATION COOL3_19   POINT   296.141        -282.749
   LOCATION COOL3_20   POINT   295.866        -300.827
   LOCATION COOL3_21   POINT   295.587        -319.215
   LOCATION COOL3_22   POINT   295.308        -337.593
** Source Parameters **
** 75% Load, 59 F
** Emission Rate - 80% of 73.8 lb/hr
   SRCPARAM 01A7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 01B7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 01C7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 02A7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 02B7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 02C7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 03A7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 03B7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 03C7559 7.439   45.42   407.0   16.1   6.71

   SRCPARAM COOL1_01      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_02      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_03      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_04      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_05      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_06      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_07      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_08      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_09      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_10      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_11      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_12      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_13      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_14      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_15      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_16      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_17      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_18      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_19      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_20      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_21      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL1_22      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_01      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_02      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_03      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_04      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_05      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_06      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_07      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_08      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_09      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_10      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_11      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_12      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_13      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_14      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_15      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_16      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_17      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_18      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_19      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_20      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_21      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL2_22      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL3_01      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL3_02      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL3_03      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL3_04      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL3_05      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL3_06      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL3_07      0.007        19.800      309.0       6.72      11.59
   SRCPARAM COOL3_08      0.007        19.800      309.0       6.72      11.59
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   SRCPARAM COOL3_09     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_10     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_11     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_12     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_13     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_14     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_15     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_16     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_17     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_18     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_19     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_20     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_21     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL3_22     0.007        19.800     309.0        6.72      11.59

** Building Downwash **
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01A7559     31.23   31.86   31.53   30.34   28.11   25.03
SO BUILDWID 01A7559     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01A7559     27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 01A7559     31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 01A7559     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01A7559     27.64   30.02   31.48   32.00   31.54   29.99


SO BUILDHGT 01B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01B7559     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01B7559     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01B7559     27.55   29.92   31.37   31.88   31.41   29.99
SO BUILDWID 01B7559     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01B7559     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01B7559     27.55   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT 01C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01C7559     31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01C7559     21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01C7559     27.70   29.92   31.37   31.88   31.41   29.99
SO BUILDWID 01C7559     31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01C7559     21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01C7559     27.70   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT 02A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02A7559     31.22   31.85   31.52   30.20   27.97   24.88
SO BUILDWID 02A7559     21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02A7559     27.49   29.88   31.36   31.88   31.44   30.04
SO BUILDWID 02A7559     31.27   31.88   31.52   30.20   27.97   24.88
SO BUILDWID 02A7559     21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02A7559     27.49   29.88   31.36   31.88   31.44   29.98


SO BUILDHGT 02B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02B7559     31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID 02B7559     21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02B7559     27.67   30.09   31.36   31.88   31.40   29.98
SO BUILDWID 02B7559     31.22   31.85   31.52   30.23   28.15   25.03
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SO BUILDWID 02B7559    21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02B7559    27.67   30.09   31.60   32.15   31.40   29.98

SO BUILDHGT 02C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02C7559    31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02C7559    21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02C7559    27.67   29.91   31.36   31.87   31.40   29.98
SO BUILDWID 02C7559    31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02C7559    21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02C7559    27.67   29.91   31.36   31.87   31.40   29.98

SO BUILDHGT 03B7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 03B7559    31.36   31.99   31.64   30.34   28.28   25.03
SO BUILDWID 03B7559    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03B7559    27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 03B7559    31.36   31.99   31.64   30.34   28.28   25.03
SO BUILDWID 03B7559    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03B7559    27.64   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT 03C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 03C7559    31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID 03C7559    21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID 03C7559    27.80   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 03C7559    31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID 03C7559    21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID 03C7559    27.80   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT 03A7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 03A7559    31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 03A7559    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03A7559    27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 03A7559    31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 03A7559    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03A7559    27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDHGT COOL1_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_01   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_01   66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_01   21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_01  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_01   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_01  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_01  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_02   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_02   66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_02   21.19   16.71  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02  177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDWID COOL1_02   66.41   98.53  127.65  152.89   28.11  188.82
SO BUILDWID COOL1_02  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_03   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_03   21.19   16.71   11.71  202.47  200.16  191.77
SO BUILDWID COOL1_03  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_03   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_03  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_03  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_04   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77   15.87   20.45   24.42
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_04   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_05   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_05   27.64  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_05   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_05  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_06   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_06   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_06   21.15  201.97  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_06   27.64   30.02  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_06   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_06  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_06  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_07   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_07   66.41   98.53   31.68   30.39   28.17   25.10
SO BUILDWID COOL1_07   21.15   16.68  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_07   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_07  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_08   66.41   98.53  127.65   30.39   28.17   25.10
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SO BUILDWID COOL1_08   21.27   16.68   11.71   15.85  200.16  191.77
SO BUILDWID COOL1_08   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_08   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_08  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_08  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_09   21.27   16.79  199.77   15.85   20.41   24.35
SO BUILDWID COOL1_09  177.55   30.02   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17  188.82
SO BUILDWID COOL1_09  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_09  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10   21.27   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_10   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_10  177.55   29.92  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77   15.95   20.53   24.49
SO BUILDWID COOL1_11   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_11  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_12   66.41   98.53   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_12   21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_12   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_12  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_13   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_13   66.41   98.53   31.53   30.24   28.03   25.03
SO BUILDWID COOL1_13   21.19   16.71  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_13   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_13  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_14   15.54   15.54   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_14   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_14   66.41   98.53   31.68   30.24   28.03  188.82
SO BUILDWID COOL1_14  198.41   16.71   11.71  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_14   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_14  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_15   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_15   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_15  198.41  201.97  199.77   15.87   20.45  191.77
SO BUILDWID COOL1_15  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_15   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_15  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_15  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_16   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_16   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_16  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_16   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_16  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_16  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_17   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_17   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_17   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_17   27.64  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_17   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_17  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_17  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_18   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_18   66.41   98.53  127.65   29.17   28.17   25.10
SO BUILDWID COOL1_18   21.15   16.68  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_18   27.64   29.17  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_18   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_18  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_18  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_19   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_19   21.27  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19   27.64   30.02  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_19   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_19  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_20   29.57   29.57   29.57   15.54   15.54   15.54
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SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_20   66.41   98.53  127.65  152.89  173.49   25.10
SO BUILDWID COOL1_20   21.27   16.79  199.77   15.85   20.41  191.77
SO BUILDWID COOL1_20   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_20   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_20  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_20  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_21   27.55   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_21  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77   15.95   20.53   24.35
SO BUILDWID COOL1_22   27.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_22  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL2_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_01   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_01   67.09   32.14   31.76   30.20   27.97   24.88
SO BUILDWID COOL2_01   21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_01   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_01  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_02   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_02   67.09   32.14   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_02   21.04   16.56  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_02   67.09   99.20  128.30  153.50   27.97  189.28
SO BUILDWID COOL2_02  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_03   67.09   31.85   31.52   30.42   28.15  189.28
SO BUILDWID COOL2_03   21.04   16.56   11.58  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_03   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_03  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_04   15.54   29.57   29.57   29.57   29.57   15.54
```

SO	BUILDHGT	COOL2_04	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_04	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_04	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_04	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_04	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_04	67.09	31.85	31.52	30.23	28.15	189.28
SO	BUILDWID	COOL2_04	198.77	202.23	199.54	15.73	20.31	24.27
SO	BUILDWID	COOL2_04	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_04	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_04	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_04	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_05	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_05	15.54	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_05	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_05	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_05	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_05	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_05	67.09	99.20	31.52	30.23	28.15	25.03
SO	BUILDWID	COOL2_05	198.77	202.23	199.54	201.78	20.31	24.27
SO	BUILDWID	COOL2_05	27.49	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_05	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_05	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_05	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_06	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_06	29.57	15.54	15.54	15.54	15.54	29.57
SO	BUILDHGT	COOL2_06	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_06	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_06	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_06	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_06	67.09	99.20	31.52	30.23	28.15	25.03
SO	BUILDWID	COOL2_06	21.14	202.23	199.54	201.78	199.42	24.27
SO	BUILDWID	COOL2_06	27.49	29.88	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_06	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_06	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_06	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_07	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_07	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_07	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL2_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_07	67.09	99.20	128.30	30.23	28.02	25.03
SO	BUILDWID	COOL2_07	21.14	16.62	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_07	27.49	29.88	31.36	104.37	72.79	39.00
SO	BUILDWID	COOL2_07	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_07	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_07	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_08	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_08	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL2_08	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL2_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_08	67.09	99.20	128.30	30.23	28.02	24.96
SO	BUILDWID	COOL2_08	21.14	16.62	11.59	15.77	199.42	190.99
SO	BUILDWID	COOL2_08	27.49	29.88	31.36	104.37	72.79	39.00
SO	BUILDWID	COOL2_08	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_08	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_08	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_09	15.54	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_09	29.57	29.57	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_09	15.54	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL2_09	15.54	15.54	15.54	15.54	29.57	15.54
SO	BUILDHGT	COOL2_09	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_09	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_09	67.09	99.20	128.30	153.50	28.02	24.96
SO	BUILDWID	COOL2_09	21.14	16.68	199.54	15.77	20.40	24.40
SO	BUILDWID	COOL2_09	176.76	29.88	31.36	31.88	72.79	39.00
SO	BUILDWID	COOL2_09	67.09	99.20	128.30	153.50	28.02	189.28
SO	BUILDWID	COOL2_09	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_09	176.76	157.16	132.78	104.37	72.79	39.00

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SO BUILDHGT COOL2_10    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10    29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_10    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_10    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10    15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_10    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10    21.14   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_10    27.67   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_10    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_10   176.76   30.09  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_11    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_11    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11   198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_11    27.67   30.09   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_11    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_11   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_12    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_12    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_12    67.09   99.20   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_12    21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12   176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_12    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_12   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_13    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_13    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_13    67.09   99.20   31.76   30.42   28.15   24.88
SO BUILDWID COOL2_13    21.04   16.56  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13   176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_13    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_13   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_14    15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_14    15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_14    67.09   99.20  128.30   30.42   28.15  189.28
SO BUILDWID COOL2_14   198.77   16.56   11.58  201.78  199.42  190.99
SO BUILDWID COOL2_14   176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_14    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_14   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_14   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_15    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_15    15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_15    67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_15   198.77  202.23  199.54   15.73   20.31  190.99
SO BUILDWID COOL2_15   176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_15    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_15   198.77  202.23  199.54  201.78  199.42  190.99
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SO BUILDWID COOL2_15  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_16   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_16   21.14  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_16  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_16   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_16  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_16  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_17   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_17   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_17   21.14  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_17   27.49  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_17   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_17  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_17  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_18   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_18   21.14   16.62  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_18   27.49   28.91  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_18  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_18  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_19   21.14  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19   27.49   29.88  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_19  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_20   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03   24.96
SO BUILDWID COOL2_20   21.14   16.68  199.54   15.77   20.40  190.99
SO BUILDWID COOL2_20   27.49   29.88   31.36  104.37   72.79   39.00
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_20  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_20  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_21   27.67   29.88   31.36  104.37   72.79   39.00
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SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_21  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_22   27.67  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_22  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL3_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_01   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_01   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_01   21.19  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_01   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_01  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_02   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_02   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_02   21.19   16.71  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_02   67.70   99.99  129.24  154.57   28.11  190.50
SO BUILDWID COOL3_02  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_03   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_03   21.19   16.71   11.71  203.54  201.18  192.71
SO BUILDWID COOL3_03  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_03   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_03  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_03  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_04   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_04  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_04   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_04  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_05   67.70   99.99   31.79   30.34   28.11   25.03
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SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54   20.45   24.42
SO BUILDWID COOL3_05   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_05   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_05  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_06   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_06   67.70   99.99   31.79   30.50   28.28   25.03
SO BUILDWID COOL3_06   21.19  203.45  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_06   27.64   30.02  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_06   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_06  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_06  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_07   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_07   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_07   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_07   21.19   16.71  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_07   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_07   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_07  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_07  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_08   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_08   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_08   21.35   16.71   11.71   15.87  201.18  192.71
SO BUILDWID COOL3_08   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_08   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_08  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_08  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_09   67.70   99.99  129.24  154.57   28.28   25.20
SO BUILDWID COOL3_09   21.35   16.86  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_09  178.38   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_09   67.70   99.99  129.24  154.57   28.28  190.50
SO BUILDWID COOL3_09  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_09  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_10   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_10   21.35   16.86   11.85  203.54   20.45   24.42
SO BUILDWID COOL3_10   27.64   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_10   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_10  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_10  178.38   30.02  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11   15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL3_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_11    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_11   200.01  203.45  200.71   16.02   20.61   24.58
SO BUILDWID COOL3_11    27.64   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_11    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_11   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_11   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_12    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_12    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_12    67.70   99.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_12    21.19  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_12   178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_12    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_12   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_12   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_13    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_13    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_13    67.70   99.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_13    21.19   16.71  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_13   178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_13    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_13   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_13   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_14    15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_14    15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_14    67.70   99.99  129.24   30.34   28.11  190.50
SO BUILDWID COOL3_14   200.01   16.71   11.71  203.54  201.18  192.71
SO BUILDWID COOL3_14   178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_14    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_14   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_14   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_15    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_15    15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_15    67.70   99.99   31.79   30.34   28.11   25.03
SO BUILDWID COOL3_15   200.01  203.45  200.71   15.87   20.45  192.71
SO BUILDWID COOL3_15   178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_15    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_15   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_15   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_16    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_16    29.57   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_16    67.70   99.99   31.79   30.50   28.28   25.03
SO BUILDWID COOL3_16    21.19  203.45  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_16   178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_16    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_16   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_16   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_17    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_17    29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_17    29.57   15.54   15.54   15.54   15.54   15.54
```

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SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_17   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_17   21.19  203.45  200.71  203.54   20.45   24.42
SO BUILDWID COOL3_17   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_17   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_17  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_17  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_18   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_18   67.70   99.99  129.24   29.05   28.28   25.20
SO BUILDWID COOL3_18   21.19   16.71  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_18   27.64   29.05  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_18   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_18  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_18  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_19   67.70   99.99  129.24  154.57   28.28   25.20
SO BUILDWID COOL3_19   21.35  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19   27.64   30.02  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_19   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_19  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_20   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_20   67.70   99.99  129.24  154.57  175.19   25.20
SO BUILDWID COOL3_20   21.35   16.86  200.71   15.87   20.45  192.71
SO BUILDWID COOL3_20   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_20   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_20  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_20  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_21   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21  200.01   16.86   11.85  203.54   20.45   24.42
SO BUILDWID COOL3_21   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_21   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_21  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_22   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22  200.01  203.45  200.71   16.02   20.61   24.42
SO BUILDWID COOL3_22   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_22   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_22  178.38  158.63  134.06  105.42   73.58   39.50

   SRCGROUP 33MWALL 01A7559-03D7559 COOL1_1-COOL1_22 COOL2_1-COOL2_22 COOL3_1-COOL3_22
   SRCGROUP 33MWCOOL COOL1_1-COOL1_22 COOL2_1-COOL2_22 COOL3_1-COOL3_22
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   SRCGROUP 33MWHRSG 01A7559-03D7559

   SRCGROUP 22MWALL 01A7559-02D7559 COOL1_1-COOL1_22 COOL2_1-COOL2_22
   SRCGROUP 22MWCOOL COOL1_1-COOL1_22 COOL2_1-COOL2_22
   SRCGROUP 22MWHRSG 01A7559-02D7559
SO FINISHED
**
*****************************************
** ISCST3 Receptor Pathway
*****************************************
**
**
RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
   DISCCART -2000.00 -1700.00
   DISCCART -2000.00 -1600.00
   DISCCART -2000.00 -1500.00
   DISCCART -2000.00 -1400.00
```

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :OIL22PSD.087
ISCST3 OUTPUT FILE NUMBER 2 :OIL22PSD.088
ISCST3 OUTPUT FILE NUMBER 3 :OIL22PSD.089
ISCST3 OUTPUT FILE NUMBER 4 :OIL22PSD.090
ISCST3 OUTPUT FILE NUMBER 5 :OIL22PSD.091
First title for last output file is: 1987 FPL WEST COUNTY 2200MW CC - 7FB MACHINE OIL FIRING CASES - 3/02/05
Second title for last output file is: PM10 PSD CLASS II ANALYSIS, CT/HRSGs + COOLING TOWERS + OTHER SOURCES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
HIGH 24-Hour					
	1987	7.236	365.1	-31.8	87101324
	1988	6.572	365.1	-31.8	88020624
	1989	6.720	365.1	-31.8	89102024
	1990	5.732	371.7	409.8	90120924
	1991	6.405	364.4	-80.8	91112524
HSH 24-Hour					
	1987	5.912	371.7	409.8	87021624
	1988	6.436	365.9	17.3	88020624
	1989	6.603	365.1	-31.8	89030824
	1990	5.175	365.9	17.3	90111824
	1991	5.833	365.1	-31.8	91031024
SOURCE GROUP ID:	22MWAL				
HIGH 24-Hour					
	1987	5.966	365.1	-31.8	87101324
	1988	5.240	376.8	753.2	88110524
	1989	5.527	365.9	17.3	89031024
	1990	4.498	-175.8	1068.4	90101024
	1991	5.319	376.8	753.2	91021424
HSH 24-Hour					
	1987	4.999	371.7	409.8	87101324
	1988	4.609	365.1	-31.8	88120224
	1989	5.109	365.1	-31.8	89031024
	1990	3.305	365.9	17.3	90011324
	1991	4.787	371.0	360.7	91021424

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :OIL33PSD.087
ISCST3 OUTPUT FILE NUMBER 2 :OIL33PSD.088
ISCST3 OUTPUT FILE NUMBER 3 :OIL33PSD.089
ISCST3 OUTPUT FILE NUMBER 4 :OIL33PSD.090
ISCST3 OUTPUT FILE NUMBER 5 :OIL33PSD.091
First title for last output file is: 1987 FPL WEST COUNTY 3300MW CC - 7FB MACHINE OIL FIRING CASES - 3/02/05
Second title for last output file is: PM10 PSD CLASS II ANALYSIS, CT/HRSGs + COOLING TOWERS + OTHER SOURCES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
HIGH 24-Hour					
	1987	7.236	365.1	-31.8	87101324
	1988	6.572	365.1	-31.8	88020624
	1989	7.260	359.3	-424.2	89102024
	1990	5.732	371.7	409.8	90120924
	1991	6.577	358.6	-473.3	91112524
HSH 24-Hour					
	1987	6.261	371.7	409.8	87021624
	1988	6.505	359.3	-424.2	88120224
	1989	6.698	359.3	-424.2	89030824
	1990	5.232	359.3	-424.2	90111824
	1991	6.062	359.3	-424.2	91031024
SOURCE GROUP ID:	33MWAL				
HIGH 24-Hour					
	1987	5.966	365.1	-31.8	87101324
	1988	5.347	376.8	753.2	88110524
	1989	5.798	359.3	-424.2	89102024
	1990	4.664	-175.9	1019.0	90101024
	1991	5.848	378.3	851.3	91030324
HSH 24-Hour					
	1987	5.299	365.9	17.3	87101324
	1988	4.682	359.3	-424.2	88020624
	1989	5.705	359.3	-424.2	89031024
	1990	3.607	359.3	-424.2	90120924
	1991	5.186	376.8	753.2	91030324

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :OIL22PSD.087
ISCST3 OUTPUT FILE NUMBER 2 :OIL22PSD.088
ISCST3 OUTPUT FILE NUMBER 3 :OIL22PSD.089
ISCST3 OUTPUT FILE NUMBER 4 :OIL22PSD.090
ISCST3 OUTPUT FILE NUMBER 5 :OIL22PSD.091
First title for last output file is: 1987 FPL WEST COUNTY 2200MW CC - G-CLASS OIL FIRING CASES - 3/01/05
Second title for last output file is: PM10 PSD CLASS II ANALYSIS, CT/HRSGs + COOLING TOWERS + OTHER SOURCES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
HIGH 24-Hour					
	1987	11.495	377.5	802.2	87021624
	1988	9.515	376.1	704.1	88110524
	1989	9.478	363.7	-129.9	89102024
	1990	7.396	-175.8	1068.4	90101024
	1991	10.517	377.5	802.2	91030324
HSH 24-Hour					
	1987	9.336	371.0	360.7	87101324
	1988	7.737	364.4	-80.8	88020624
	1989	7.980	364.4	-80.8	89120324
	1990	5.352	364.4	-80.8	90111824
	1991	8.996	376.8	753.2	91021424
SOURCE GROUP ID:	WCEC22				
HIGH 24-Hour					
	1987	10.710	377.5	802.2	87021624
	1988	8.918	376.1	704.1	88110524
	1989	8.587	363.7	-129.9	89102024
	1990	7.042	-175.8	1068.4	90101024
	1991	9.905	377.5	802.2	91030324
HSH 24-Hour					
	1987	8.227	371.0	360.7	87101324
	1988	6.330	364.4	-80.8	88020624
	1989	7.348	363.7	-129.9	89031024
	1990	4.740	-176.1	969.5	90033024
	1991	8.529	376.8	753.2	91021424

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3R RELEASE 00285

ISCST3 OUTPUT FILE NUMBER 1 :OIL33PSD.087
ISCST3 OUTPUT FILE NUMBER 2 :OIL33PSD.088
ISCST3 OUTPUT FILE NUMBER 3 :OIL33PSD.089
ISCST3 OUTPUT FILE NUMBER 4 :OIL33PSD.090
ISCST3 OUTPUT FILE NUMBER 5 :OIL33PSD.091
First title for last output file is: 1987 FPL WEST COUNTY 2200-3300MW CC - G-CLASS OIL FIRING CASES - 3/01/05
Second title for last output file is: PM10 PSD CLASS II ANALYSIS, CT/HRSGs + COOLING TOWERS + OTHER SOURCES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
Annual					
	1987	0.290	365.1	-31.8	87123124
	1988	0.588	364.4	-80.8	88123124
	1989	0.425	364.4	-80.8	89123124
	1990	0.486	-2250.0	2000.0	90123124
	1991	0.415	370.3	311.6	91123124
HIGH 24-Hour					
	1987	11.741	377.5	802.2	87021624
	1988	9.673	376.1	704.1	88110524
	1989	9.968	357.9	-522.4	89102024
	1990	7.578	-175.9	1019.0	90101024
	1991	11.983	377.5	802.2	91030324
HSH 24-Hour					
	1987	9.336	371.0	360.7	87101324
	1988	7.761	364.4	-80.8	88120224
	1989	8.098	358.6	-473.3	89120324
	1990	5.678	358.6	-473.3	90011324
	1991	9.706	376.1	704.1	91030324
SOURCE GROUP ID:	WCEC33				
Annual					
	1987	0.609	365.1	-31.8	87123124
	1988	0.672	364.4	-80.8	88123124
	1989	0.603	-2250.0	2500.0	89123124
	1990	0.601	-3000.0	2250.0	90123124
	1991	0.582	-3000.0	2250.0	91123124
HIGH 24-Hour					
	1987	10.942	377.5	802.2	87021624
	1988	9.075	376.1	704.1	88110524
	1989	9.011	357.9	-522.4	89102024
	1990	7.206	-175.9	1019.0	90101024
	1991	11.334	377.5	802.2	91030324
HSH 24-Hour					
	1987	8.227	371.0	360.7	87101324
	1988	6.908	376.8	753.2	88022024
	1989	7.950	357.1	-571.4	89031024
	1990	5.003	-177.9	326.4	90100924
	1991	9.019	376.1	704.1	91030324
SOURCE GROUP ID:	WCEC22				
Annual					
	1987	0.561	371.0	360.7	87123124
	1988	0.608	370.3	311.6	88123124
	1989	0.520	371.0	360.7	89123124
	1990	0.430	-176.4	870.5	90123124
	1991	0.501	370.3	311.6	91123124
HIGH 24-Hour					
	1987	10.710	377.5	802.2	87021624
	1988	8.918	376.1	704.1	88110524
	1989	8.587	363.7	-129.9	89102024
	1990	7.042	-175.8	1068.4	90101024
	1991	9.905	377.5	802.2	91030324
HSH 24-Hour					
	1987	8.227	371.0	360.7	87101324
	1988	6.330	364.4	-80.8	88020624
	1989	7.348	363.7	-129.9	89031024
	1990	4.740	-176.1	969.5	90033024
	1991	8.529	376.8	753.2	91021424

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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**
*****************************************
** ISCST3 Control Pathway
*****************************************
**
CO STARTING
   TITLEONE 1987 FPL WEST COUNTY 2200MW CC - G-CLASS OIL FIRING CASES - 3/01/05
   TITLETWO PM10 PSD CLASS II ANALYSIS, CT/HRSGs + COOLING TOWERS + OTHER SOURCES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME 24
   POLLUTID OTHER
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** ISCST3 Source Pathway
*****************************************
**
**
SO STARTING
**********************************************
*****           Source Location          *****
**********************************************

** FPL WCEC Sources
   LOCATION 01A7559 POINT   241.776   615.680
   LOCATION 01B7559 POINT   240.478   530.190
   LOCATION 01C7559 POINT   239.832   487.635
   LOCATION 02A7559 POINT   234.731   211.030
   LOCATION 02B7559 POINT   233.435   125.690
   LOCATION 02C7559 POINT   232.787   83.015

   LOCATION COOL1_01   POINT   291.974         657.973
   LOCATION COOL1_02   POINT   291.698         639.775
   LOCATION COOL1_03   POINT   291.419         621.417
   LOCATION COOL1_04   POINT   291.142         603.159
   LOCATION COOL1_05   POINT   290.863         584.811
   LOCATION COOL1_06   POINT   290.589         566.743
   LOCATION COOL1_07   POINT   290.307         548.205
   LOCATION COOL1_08   POINT   290.027         529.757
   LOCATION COOL1_09   POINT   289.753         511.689
   LOCATION COOL1_10   POINT   289.474         493.332
   LOCATION COOL1_11   POINT   289.195         474.984
   LOCATION COOL1_12   POINT   310.421         657.652
   LOCATION COOL1_13   POINT   310.137         638.925
   LOCATION COOL1_14   POINT   309.863         620.857
   LOCATION COOL1_15   POINT   309.587         602.689
   LOCATION COOL1_16   POINT   309.310         584.481
   LOCATION COOL1_17   POINT   309.031         566.103
   LOCATION COOL1_18   POINT   308.750         547.615
   LOCATION COOL1_19   POINT   308.474         529.427
   LOCATION COOL1_20   POINT   308.200         511.349
   LOCATION COOL1_21   POINT   307.921         492.961
   LOCATION COOL1_22   POINT   307.641         474.584
   LOCATION COOL2_01   POINT   285.832         253.469
   LOCATION COOL2_02   POINT   285.555         235.271
   LOCATION COOL2_03   POINT   285.276         216.913
   LOCATION COOL2_04   POINT   284.999         198.656
   LOCATION COOL2_05   POINT   284.721         180.308
   LOCATION COOL2_06   POINT   284.446         162.240
   LOCATION COOL2_07   POINT   284.165         143.702
   LOCATION COOL2_08   POINT   283.885         125.254
   LOCATION COOL2_09   POINT   283.610         107.186
   LOCATION COOL2_10   POINT   283.331          88.828
   LOCATION COOL2_11   POINT   283.053          70.480
   LOCATION COOL2_12   POINT   304.279         253.149
   LOCATION COOL2_13   POINT   303.994         234.421
   LOCATION COOL2_14   POINT   303.720         216.353
   LOCATION COOL2_15   POINT   303.444         198.185
   LOCATION COOL2_16   POINT   303.168         179.978
   LOCATION COOL2_17   POINT   302.889         161.600
   LOCATION COOL2_18   POINT   302.608         143.112
   LOCATION COOL2_19   POINT   302.332         124.924
   LOCATION COOL2_20   POINT   302.057         106.846
   LOCATION COOL2_21   POINT   301.778          88.458
   LOCATION COOL2_22   POINT   301.499          70.080

** Other Sources
** ATLANTIC SUGAR ASSOCIATION
SO LOCATION      ASA1     POINT    -9300    -7800  0
SO LOCATION      ASA2     POINT    -9300    -7800  0
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SO LOCATION     ASA3     POINT   -9300    -7800   0
SO LOCATION     ASA4     POINT   -9300    -7800   0
SO LOCATION     ASA5     POINT   -9300    -7800   0
SO LOCATION     ASA1B    POINT   -9300    -7800   0
SO LOCATION     ASA2B    POINT   -9300    -7800   0
SO LOCATION     ASA3B    POINT   -9300    -7800   0
SO LOCATION     ASA4B    POINT   -9300    -7800   0

** OSCEOLA FARMS
SO LOCATION     OSBLR1B POINT   -18000  15000    0.0
SO LOCATION     OSBLR2B POINT   -18000  15000    0.0
SO LOCATION     OSBLR3B POINT   -18000  15000    0.0
SO LOCATION     OSBLR4B POINT   -18000  15000    0.0
SO LOCATION     OSBLR2  POINT   -18000  15000    0.0
SO LOCATION     OSBLR3  POINT   -18000  15000    0.0
SO LOCATION     OSBLR4  POINT   -18000  15000    0.0
SO LOCATION     OSBLR5A POINT   -18000  15000    0.0
SO LOCATION     OSBLR5B POINT   -18000  15000    0.0
SO LOCATION     OSBLR6  POINT   -18000  15000    0.0

** SUGAR CANE GROWERS
SO LOCATION     SUGCN1  POINT   -27300  300    0.0
SO LOCATION     SUGCN2  POINT   -27300  300    0.0
SO LOCATION     SUGCN3  POINT   -27300  300    0.0
SO LOCATION     SUGCN4  POINT   -27300  300    0.0
SO LOCATION     SUGCN5  POINT   -27300  300    0.0
SO LOCATION     SUGCN8  POINT   -27300  300    0.0

** US SUGAR BRYANT
SO LOCATION     USBRY123 POINT   -24400 16100    0.0
SO LOCATION     USBRY5   POINT   -24400 16100    0.0
SO LOCATION     USSBRY1B POINT   -24400 16100    0.0
SO LOCATION     USBRY23B POINT   -24400 16100    0.0

** FPL-FRIVIERA BEACH
SO LOCATION     RIVU34  POINT   32000    7600     0.0

** FPL-MARTIN
SO LOCATION     MART12  POINT   -19100  39900    0.0
SO LOCATION     MARTAUX POINT   -19100  39900    0.0
SO LOCATION     MARTGEN POINT   -19100  39900    0.0
SO LOCATION     MART34  POINT   -19100  39900    0.0
SO LOCATION     MART8   POINT   -19100  39900    0.0

** US SUGAR CLEWISTON
** USS Clewiston Boiler 8
SO LOCATION     USSBLR8    POINT   -56100.0  3900.0  0.0

** USS Clewiston PSD Baseline Crop-Season Only
SO LOCATION     USSBRL1B  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2B  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR3B  POINT   -56100.0  3900.0  0.0
SO LOCATION     EPELLET   POINT   -56100.0  3900.0  0.0
SO LOCATION     WPELLET   POINT   -56100.0  3900.0  0.0
SO LOCATION     USBLR56B  POINT   -56100.0  3900.0  0.0

** USS Clewiston Boiler 1-7 Off-Crop Season Only
SO LOCATION     USSBLR1F  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2F  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR4F  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR7F  POINT   -56100.0  3900.0  0.0
** USS Clewiston Boiler 1-7 Crop Season Only
SO LOCATION     USSBLR1N  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2N  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR4N  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR7N  POINT   -56100.0  3900.0  0.0

** USS Clewiston Sugar Refinery Sources
SO LOCATION     S1       POINT   -56100.0  3900.0  0.0
SO LOCATION     S2       POINT   -56100.0  3900.0  0.0
SO LOCATION     S3       POINT   -56100.0  3900.0  0.0
SO LOCATION     S4       POINT   -56100.0  3900.0  0.0
SO LOCATION     S5       POINT   -56100.0  3900.0  0.0
SO LOCATION     S6       POINT   -56100.0  3900.0  0.0
SO LOCATION     S7       POINT   -56100.0  3900.0  0.0
SO LOCATION     S8       POINT   -56100.0  3900.0  0.0
SO LOCATION     S9       POINT   -56100.0  3900.0  0.0
SO LOCATION     S10      POINT   -56100.0  3900.0  0.0
SO LOCATION     S11      POINT   -56100.0  3900.0  0.0
SO LOCATION     S12      POINT   -56100.0  3900.0  0.0

** FPL-PORT EVERGLADES
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SO LOCATION     EVERG1  POINT   25200   -67700  0.0
SO LOCATION     EVERG2  POINT   25200   -67700  0.0
SO LOCATION     EVERG3  POINT   25200   -67700  0.0
SO LOCATION     EVERG4  POINT   25200   -67700  0.0
SO LOCATION     EVERCTS POINT   25200   -67700  0.0

**********************************************
*****           Source Parameters       *****
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** FPL WCEC Sources
** 75% Load, 59 Deg F, Oil Firing
** Emission Rate - 80% of 73.8 lb/hr
   SRCPARAM 01A7559 7.439   45.42   407.0   16.1    6.71
   SRCPARAM 01B7559 7.439   45.42   407.0   16.1    6.71
   SRCPARAM 01C7559 7.439   45.42   407.0   16.1    6.71
   SRCPARAM 02A7559 7.439   45.42   407.0   16.1    6.71
   SRCPARAM 02B7559 7.439   45.42   407.0   16.1    6.71
   SRCPARAM 02C7559 7.439   45.42   407.0   16.1    6.71

   SRCPARAM COOL1_01     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_02     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_03     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_04     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_05     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_06     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_07     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_08     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_09     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_10     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_11     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_12     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_13     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_14     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_15     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_16     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_17     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_18     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_19     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_20     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_21     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL1_22     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_01     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_02     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_03     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_04     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_05     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_06     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_07     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_08     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_09     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_10     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_11     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_12     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_13     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_14     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_15     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_16     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_17     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_18     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_19     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_20     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_21     0.007       19.800      309.0       6.72      11.59
   SRCPARAM COOL2_22     0.007       19.800      309.0       6.72      11.59

** Other Sources
** ATLANTIC SUGAR ASSOCIATION
SO SRCPARAM     ASA1    10.58   27.4    346.0   17.97   1.83
SO SRCPARAM     ASA2    10.58   27.4    350.0   23.36   1.83
SO SRCPARAM     ASA3    9.83    27.4    350.0   21.56   1.83
SO SRCPARAM     ASA4    10.05   27.4    344.0   25.16   1.83
SO SRCPARAM     ASA5    4.50    27.4    339.0   19.24   1.68
SO SRCPARAM     ASA1B   -14.74  18.9    506.0   12.70   1.92
SO SRCPARAM     ASA2B   -17.89  18.9    511.0   10.90   1.92
SO SRCPARAM     ASA3B   -9.32   21.9    522.0   17.50   1.83
SO SRCPARAM     ASA4B   -9.25   18.3    344.0   15.00   1.83

** OSCEOLA FARMS
SO SRCPARAM     OSBLR1B -14.74  22.0    342     18.18   1.52
SO SRCPARAM     OSBLR2B -17.89  22.0    341     18.10   1.52
SO SRCPARAM     OSBLR3B -9.32   22.0    341     14.50   1.93
SO SRCPARAM     OSBLR4B -9.25   22.0    341     18.80   1.83
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SO SRCPARAM     OSBLR2  7.06    27.4    341      15.82   1.52
SO SRCPARAM     OSBLR3  7.36    27.4    342      16.86   1.91
SO SRCPARAM     OSBLR4  5.59    27.4    341      16.67   1.83
SO SRCPARAM     OSBLR5A 2.80    27.4    341      18.60   1.52
SO SRCPARAM     OSBLR5B 2.92    27.4    341      18.60   1.52
SO SRCPARAM     OSBLR6  7.17    27.4    341      18.19   1.88

** SUGAR CANE GROWERS
SO SRCPARAM     SUGCN1  9.79    45.7    339      17.90   2.13
SO SRCPARAM     SUGCN2  9.79    45.7    339      21.40   2.13
SO SRCPARAM     SUGCN3  6.72    54.9    339      16.74   2.11
SO SRCPARAM     SUGCN4  13.42   54.9    339      19.27   2.88
SO SRCPARAM     SUGCN5  12.86   45.7    339      28.11   2.13
SO SRCPARAM     SUGCN8  8.86    47.3    339      15.18   2.90

** US SUGAR BRYANT
SO SRCPARAM     USBRY123  43.66   19.8    344     34.60   1.65
SO SRCPARAM     USBRY5    11.03   45.7    334     14.77   2.90
SO SRCPARAM     USSBRY1B  -82.40  19.8    494     44.30   1.68
SO SRCPARAM     USBRY23B  -12.04  19.8    344     37.90   1.68

** FPL-FRIVIERA BEACH
SO SRCPARAM     RIVU34  96.08   90.8    402      18.90   4.88

** FPL-MARTIN
SO SRCPARAM     MART12  218.00  152.1   421      21.03   7.99
SO SRCPARAM     MARTAUX 0.01    18.3    535      15.24   1.10
SO SRCPARAM     MARTGEN 0.22    7.6     786      39.62   0.30
SO SRCPARAM     MART34  30.54   64.9    411      18.90   6.10
SO SRCPARAM     MART8   15.17   36.6    398      13.59   5.79

** US SUGAR CLEWISTON
** USS Clewiston Boiler 8
SO SRCPARAM     USSBLR8 3.06    60.7    439      15.31   3.96

** USS Clewiston PSD Baseline Crop-Season Only
SO SRCPARAM     USSBRL1B -7.48   23.1    344.0   30.20   1.86
SO SRCPARAM     USSBLR2B -7.04   23.1    343.0   35.70   1.86
SO SRCPARAM     USSBLR3B -3.59   64.9    330.0   14.20   2.44
SO SRCPARAM     EPELLET  -1.69   12.2    347.0   8.54    1.52
SO SRCPARAM     WPELLET  -0.82   15.7    347.0   8.54    1.52
SO SRCPARAM     USBLR56B -52.92  23.1    494.0   44.30   1.86

** USS Clewiston Boilers 1-7 Off-Crop Season Only
SO SRCPARAM     USSBLR1F  13.40   64.9    338     19.00   2.44
SO SRCPARAM     USSBLR2F  12.20   64.9    339     18.99   2.44
SO SRCPARAM     USSBLR4F  0.00    45.7    0       0.00    2.51
SO SRCPARAM     USSBLR7F  0.00    68.6    0       0.00    2.59
** USS Clewiston Boilers 1-7 Crop Season Only
SO SRCPARAM     USSBLR1N  15.61   64.9    338     20.61   2.44
SO SRCPARAM     USSBLR2N  14.09   64.9    339     20.30   2.44
SO SRCPARAM     USSBLR4N  11.97   45.7    339     24.54   2.51
SO SRCPARAM     USSBLR7N  2.78    68.6    437     26.25   2.59

** USS Clewiston Sugar Refinery Sources
SO SRCPARAM     S1        0.0076  19.8    293.2   0.01    0.15
SO SRCPARAM     S2        0.0076  19.8    305.4   0.01    0.15
SO SRCPARAM     S3        0.0076  19.8    305.4   0.01    0.15
SO SRCPARAM     S4        0.0265  18.3    324.8   0.01    0.59
SO SRCPARAM     S5        0.0076  21.9    324.8   0.01    0.29
SO SRCPARAM     S6        0.0239  21.9    324.8   0.01    0.59
SO SRCPARAM     S7        0.0076  39.6    316.5   0.01    0.42
SO SRCPARAM     S8        0.0076  39.6    316.5   0.01    0.42
SO SRCPARAM     S9        0.0076  39.6    316.5   0.01    0.42
SO SRCPARAM     S10       0.1802  22.9    319.3   0.01    2.23
SO SRCPARAM     S11       0.2054  3.0     319.3   0.01    1.46
SO SRCPARAM     S12       0.0794  9.1     344.3   6.95    0.61

** FPL-PORT EVERGLADES
SO SRCPARAM     EVERG1  30.24   104.9   408      18.29   4.27
SO SRCPARAM     EVERG2  30.24   104.9   416      4.88    4.27
SO SRCPARAM     EVERG3  52.67   104.9   408      19.20   5.52
SO SRCPARAM     EVERG4  52.67   104.9   408      19.20   5.52
SO SRCPARAM     EVERCTS 91.48   13.4    683      10.67   4.75

** Building Downwash **
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559     29.57   29.57   29.57   29.57   29.57   29.57
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SO BUILDWID 01A7559	31.23	31.86	31.53	30.34	28.11	25.03
SO BUILDWID 01A7559	21.19	16.71	11.71	15.87	20.45	24.42
SO BUILDWID 01A7559	27.64	30.02	31.48	32.00	31.54	30.12
SO BUILDWID 01A7559	31.36	31.99	31.64	30.34	28.11	25.03
SO BUILDWID 01A7559	21.19	16.71	11.71	15.87	20.45	24.42
SO BUILDWID 01A7559	27.64	30.02	31.48	32.00	31.54	29.99

SO BUILDHGT 01B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 01B7559	31.23	31.86	31.53	30.24	28.17	24.97
SO BUILDWID 01B7559	21.15	16.68	11.71	15.85	20.41	24.35
SO BUILDWID 01B7559	27.55	29.92	31.37	31.88	31.41	29.99
SO BUILDWID 01B7559	31.23	31.86	31.53	30.24	28.17	24.97
SO BUILDWID 01B7559	21.15	16.68	11.71	15.85	20.41	24.35
SO BUILDWID 01B7559	27.55	29.92	31.37	31.88	31.41	29.99

SO BUILDHGT 01C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 01C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 01C7559	31.23	32.01	31.68	30.39	28.17	25.10
SO BUILDWID 01C7559	21.27	16.79	11.79	15.95	20.53	24.49
SO BUILDWID 01C7559	27.70	29.92	31.37	31.88	31.41	29.99
SO BUILDWID 01C7559	31.23	32.01	31.68	30.39	28.17	25.10
SO BUILDWID 01C7559	21.27	16.79	11.79	15.95	20.53	24.49
SO BUILDWID 01C7559	27.70	29.92	31.37	31.88	31.41	29.99

SO BUILDHGT 02A7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02A7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 02A7559	31.22	31.85	31.52	30.20	27.97	24.88
SO BUILDWID 02A7559	21.04	16.56	11.58	15.73	20.31	24.27
SO BUILDWID 02A7559	27.49	29.88	31.36	31.88	31.44	30.04
SO BUILDWID 02A7559	31.27	31.88	31.52	30.20	27.97	24.88
SO BUILDWID 02A7559	21.04	16.56	11.58	15.73	20.31	24.27
SO BUILDWID 02A7559	27.49	29.88	31.36	31.88	31.44	29.98

SO BUILDHGT 02B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02B7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 02B7559	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID 02B7559	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID 02B7559	27.67	30.09	31.36	31.88	31.40	29.98
SO BUILDWID 02B7559	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID 02B7559	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID 02B7559	27.67	30.09	31.60	32.15	31.40	29.98

SO BUILDHGT 02C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02C7559	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 02C7559	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID 02C7559	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID 02C7559	27.67	29.91	31.36	31.87	31.40	29.98
SO BUILDWID 02C7559	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID 02C7559	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID 02C7559	27.67	29.91	31.36	31.87	31.40	29.98

SO BUILDHGT COOL1_01	15.54	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT COOL1_01	29.57	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54

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SO BUILDHGT COOL1_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_01   66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_01   21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_01  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_01   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_01  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_01  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_02   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_02   66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_02   21.19   16.71  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_02   66.41   98.53  127.65  152.89   28.11  188.82
SO BUILDWID COOL1_02  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_03   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_03   21.19   16.71   11.71  202.47  200.16  191.77
SO BUILDWID COOL1_03  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_03   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_03  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_03  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_04   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77   15.87   20.45   24.42
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_04   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_05   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_05   27.64  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_05   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_05  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_06   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_06   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_06   21.15  201.97  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_06   27.64   30.02  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_06   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_06  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_06  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_07   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   29.57   29.57   29.57   15.54   15.54   15.54
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SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_07   66.41   98.53   31.68   30.39   28.17   25.10
SO BUILDWID COOL1_07   21.15   16.68  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_07   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_07  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_08   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_08   21.27   16.68   11.71   15.85  200.16  191.77
SO BUILDWID COOL1_08   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_08   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_08  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_08  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_09   21.27   16.79  199.77   15.85   20.41   24.35
SO BUILDWID COOL1_09  177.55   30.02   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17  188.82
SO BUILDWID COOL1_09  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_09  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10   21.27   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_10   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_10  177.55   29.92  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77   15.95   20.53   24.49
SO BUILDWID COOL1_11   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_11  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_12   66.41   98.53   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_12   21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_12   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_12  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_13   15.54   15.54   29.57   29.57   29.57   29.57
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SO BUILDHGT COOL1_13   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_13   66.41   98.53   31.53   30.24   28.03   25.03
SO BUILDWID COOL1_13   21.19   16.71  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_13   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_13  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_14   15.54   15.54   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_14   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_14   66.41   98.53   31.68   30.24   28.03  188.82
SO BUILDWID COOL1_14  198.41   16.71   11.71  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_14   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_14  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_15   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_15   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_15  198.41  201.97  199.77   15.87   20.45  191.77
SO BUILDWID COOL1_15  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_15   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_15  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_15  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_16   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_16   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_16  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_16   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_16  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_16  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_17   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_17   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_17   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_17   27.64  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_17   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_17  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_17  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_18   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_18   66.41   98.53  127.65   29.17   28.17   25.10
SO BUILDWID COOL1_18   21.15   16.68  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_18   27.64   29.17  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_18   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_18  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_18  177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_19    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_19    66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_19    21.27  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19    27.64   30.02  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_19    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_19   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_20    29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_20    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_20    66.41   98.53  127.65  152.89  173.49   25.10
SO BUILDWID COOL1_20    21.27   16.79  199.77   15.85   20.41  191.77
SO BUILDWID COOL1_20    27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_20    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_20   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_20   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_21    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_21    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21   198.41   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_21    27.55   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_21    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_21   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_22    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_22    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22   198.41  201.97  199.77   15.95   20.53   24.35
SO BUILDWID COOL1_22    27.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_22    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_22   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL2_01    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_01    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_01    67.09   32.14   31.76   30.20   27.97   24.88
SO BUILDWID COOL2_01    21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01   176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_01    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_01   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_02    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_02    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02    15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_02    67.09   32.14   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_02    21.04   16.56  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02   176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_02    67.09   99.20  128.30  153.50   27.97  189.28
SO BUILDWID COOL2_02   198.77  202.23  199.54  201.78  199.42  190.99
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SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_03   67.09   31.85   31.52   30.42   28.15  189.28
SO BUILDWID COOL2_03   21.04   16.56   11.58  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_03   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_03  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_04   67.09   31.85   31.52   30.23   28.15  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54   15.73   20.31   24.27
SO BUILDWID COOL2_04  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_04   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_04  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_05   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_05   27.49  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_05   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_05  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_06   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_06   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_06   21.14  202.23  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_06   27.49   29.88  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_06   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_06  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_06  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_07   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_07   21.14   16.62  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07   27.49   29.88   31.36  104.37   72.79   39.00
SO BUILDWID COOL2_07   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_07  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_08   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_08   67.09   99.20  128.30   30.23   28.02   24.96
SO BUILDWID COOL2_08   21.14   16.62   11.59   15.77  199.42  190.99
SO BUILDWID COOL2_08   27.49   29.88   31.36  104.37   72.79   39.00
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SO BUILDWID COOL2_08   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_08  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_08  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_09   21.14   16.68  199.54   15.77   20.40   24.40
SO BUILDWID COOL2_09  176.76   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02  189.28
SO BUILDWID COOL2_09  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_09  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10   21.14   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_10   27.67   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_10  176.76   30.09  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_11   27.67   30.09   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_11  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_12   67.09   99.20   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_12   21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_12   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_12  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_13   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_13   67.09   99.20   31.76   30.42   28.15   24.88
SO BUILDWID COOL2_13   21.04   16.56  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_13   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_13  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_14   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_14   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_14   67.09   99.20  128.30   30.42   28.15  189.28
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SO BUILDWID COOL2_14  198.77   16.56   11.58  201.78  199.42  190.99
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_14   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_14  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_15   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_15   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_15  198.77  202.23  199.54   15.73   20.31  190.99
SO BUILDWID COOL2_15  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_15   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_15  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_15  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_16   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_16   21.14  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_16  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_16   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_16  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_16  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_17   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_17   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_17   21.14  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_17   27.49  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_17   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_17  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_17  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_18   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_18   21.14   16.62  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_18   27.49   28.91  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_18  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_18  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_19   21.14  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19   27.49   29.88  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_19  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_20   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
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SO BUILDHGT COOL2_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_20    67.09   99.20  128.30  153.50  174.03   24.96
SO BUILDWID COOL2_20    21.14   16.68  199.54   15.77   20.40  190.99
SO BUILDWID COOL2_20    27.49   29.88   31.36  104.37   72.79   39.00
SO BUILDWID COOL2_20    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_20   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_20   176.76  157.16  132.78  104.37   72.79   39.00


SO BUILDHGT COOL2_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21    15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_21    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_21    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21   198.77   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_21    27.67   29.88   31.36  104.37   72.79   39.00
SO BUILDWID COOL2_21    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_21   176.76  157.16  132.78  104.37   72.79   39.00


SO BUILDHGT COOL2_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_22    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_22    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22   198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_22    27.67  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_22    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_22   176.76  157.16  132.78  104.37   72.79   39.00

SO EMISFACT USSBLR1F-USSBLR7F   MONTH 0 0 0 0 1 1 1 1 1 0 0 0
SO EMISFACT USSBLR1N-USSBLR7N   MONTH 1 1 1 1 0 0 0 0 0 1 1 1

SO EMISFACT ASA1-ASA5          MONTH 1 1 1 1 0 0 0 0 0 1 1 1
SO EMISFACT OSBLR2-OSBLR6      MONTH 1 1 1 1 0 0 0 0 0 1 1 1
SO EMISFACT SUGCN1-SUGCN8      MONTH 1 1 1 1 1 0 0 0 0 1 1 1
SO EMISFACT USBRY123           MONTH 1 1 1 1 0 0 0 0 0 1 1 1
SO EMISFACT USBRY5             MONTH 1 1 1 1 0 0 0 0 0 1 1 1

   SRCGROUP ALL
   SRCGROUP WCEC22MW 01A7559-02D7559 COOL1_1-COOL1_22 COOL2_1-COOL2_22
SO FINISHED
**
*****************************************
** ISCST3 Receptor Pathway
*****************************************
**
**
RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
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**
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** ISCST3 Control Pathway
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**
CO STARTING
   TITLEONE 1987-91 FPL WEST COUNTY 2200-3300MW CC - G-CLASS OIL FIRING CASES - 3/01/05
   TITLETWO PM10 AAQS ANALYSIS, CT/HRSGs + COOLING TOWERS + OTHER SOURCES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME 24
   POLLUTID PM10
   TERRHGTS FLAT
   MULTYEAR H6H YEAR1.SAV
   RUNORNOT RUN
CO FINISHED
**
******************************************
** ISCST3 Source Pathway
******************************************
**
**
SO STARTING
***********************************************
*****          Source Location          *****
***********************************************

** FPL WCEC Sources
   LOCATION 01A7559 POINT   241.776   615.680
   LOCATION 01B7559 POINT   240.478   530.190
   LOCATION 01C7559 POINT   239.832   487.635
   LOCATION 02A7559 POINT   234.731   211.030
   LOCATION 02B7559 POINT   233.435   125.690
   LOCATION 02C7559 POINT   232.787   83.015
   LOCATION 03A7559 POINT   228.539   -196.733
   LOCATION 03B7559 POINT   227.244   -282.053
   LOCATION 03C7559 POINT   226.598   -324.588

   LOCATION COOL1_01   POINT   291.974        657.973
   LOCATION COOL1_02   POINT   291.698        639.775
   LOCATION COOL1_03   POINT   291.419        621.417
   LOCATION COOL1_04   POINT   291.142        603.159
   LOCATION COOL1_05   POINT   290.863        584.811
   LOCATION COOL1_06   POINT   290.589        566.743
   LOCATION COOL1_07   POINT   290.307        548.205
   LOCATION COOL1_08   POINT   290.027        529.757
   LOCATION COOL1_09   POINT   289.753        511.689
   LOCATION COOL1_10   POINT   289.474        493.332
   LOCATION COOL1_11   POINT   289.195        474.984
   LOCATION COOL1_12   POINT   310.421        657.652
   LOCATION COOL1_13   POINT   310.137        638.925
   LOCATION COOL1_14   POINT   309.863        620.857
   LOCATION COOL1_15   POINT   309.587        602.689
   LOCATION COOL1_16   POINT   309.310        584.481
   LOCATION COOL1_17   POINT   309.031        566.103
   LOCATION COOL1_18   POINT   308.750        547.615
   LOCATION COOL1_19   POINT   308.474        529.427
   LOCATION COOL1_20   POINT   308.200        511.349
   LOCATION COOL1_21   POINT   307.921        492.961
   LOCATION COOL1_22   POINT   307.641        474.584
   LOCATION COOL2_01   POINT   285.832        253.469
   LOCATION COOL2_02   POINT   285.555        235.271
   LOCATION COOL2_03   POINT   285.276        216.913
   LOCATION COOL2_04   POINT   284.999        198.656
   LOCATION COOL2_05   POINT   284.721        180.308
   LOCATION COOL2_06   POINT   284.446        162.240
   LOCATION COOL2_07   POINT   284.165        143.702
   LOCATION COOL2_08   POINT   283.885        125.254
   LOCATION COOL2_09   POINT   283.610        107.186
   LOCATION COOL2_10   POINT   283.331         88.828
   LOCATION COOL2_11   POINT   283.053         70.480
   LOCATION COOL2_12   POINT   304.279        253.149
   LOCATION COOL2_13   POINT   303.994        234.421
   LOCATION COOL2_14   POINT   303.720        216.353
   LOCATION COOL2_15   POINT   303.444        198.185
   LOCATION COOL2_16   POINT   303.168        179.978
   LOCATION COOL2_17   POINT   302.889        161.600
   LOCATION COOL2_18   POINT   302.608        143.112
   LOCATION COOL2_19   POINT   302.332        124.924
   LOCATION COOL2_20   POINT   302.057        106.846
   LOCATION COOL2_21   POINT   301.778         88.458
   LOCATION COOL2_22   POINT   301.499         70.080
   LOCATION COOL3_01   POINT   279.641       -154.204
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   LOCATION COOL3_02   POINT  279.364        -172.402
   LOCATION COOL3_03   POINT  279.086        -190.760
   LOCATION COOL3_04   POINT  278.808        -209.017
   LOCATION COOL3_05   POINT  278.530        -227.365
   LOCATION COOL3_06   POINT  278.255        -245.433
   LOCATION COOL3_07   POINT  277.974        -263.971
   LOCATION COOL3_08   POINT  277.694        -282.419
   LOCATION COOL3_09   POINT  277.419        -300.487
   LOCATION COOL3_10   POINT  277.141        -318.845
   LOCATION COOL3_11   POINT  276.862        -337.193
   LOCATION COOL3_12   POINT  298.088        -154.524
   LOCATION COOL3_13   POINT  297.804        -173.252
   LOCATION COOL3_14   POINT  297.529        -191.320
   LOCATION COOL3_15   POINT  297.253        -209.488
   LOCATION COOL3_16   POINT  296.977        -227.695
   LOCATION COOL3_17   POINT  296.698        -246.073
   LOCATION COOL3_18   POINT  296.417        -264.561
   LOCATION COOL3_19   POINT  296.141        -282.749
   LOCATION COOL3_20   POINT  295.866        -300.827
   LOCATION COOL3_21   POINT  295.587        -319.215
   LOCATION COOL3_22   POINT  295.308        -337.593

** Other Sources
** ATLANTIC SUGAR ASSOCIATION
SO LOCATION     ASA1    POINT   -9300   -7800  0
SO LOCATION     ASA2    POINT   -9300   -7800  0
SO LOCATION     ASA3    POINT   -9300   -7800  0
SO LOCATION     ASA4    POINT   -9300   -7800  0
SO LOCATION     ASA5    POINT   -9300   -7800  0

** OSCEOLA FARMS
SO LOCATION     OSBLR2  POINT   -18000  15000    0.0
SO LOCATION     OSBLR3  POINT   -18000  15000    0.0
SO LOCATION     OSBLR4  POINT   -18000  15000    0.0
SO LOCATION     OSBLR5A POINT   -18000  15000    0.0
SO LOCATION     OSBLR5B POINT   -18000  15000    0.0
SO LOCATION     OSBLR6  POINT   -18000  15000    0.0

** SUGAR CANE GROWERS
SO LOCATION     SUGCN1  POINT   -27300  300   0.0
SO LOCATION     SUGCN2  POINT   -27300  300   0.0
SO LOCATION     SUGCN3  POINT   -27300  300   0.0
SO LOCATION     SUGCN4  POINT   -27300  300   0.0
SO LOCATION     SUGCN5  POINT   -27300  300   0.0
SO LOCATION     SUGCN8  POINT   -27300  300   0.0

** US SUGAR BRYANT
SO LOCATION     USBRY123 POINT    -24400 16100    0.0
SO LOCATION     USBRY5   POINT    -24400 16100    0.0

** FPL-FRIVIERA BEACH
SO LOCATION     RIVU34  POINT   32000    7600     0.0

** FPL-MARTIN
SO LOCATION     MART12  POINT   -19100  39900    0.0
SO LOCATION     MARTAUX POINT   -19100  39900    0.0
SO LOCATION     MARTGEN POINT   -19100  39900    0.0
SO LOCATION     MART34  POINT   -19100  39900    0.0
SO LOCATION     MART8   POINT   -19100  39900    0.0

** US SUGAR CLEWISTON
** USS Clewiston Boiler 8
SO LOCATION     USSBLR8    POINT   -56100.0  3900.0  0.0

** USS Clewiston Boiler 1-7 Off-Crop Season Only
SO LOCATION     USSBLR1F  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2F  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR4F  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR7F  POINT   -56100.0  3900.0  0.0
** USS Clewiston Boiler 1-7 Crop Season Only
SO LOCATION     USSBLR1N  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2N  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR4N  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR7N  POINT   -56100.0  3900.0  0.0

** USS Clewiston Sugar Refinery Sources
SO LOCATION     S1         POINT   -56100.0  3900.0  0.0
SO LOCATION     S2         POINT   -56100.0  3900.0  0.0
SO LOCATION     S3         POINT   -56100.0  3900.0  0.0
SO LOCATION     S4         POINT   -56100.0  3900.0  0.0
SO LOCATION     S5         POINT   -56100.0  3900.0  0.0
SO LOCATION     S6         POINT   -56100.0  3900.0  0.0
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SO LOCATION     S7      POINT   -56100.0  3900.0  0.0
SO LOCATION     S8      POINT   -56100.0  3900.0  0.0
SO LOCATION     S9      POINT   -56100.0  3900.0  0.0
SO LOCATION     S10     POINT   -56100.0  3900.0  0.0
SO LOCATION     S11     POINT   -56100.0  3900.0  0.0
SO LOCATION     S12     POINT   -56100.0  3900.0  0.0

** FPL-PORT EVERGLADES
SO LOCATION     EVERG1  POINT   25200    -67700  0.0
SO LOCATION     EVERG2  POINT   25200    -67700  0.0
SO LOCATION     EVERG3  POINT   25200    -67700  0.0
SO LOCATION     EVERG4  POINT   25200    -67700  0.0
SO LOCATION     EVERCTS POINT   25200    -67700  0.0

**********************************************
*****          Source Parameters        *****
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** FPL WCEC Sources
** 75% Load, 59 Deg F, Oil Firing
** Emission Rate - 80% of 73.8 lb/hr
   SRCPARAM 01A7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 01B7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 01C7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 02A7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 02B7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 02C7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 03A7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 03B7559 7.439   45.42   407.0   16.1   6.71
   SRCPARAM 03C7559 7.439   45.42   407.0   16.1   6.71

   SRCPARAM COOL1_01    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_02    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_03    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_04    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_05    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_06    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_07    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_08    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_09    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_10    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_11    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_12    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_13    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_14    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_15    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_16    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_17    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_18    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_19    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_20    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_21    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL1_22    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_01    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_02    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_03    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_04    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_05    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_06    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_07    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_08    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_09    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_10    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_11    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_12    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_13    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_14    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_15    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_16    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_17    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_18    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_19    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_20    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_21    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL2_22    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL3_01    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL3_02    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL3_03    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL3_04    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL3_05    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL3_06    0.007     19.800    309.0     6.72    11.59
   SRCPARAM COOL3_07    0.007     19.800    309.0     6.72    11.59
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   SRCPARAM COOL3_08      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_09      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_10      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_11      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_12      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_13      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_14      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_15      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_16      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_17      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_18      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_19      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_20      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_21      0.007       19.800      309.0        6.72       11.59
   SRCPARAM COOL3_22      0.007       19.800      309.0        6.72       11.59

** Other Sources
** ATLANTIC SUGAR ASSOCIATION
SO SRCPARAM      ASA1    10.58    27.4     346.0    17.97    1.83
SO SRCPARAM      ASA2    10.58    27.4     350.0    23.36    1.83
SO SRCPARAM      ASA3    9.83     27.4     350.0    21.56    1.83
SO SRCPARAM      ASA4    10.05    27.4     344.0    25.16    1.83
SO SRCPARAM      ASA5    4.50     27.4     339.0    19.24    1.68

** OSCEOLA FARMS
SO SRCPARAM      OSBLR2  7.06     27.4     341      15.82    1.52
SO SRCPARAM      OSBLR3  7.36     27.4     342      16.86    1.91
SO SRCPARAM      OSBLR4  5.59     27.4     341      16.67    1.83
SO SRCPARAM      OSBLR5A 2.80     27.4     341      18.60    1.52
SO SRCPARAM      OSBLR5B 2.92     27.4     341      18.60    1.52
SO SRCPARAM      OSBLR6  7.17     27.4     341      18.19    1.88

** SUGAR CANE GROWERS
SO SRCPARAM      SUGCN1  9.79     45.7     339      17.90    2.13
SO SRCPARAM      SUGCN2  9.79     45.7     339      21.40    2.13
SO SRCPARAM      SUGCN3  6.72     54.9     339      16.74    2.11
SO SRCPARAM      SUGCN4  13.42    54.9     339      19.27    2.88
SO SRCPARAM      SUGCN5  12.86    45.7     339      28.11    2.13
SO SRCPARAM      SUGCN8  8.86     47.3     339      15.18    2.90

** US SUGAR BRYANT
SO SRCPARAM      USBRY123  43.66    19.8     344      34.60    1.65
SO SRCPARAM      USBRY5    11.03    45.7     334      14.77    2.90

** FPL-FRIVIERA BEACH
SO SRCPARAM      RIVU34  96.08    90.8     402      18.90    4.88

** FPL-MARTIN
SO SRCPARAM      MART12  218.00   152.1    421      21.03    7.99
SO SRCPARAM      MARTAUX 0.01     18.3     535      15.24    1.10
SO SRCPARAM      MARTGEN 0.22     7.6      786      39.62    0.30
SO SRCPARAM      MART34  30.54    64.9     411      18.90    6.10
SO SRCPARAM      MART8   15.17    36.6     398      13.59    5.79

** US SUGAR CLEWISTON
** USS Clewiston Boiler 8
SO SRCPARAM      USSBLR8 3.06     60.7     439      15.31    3.96

** USS Clewiston Boilers 1-7 Off-Crop Season Only
SO SRCPARAM      USSBLR1F  13.40    64.9     338      19.00    2.44
SO SRCPARAM      USSBLR2F  12.20    64.9     339      18.99    2.44
SO SRCPARAM      USSBLR4F  0.00     45.7     0        0.00     2.51
SO SRCPARAM      USSBLR7F  0.00     68.6     0        0.00     2.59
** USS Clewiston Boilers 1-7 Crop Season Only
SO SRCPARAM      USSBLR1N  15.61    64.9     338      20.61    2.44
SO SRCPARAM      USSBLR2N  14.09    64.9     339      20.30    2.44
SO SRCPARAM      USSBLR4N  11.97    45.7     339      24.54    2.51
SO SRCPARAM      USSBLR7N  2.78     68.6     437      26.25    2.59

** USS Clewiston Sugar Refinery Sources
SO SRCPARAM      S1      0.0076   19.8     293.2    0.01     0.15
SO SRCPARAM      S2      0.0076   19.8     305.4    0.01     0.15
SO SRCPARAM      S3      0.0076   19.8     305.4    0.01     0.15
SO SRCPARAM      S4      0.0265   18.3     324.8    0.01     0.59
SO SRCPARAM      S5      0.0076   21.9     324.8    0.01     0.29
SO SRCPARAM      S6      0.0239   21.9     324.8    0.01     0.59
SO SRCPARAM      S7      0.0076   39.6     316.5    0.01     0.42
SO SRCPARAM      S8      0.0076   39.6     316.5    0.01     0.42
SO SRCPARAM      S9      0.0076   39.6     316.5    0.01     0.42
SO SRCPARAM      S10     0.1802   22.9     319.3    0.01     2.23
SO SRCPARAM      S11     0.2054   3.0      319.3    0.01     1.46
SO SRCPARAM      S12     0.0794   9.1      344.3    6.95     0.61
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** FPL-PORT EVERGLADES
SO SRCPARAM      EVERG1  30.24   104.9   408     18.29   4.27
SO SRCPARAM      EVERG2  30.24   104.9   416     4.88    4.27
SO SRCPARAM      EVERG3  52.67   104.9   408     19.20   5.52
SO SRCPARAM      EVERG4  52.67   104.9   408     19.20   5.52
SO SRCPARAM      EVERCTS 91.48   13.4    683     10.67   4.75

** Building Downwash **
SO BUILDHGT 01A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01A7559      31.23   31.86   31.53   30.34   28.11   25.03
SO BUILDWID 01A7559      21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01A7559      27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 01A7559      31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 01A7559      21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01A7559      27.64   30.02   31.48   32.00   31.54   29.99


SO BUILDHGT 01B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01B7559      31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01B7559      21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01B7559      27.55   29.92   31.37   31.88   31.41   29.99
SO BUILDWID 01B7559      31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01B7559      21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01B7559      27.55   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT 01C7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01C7559      31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01C7559      21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01C7559      27.70   29.92   31.37   31.88   31.41   29.99
SO BUILDWID 01C7559      31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01C7559      21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01C7559      27.70   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT 02A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02A7559      31.22   31.85   31.52   30.20   27.97   24.88
SO BUILDWID 02A7559      21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02A7559      27.49   29.88   31.36   31.88   31.44   30.04
SO BUILDWID 02A7559      31.27   31.88   31.52   30.20   27.97   24.88
SO BUILDWID 02A7559      21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02A7559      27.49   29.88   31.36   31.88   31.44   29.98


SO BUILDHGT 02B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02B7559      31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID 02B7559      21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02B7559      27.67   30.09   31.36   31.88   31.40   29.98
SO BUILDWID 02B7559      31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID 02B7559      21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02B7559      27.67   30.09   31.60   32.15   31.40   29.98


SO BUILDHGT 02C7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C7559      29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C7559      29.57   29.57   29.57   29.57   29.57   29.57
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SO BUILDHGT 02C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02C7559     31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02C7559     21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02C7559     27.67   29.91   31.36   31.87   31.40   29.98
SO BUILDWID 02C7559     31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02C7559     21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02C7559     27.67   29.91   31.36   31.87   31.40   29.98

SO BUILDHGT 03B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03B7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 03B7559     31.36   31.99   31.64   30.34   28.28   25.03
SO BUILDWID 03B7559     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03B7559     27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 03B7559     31.36   31.99   31.64   30.34   28.28   25.03
SO BUILDWID 03B7559     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03B7559     27.64   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT 03C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03C7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 03C7559     31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID 03C7559     21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID 03C7559     27.80   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 03C7559     31.36   32.12   31.79   30.50   28.28   25.20
SO BUILDWID 03C7559     21.35   16.86   11.85   16.02   20.61   24.58
SO BUILDWID 03C7559     27.80   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT 03A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 03A7559     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 03A7559     31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 03A7559     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03A7559     27.64   30.02   31.48   32.00   31.54   30.12
SO BUILDWID 03A7559     31.36   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 03A7559     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 03A7559     27.64   30.02   31.48   32.00   31.54   30.12

SO BUILDHGT COOL1_01    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_01    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_01    66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_01    21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_01   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_01    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_01   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_01   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_02    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_02    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_02    66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_02    21.19   16.71  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_02    66.41   98.53  127.65  152.89   28.11  188.82
SO BUILDWID COOL1_02   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_03    15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_03    29.57   29.57   29.57   15.54   15.54   15.54
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SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_03   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_03   21.19   16.71   11.71  202.47  200.16  191.77
SO BUILDWID COOL1_03  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_03   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_03  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_03  177.55  157.94  133.52  105.05   73.39   39.50


SO BUILDHGT COOL1_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_04   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77   15.87   20.45   24.42
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_04   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50


SO BUILDHGT COOL1_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_05   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_05   27.64  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_05   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_05  177.55  157.94  133.52  105.05   73.39   39.50


SO BUILDHGT COOL1_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_06   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_06   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_06   21.15  201.97  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_06   27.64   30.02  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_06   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_06  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_06  177.55  157.94  133.52  105.05   73.39   39.50


SO BUILDHGT COOL1_07   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_07   66.41   98.53   31.68   30.39   28.17   25.10
SO BUILDWID COOL1_07   21.15   16.68  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_07   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_07  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07  177.55  157.94  133.52  105.05   73.39   39.50


SO BUILDHGT COOL1_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_08   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_08   21.27   16.68   11.71   15.85  200.16  191.77
SO BUILDWID COOL1_08   27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_08   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_08  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_08  177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_09   21.27   16.79  199.77   15.85   20.41   24.35
SO BUILDWID COOL1_09  177.55   30.02   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17  188.82
SO BUILDWID COOL1_09  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_09  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10   21.27   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_10   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_10  177.55   29.92  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77   15.95   20.53   24.49
SO BUILDWID COOL1_11   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_11  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_12   66.41   98.53   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_12   21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_12   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_12  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_13   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_13   66.41   98.53   31.53   30.24   28.03   25.03
SO BUILDWID COOL1_13   21.19   16.71  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_13   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_13  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_14   15.54   15.54   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_14   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_14   66.41   98.53   31.68   30.24   28.03  188.82
SO BUILDWID COOL1_14  198.41   16.71   11.71  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_14   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_14  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDHGT COOL1_15    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_15    15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_15    66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_15   198.41  201.97  199.77   15.87   20.45  191.77
SO BUILDWID COOL1_15   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_15    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_15   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_15   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_16    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_16    29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_16    66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_16    21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_16   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_16    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_16   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_16   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_17    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_17    29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_17    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_17    66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_17    21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_17    27.64  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_17    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_17   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_17   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_18    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_18    29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_18    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_18    66.41   98.53  127.65   29.17   28.17   25.10
SO BUILDWID COOL1_18    21.15   16.68  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_18    27.64   29.17  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_18    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_18   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_18   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_19    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_19    66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_19    21.27  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19    27.64   30.02  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_19    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_19   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_20    29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_20    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_20    66.41   98.53  127.65  152.89  173.49   25.10
SO BUILDWID COOL1_20    21.27   16.79  199.77   15.85   20.41  191.77
SO BUILDWID COOL1_20    27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_20    66.41   98.53  127.65  152.89  173.49  188.82
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SO BUILDWID COOL1_20  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_20  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_21   27.55   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_21   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_21  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77   15.95   20.53   24.35
SO BUILDWID COOL1_22   27.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_22   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_22  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL2_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_01   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_01   67.09   32.14   31.76   30.20   27.97   24.88
SO BUILDWID COOL2_01   21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_01   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_01  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_02   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_02   67.09   32.14   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_02   21.04   16.56  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_02   67.09   99.20  128.30  153.50   27.97  189.28
SO BUILDWID COOL2_02  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_03   67.09   31.85   31.52   30.42   28.15  189.28
SO BUILDWID COOL2_03   21.04   16.56   11.58  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_03   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_03  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_04   67.09   31.85   31.52   30.23   28.15  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54   15.73   20.31   24.27
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SO BUILDWID COOL2_04  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_04   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_04  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_05   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_05   27.49  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_05   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_05  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_06   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_06   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_06   21.14  202.23  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_06   27.49   29.88  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_06   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_06  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_06  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_07   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_07   21.14   16.62  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07   27.49   29.88   31.36  104.37   72.79   39.00
SO BUILDWID COOL2_07   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_07  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_08   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_08   67.09   99.20  128.30   30.23   28.02   24.96
SO BUILDWID COOL2_08   21.14   16.62   11.59   15.77  199.42  190.99
SO BUILDWID COOL2_08   27.49   29.88   31.36  104.37   72.79   39.00
SO BUILDWID COOL2_08   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_08  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_08  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_09   21.14   16.68  199.54   15.77   20.40   24.40
SO BUILDWID COOL2_09  176.76   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02  189.28
SO BUILDWID COOL2_09  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_09  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   29.57   15.54   15.54   15.54   15.54
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SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10   21.14   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_10   27.67   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_10  176.76   30.09  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_11   27.67   30.09   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_11  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_12   67.09   99.20   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_12   21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_12   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_12  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_13   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_13   67.09   99.20   31.76   30.42   28.15   24.88
SO BUILDWID COOL2_13   21.04   16.56  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_13   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_13  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_14   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_14   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_14   67.09   99.20  128.30   30.42   28.15  189.28
SO BUILDWID COOL2_14  198.77   16.56   11.58  201.78  199.42  190.99
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_14   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_14  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_15   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_15   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_15  198.77  202.23  199.54   15.73   20.31  190.99
SO BUILDWID COOL2_15  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_15   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_15  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_15  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16   15.54   15.54   15.54   15.54   15.54   15.54
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SO	BUILDHGT	COOL2_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_16	67.09	99.20	31.52	30.23	28.15	25.03
SO	BUILDWID	COOL2_16	21.14	202.23	199.54	201.78	20.31	24.27
SO	BUILDWID	COOL2_16	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_16	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_16	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_16	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_17	29.57	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_17	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_17	67.09	99.20	128.30	30.23	28.02	25.03
SO	BUILDWID	COOL2_17	21.14	202.23	199.54	201.78	20.31	24.27
SO	BUILDWID	COOL2_17	27.49	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_17	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_17	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_17	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_18	15.54	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_18	29.57	29.57	15.54	15.54	15.54	29.57
SO	BUILDHGT	COOL2_18	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_18	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_18	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_18	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_18	67.09	99.20	128.30	153.50	28.02	24.96
SO	BUILDWID	COOL2_18	21.14	16.62	199.54	201.78	199.42	24.27
SO	BUILDWID	COOL2_18	27.49	28.91	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_18	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_18	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_18	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_19	15.54	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_19	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_19	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_19	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_19	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_19	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_19	67.09	99.20	128.30	153.50	28.02	24.96
SO	BUILDWID	COOL2_19	21.14	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_19	27.49	29.88	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_19	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_19	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_19	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_20	15.54	15.54	15.54	15.54	15.54	29.57
SO	BUILDHGT	COOL2_20	29.57	29.57	15.54	29.57	29.57	15.54
SO	BUILDHGT	COOL2_20	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL2_20	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_20	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_20	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_20	67.09	99.20	128.30	153.50	174.03	24.96
SO	BUILDWID	COOL2_20	21.14	16.68	199.54	15.77	20.40	190.99
SO	BUILDWID	COOL2_20	27.49	29.88	31.36	104.37	72.79	39.00
SO	BUILDWID	COOL2_20	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_20	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_20	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_21	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_21	15.54	29.57	29.57	15.54	29.57	29.57
SO	BUILDHGT	COOL2_21	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL2_21	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_21	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_21	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_21	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_21	198.77	16.68	11.71	201.78	20.40	24.40
SO	BUILDWID	COOL2_21	27.67	29.88	31.36	104.37	72.79	39.00
SO	BUILDWID	COOL2_21	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_21	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_21	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_22	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_22	15.54	15.54	15.54	29.57	29.57	29.57

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SO BUILDHGT COOL2_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_22   27.67  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_22  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL3_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_01   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_01   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_01   21.19  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_01   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_01  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_01  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_02   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_02   67.70   31.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_02   21.19   16.71  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_02   67.70   99.99  129.24  154.57   28.11  190.50
SO BUILDWID COOL3_02  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_02  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_03   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_03   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_03   21.19   16.71   11.71  203.54  201.18  192.71
SO BUILDWID COOL3_03  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_03   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_03  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_03  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_04   67.70   32.12   31.64   30.34   28.11  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_04  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_04   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_04  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_04  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_05   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_05   67.70   99.99   31.79   30.34   28.11   25.03
SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54   20.45   24.42
SO BUILDWID COOL3_05   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_05   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_05  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_05  178.38  158.63  134.06  105.42   73.58   39.50
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SO BUILDHGT COOL3_06    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_06    29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_06    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_06    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_06    67.70   99.99   31.79   30.50   28.28   25.03
SO BUILDWID COOL3_06    21.19  203.45  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_06    27.64   30.02  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_06    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_06   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_06   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_07    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_07    29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_07    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_07    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_07    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_07    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_07    67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_07    21.19   16.71  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_07    27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_07    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_07   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_07   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_08    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_08    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_08    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_08    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_08    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_08    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_08    67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_08    21.35   16.71   11.71   15.87  201.18  192.71
SO BUILDWID COOL3_08    27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_08    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_08   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_08   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_09    15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_09    29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_09    15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_09    15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL3_09    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_09    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_09    67.70   99.99  129.24  154.57   28.28   25.20
SO BUILDWID COOL3_09    21.35   16.86  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_09   178.38   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_09    67.70   99.99  129.24  154.57   28.28  190.50
SO BUILDWID COOL3_09   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_09   178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_10    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10    29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_10    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_10    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_10    15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_10    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_10    21.35   16.86   11.85  203.54   20.45   24.42
SO BUILDWID COOL3_10    27.64   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_10    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_10   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_10   178.38   30.02  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_11    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL3_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_11    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_11   200.01  203.45  200.71   16.02   20.61   24.58
SO BUILDWID COOL3_11    27.64   30.02   31.48   32.00   73.58   39.50
SO BUILDWID COOL3_11    67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_11   200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_11   178.38  158.63  134.06  105.42   73.58   39.50
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SO BUILDHGT COOL3_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_12   67.70   99.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_12   21.19  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_12  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_12   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_12  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_12  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_13   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_13   67.70   99.99   31.64   30.34   28.11   25.03
SO BUILDWID COOL3_13   21.19   16.71  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_13  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_13   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_13  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_13  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_14   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_14   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_14   67.70   99.99  129.24   30.34   28.11  190.50
SO BUILDWID COOL3_14  200.01   16.71   11.71  203.54  201.18  192.71
SO BUILDWID COOL3_14  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_14   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_14  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_14  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_15   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_15   67.70   99.99   31.79   30.34   28.11   25.03
SO BUILDWID COOL3_15  200.01  203.45  200.71   15.87   20.45  192.71
SO BUILDWID COOL3_15  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_15   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_15  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_15  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL3_16   29.57   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_16   67.70   99.99   31.79   30.50   28.28   25.03
SO BUILDWID COOL3_16   21.19  203.45  200.71   15.87   20.45   24.42
SO BUILDWID COOL3_16  178.38  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_16   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_16  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_16  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_17   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_17   67.70   99.99  129.24   30.50   28.28   25.20
SO BUILDWID COOL3_17   21.19  203.45  200.71  203.54   20.45   24.42
SO BUILDWID COOL3_17   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_17   67.70   99.99  129.24  154.57  175.19  190.50
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SO BUILDWID COOL3_17  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_17  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_18   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_18   67.70   99.99  129.24   29.05   28.28   25.20
SO BUILDWID COOL3_18   21.19   16.71  200.71  203.54  201.18   24.42
SO BUILDWID COOL3_18   27.64   29.05  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_18   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_18  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_18  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL3_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_19   67.70   99.99  129.24  154.57   28.28   25.20
SO BUILDWID COOL3_19   21.35  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19   27.64   30.02  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_19   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_19  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_19  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL3_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL3_20   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_20   67.70   99.99  129.24  154.57  175.19   25.20
SO BUILDWID COOL3_20   21.35   16.86  200.71   15.87   20.45  192.71
SO BUILDWID COOL3_20   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_20   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_20  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_20  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL3_21   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_21   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21  200.01   16.86   11.85  203.54   20.45   24.42
SO BUILDWID COOL3_21   27.64   30.02   31.48  105.42   73.58   39.50
SO BUILDWID COOL3_21   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_21  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_21  178.38  158.63  134.06  105.42   73.58   39.50

SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL3_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL3_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL3_22   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22  200.01  203.45  200.71   16.02   20.61   24.42
SO BUILDWID COOL3_22   27.64  158.63  134.06  105.42   73.58   39.50
SO BUILDWID COOL3_22   67.70   99.99  129.24  154.57  175.19  190.50
SO BUILDWID COOL3_22  200.01  203.45  200.71  203.54  201.18  192.71
SO BUILDWID COOL3_22  178.38  158.63  134.06  105.42   73.58   39.50

SO EMISFACT USSBLR1F-USSBLR7F    MONTH 0 0 0 0 1 1 1 1 1 0 0 0
SO EMISFACT USSBLR1N-USSBLR7N    MONTH 1 1 1 1 0 0 0 0 0 1 1 1

SO EMISFACT ASA1-ASA5          MONTH 1 1 1 1 0 0 0 0 0 1 1 1
SO EMISFACT OSBLR2-OSBLR6      MONTH 1 1 1 1 0 0 0 0 0 1 1 1
SO EMISFACT SUGCN1-SUGCN8      MONTH 1 1 1 1 1 0 0 0 0 1 1 1
SO EMISFACT USBRY123           MONTH 1 1 1 1 0 0 0 0 0 1 1 1
SO EMISFACT USBRY5             MONTH 1 1 1 1 0 0 0 0 0 1 1 1
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   SRCGROUP ALL
   SRCGROUP WCEC33MW 01A7559-03D7559 COOL1_1-COOL1_22 COOL2_1-COOL2_22 COOL3_1-COOL3_22
   SRCGROUP WCEC22MW 01A7559-02D7559 COOL1_1-COOL1_22 COOL2_1-COOL2_22
SO FINISHED
**
****************************************
** ISCST3 Receptor Pathway
****************************************
**
**
RE STARTING
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -2000.00
   DISCCART -2000.00 -1900.00
   DISCCART -2000.00 -1800.00
   DISCCART -2000.00 -1700.00
   DISCCART -2000.00 -1600.00
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CO STARTING
   TITLEONE 1987 FPL WEST COUNTY 2200MW CC - 7FB MACHINE OIL FIRING CASES - 3/02/05
   TITLETWO PM10 PSD CLASS II ANALYSIS, CT/HRSGs + COOLING TOWERS + OTHER SOURCES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME 24
   POLLUTID OTHER
   TERRHGTS FLAT
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISCST3 Source Pathway
****************************************
**
**
SO STARTING
*********************************************
*****          Source Location         *****
*********************************************

** FPL WCEC Sources
   LOCATION 01A6095     POINT   241.625        659.067
   LOCATION 01B6095     POINT   241.926        615.668
   LOCATION 01C6095     POINT   240.460        530.290
   LOCATION 01D6095     POINT   239.792        487.625
   LOCATION 02A6095     POINT   235.747        251.569
   LOCATION 02B6095     POINT   234.844        211.179
   LOCATION 02C6095     POINT   233.320        126.002
   LOCATION 02D6095     POINT   232.580         83.188

   LOCATION COOL1_01   POINT   291.974         657.973
   LOCATION COOL1_02   POINT   291.698         639.775
   LOCATION COOL1_03   POINT   291.419         621.417
   LOCATION COOL1_04   POINT   291.142         603.159
   LOCATION COOL1_05   POINT   290.863         584.811
   LOCATION COOL1_06   POINT   290.589         566.743
   LOCATION COOL1_07   POINT   290.307         548.205
   LOCATION COOL1_08   POINT   290.027         529.757
   LOCATION COOL1_09   POINT   289.753         511.689
   LOCATION COOL1_10   POINT   289.474         493.332
   LOCATION COOL1_11   POINT   289.195         474.984
   LOCATION COOL1_12   POINT   310.421         657.652
   LOCATION COOL1_13   POINT   310.137         638.925
   LOCATION COOL1_14   POINT   309.863         620.857
   LOCATION COOL1_15   POINT   309.587         602.689
   LOCATION COOL1_16   POINT   309.310         584.481
   LOCATION COOL1_17   POINT   309.031         566.103
   LOCATION COOL1_18   POINT   308.750         547.615
   LOCATION COOL1_19   POINT   308.474         529.427
   LOCATION COOL1_20   POINT   308.200         511.349
   LOCATION COOL1_21   POINT   307.921         492.961
   LOCATION COOL1_22   POINT   307.641         474.584
   LOCATION COOL2_01   POINT   285.832         253.469
   LOCATION COOL2_02   POINT   285.555         235.271
   LOCATION COOL2_03   POINT   285.276         216.913
   LOCATION COOL2_04   POINT   284.999         198.656
   LOCATION COOL2_05   POINT   284.721         180.308
   LOCATION COOL2_06   POINT   284.446         162.240
   LOCATION COOL2_07   POINT   284.165         143.702
   LOCATION COOL2_08   POINT   283.885         125.254
   LOCATION COOL2_09   POINT   283.610         107.186
   LOCATION COOL2_10   POINT   283.331          88.828
   LOCATION COOL2_11   POINT   283.053          70.480
   LOCATION COOL2_12   POINT   304.279         253.149
   LOCATION COOL2_13   POINT   303.994         234.421
   LOCATION COOL2_14   POINT   303.720         216.353
   LOCATION COOL2_15   POINT   303.444         198.185
   LOCATION COOL2_16   POINT   303.168         179.978
   LOCATION COOL2_17   POINT   302.889         161.600
   LOCATION COOL2_18   POINT   302.608         143.112
   LOCATION COOL2_19   POINT   302.332         124.924
   LOCATION COOL2_20   POINT   302.057         106.846
   LOCATION COOL2_21   POINT   301.778          88.458
   LOCATION COOL2_22   POINT   301.499          70.080

** Other Sources
** ATLANTIC SUGAR ASSOCIATION
SO LOCATION     ASA1    POINT    -9300    -7800  0
SO LOCATION     ASA2    POINT    -9300    -7800  0
SO LOCATION     ASA3    POINT    -9300    -7800  0
SO LOCATION     ASA4    POINT    -9300    -7800  0
SO LOCATION     ASA5    POINT    -9300    -7800  0
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SO LOCATION     ASA1B   POINT   -9300   -7800  0
SO LOCATION     ASA2B   POINT   -9300   -7800  0
SO LOCATION     ASA3B   POINT   -9300   -7800  0
SO LOCATION     ASA4B   POINT   -9300   -7800  0

** OSCEOLA FARMS
SO LOCATION     OSBLR1B POINT   -18000  15000   0.0
SO LOCATION     OSBLR2B POINT   -18000  15000   0.0
SO LOCATION     OSBLR3B POINT   -18000  15000   0.0
SO LOCATION     OSBLR4B POINT   -18000  15000   0.0
SO LOCATION     OSBLR2  POINT   -18000  15000   0.0
SO LOCATION     OSBLR3  POINT   -18000  15000   0.0
SO LOCATION     OSBLR4  POINT   -18000  15000   0.0
SO LOCATION     OSBLR5A POINT   -18000  15000   0.0
SO LOCATION     OSBLR5B POINT   -18000  15000   0.0
SO LOCATION     OSBLR6  POINT   -18000  15000   0.0

** SUGAR CANE GROWERS
SO LOCATION     SUGCN1  POINT   -27300  300   0.0
SO LOCATION     SUGCN2  POINT   -27300  300   0.0
SO LOCATION     SUGCN3  POINT   -27300  300   0.0
SO LOCATION     SUGCN4  POINT   -27300  300   0.0
SO LOCATION     SUGCN5  POINT   -27300  300   0.0
SO LOCATION     SUGCN8  POINT   -27300  300   0.0

** US SUGAR BRYANT
SO LOCATION     USBRY123 POINT   -24400 16100    0.0
SO LOCATION     USBRY5   POINT   -24400 16100    0.0
SO LOCATION     USSBRY1B POINT   -24400 16100    0.0
SO LOCATION     USBRY23B POINT   -24400 16100    0.0

** FPL-FRIVIERA BEACH
SO LOCATION     RIVU34  POINT   32000   7600    0.0

** FPL-MARTIN
SO LOCATION     MART12  POINT   -19100  39900   0.0
SO LOCATION     MARTAUX POINT   -19100  39900   0.0
SO LOCATION     MARTGEN POINT   -19100  39900   0.0
SO LOCATION     MART34  POINT   -19100  39900   0.0
SO LOCATION     MART8   POINT   -19100  39900   0.0

** US SUGAR CLEWISTON
** USS Clewiston Boiler 8
SO LOCATION     USSBLR8   POINT   -56100.0  3900.0  0.0

** USS Clewiston PSD Baseline Crop-Season Only
SO LOCATION     USSBRL1B  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2B  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR3B  POINT   -56100.0  3900.0  0.0
SO LOCATION     EPELLET   POINT   -56100.0  3900.0  0.0
SO LOCATION     WPELLET   POINT   -56100.0  3900.0  0.0
SO LOCATION     USBLR56B  POINT   -56100.0  3900.0  0.0

** USS Clewiston Boiler 1-7 Off-Crop Season Only
SO LOCATION     USSBLR1F  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2F  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR4F  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR7F  POINT   -56100.0  3900.0  0.0
** USS Clewiston Boiler 1-7 Crop Season Only
SO LOCATION     USSBLR1N  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2N  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR4N  POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR7N  POINT   -56100.0  3900.0  0.0

** USS Clewiston Sugar Refinery Sources
SO LOCATION     S1      POINT   -56100.0  3900.0  0.0
SO LOCATION     S2      POINT   -56100.0  3900.0  0.0
SO LOCATION     S3      POINT   -56100.0  3900.0  0.0
SO LOCATION     S4      POINT   -56100.0  3900.0  0.0
SO LOCATION     S5      POINT   -56100.0  3900.0  0.0
SO LOCATION     S6      POINT   -56100.0  3900.0  0.0
SO LOCATION     S7      POINT   -56100.0  3900.0  0.0
SO LOCATION     S8      POINT   -56100.0  3900.0  0.0
SO LOCATION     S9      POINT   -56100.0  3900.0  0.0
SO LOCATION     S10     POINT   -56100.0  3900.0  0.0
SO LOCATION     S11     POINT   -56100.0  3900.0  0.0
SO LOCATION     S12     POINT   -56100.0  3900.0  0.0

** FPL-PORT EVERGLADES
SO LOCATION     EVERG1  POINT   25200   -67700  0.0
SO LOCATION     EVERG2  POINT   25200   -67700  0.0
SO LOCATION     EVERG3  POINT   25200   -67700  0.0
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SO LOCATION      EVERG4  POINT   25200   -67700  0.0
SO LOCATION      EVERCTS POINT   25200   -67700  0.0

*********************************************
*****         Source Parameters        *****
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** FPL WCEC Sources
** CT/HRSG 60% LOAD, 95 deg F
   SRCPARAM 01A6095        2.19       45.42      404.1       13.26      5.79
   SRCPARAM 01B6095        2.19       45.42      404.1       13.26      5.79
   SRCPARAM 01C6095        2.19       45.42      404.1       13.26      5.79
   SRCPARAM 01D6095        2.19       45.42      404.1       13.26      5.79
   SRCPARAM 02A6095        2.19       45.42      404.1       13.26      5.79
   SRCPARAM 02B6095        2.19       45.42      404.1       13.26      5.79
   SRCPARAM 02C6095        2.19       45.42      404.1       13.26      5.79
   SRCPARAM 02D6095        2.19       45.42      404.1       13.26      5.79

   SRCPARAM COOL1_01     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_02     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_03     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_04     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_05     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_06     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_07     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_08     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_09     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_10     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_11     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_12     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_13     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_14     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_15     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_16     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_17     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_18     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_19     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_20     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_21     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL1_22     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_01     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_02     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_03     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_04     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_05     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_06     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_07     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_08     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_09     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_10     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_11     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_12     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_13     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_14     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_15     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_16     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_17     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_18     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_19     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_20     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_21     0.007       19.800     309.0        6.72      11.59
   SRCPARAM COOL2_22     0.007       19.800     309.0        6.72      11.59

** Other Sources
** ATLANTIC SUGAR ASSOCIATION
SO SRCPARAM      ASA1    10.58   27.4    346.0   17.97   1.83
SO SRCPARAM      ASA2    10.58   27.4    350.0   23.36   1.83
SO SRCPARAM      ASA3    9.83    27.4    350.0   21.56   1.83
SO SRCPARAM      ASA4    10.05   27.4    344.0   25.16   1.83
SO SRCPARAM      ASA5    4.50    27.4    339.0   19.24   1.68
SO SRCPARAM      ASA1B   -14.74  18.9    506.0   12.70   1.92
SO SRCPARAM      ASA2B   -17.89  18.9    511.0   10.90   1.92
SO SRCPARAM      ASA3B   -9.32   21.9    522.0   17.50   1.83
SO SRCPARAM      ASA4B   -9.25   18.3    344.0   15.00   1.83

** OSCEOLA FARMS
SO SRCPARAM      OSBLR1B -14.74  22.0    342     18.18   1.52
SO SRCPARAM      OSBLR2B -17.89  22.0    341     18.10   1.52
SO SRCPARAM      OSBLR3B -9.32   22.0    341     14.50   1.93
SO SRCPARAM      OSBLR4B -9.25   22.0    341     18.80   1.83
SO SRCPARAM      OSBLR2  7.06    27.4    341     15.82   1.52
SO SRCPARAM      OSBLR3  7.36    27.4    342     16.86   1.91
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SO SRCPARAM     OSBLR4  5.59    27.4    341     16.67   1.83
SO SRCPARAM     OSBLR5A 2.80    27.4    341     18.60   1.52
SO SRCPARAM     OSBLR5B 2.92    27.4    341     18.60   1.52
SO SRCPARAM     OSBLR6  7.17    27.4    341     18.19   1.88

** SUGAR CANE GROWERS
SO SRCPARAM     SUGCN1  9.79    45.7    339     17.90   2.13
SO SRCPARAM     SUGCN2  9.79    45.7    339     21.40   2.13
SO SRCPARAM     SUGCN3  6.72    54.9    339     16.74   2.11
SO SRCPARAM     SUGCN4  13.42   54.9    339     19.27   2.88
SO SRCPARAM     SUGCN5  12.86   45.7    339     28.11   2.13
SO SRCPARAM     SUGCN8  8.86    47.3    339     15.18   2.90

** US SUGAR BRYANT
SO SRCPARAM     USBRY123  43.66   19.8    344     34.60   1.65
SO SRCPARAM     USBRY5    11.03   45.7    334     14.77   2.90
SO SRCPARAM     USSBRY1B  -82.40  19.8    494     44.30   1.68
SO SRCPARAM     USBRY23B  -12.04  19.8    344     37.90   1.68

** FPL-FRIVIERA BEACH
SO SRCPARAM     RIVU34  96.08   90.8    402     18.90   4.88

** FPL-MARTIN
SO SRCPARAM     MART12  218.00  152.1   421     21.03   7.99
SO SRCPARAM     MARTAUX 0.01    18.3    535     15.24   1.10
SO SRCPARAM     MARTGEN 0.22    7.6     786     39.62   0.30
SO SRCPARAM     MART34  30.54   64.9    411     18.90   6.10
SO SRCPARAM     MART8   15.17   36.6    398     13.59   5.79

** US SUGAR CLEWISTON
** USS Clewiston Boiler 8
SO SRCPARAM     USSBLR8 3.06    60.7    439     15.31   3.96

** USS Clewiston PSD Baseline Crop-Season Only
SO SRCPARAM     USSBRL1B -7.48   23.1    344.0   30.20   1.86
SO SRCPARAM     USSBLR2B -7.04   23.1    343.0   35.70   1.86
SO SRCPARAM     USSBLR3B -3.59   64.9    330.0   14.20   2.44
SO SRCPARAM     EPELLET  -1.69   12.2    347.0   8.54    1.52
SO SRCPARAM     WPELLET  -0.82   15.7    347.0   8.54    1.52
SO SRCPARAM     USBLR56B -52.92  23.1    494.0   44.30   1.86

** USS Clewiston Boilers 1-7 Off-Crop Season Only
SO SRCPARAM     USSBLR1F  13.40   64.9    338     19.00   2.44
SO SRCPARAM     USSBLR2F  12.20   64.9    339     18.99   2.44
SO SRCPARAM     USSBLR4F  0.00    45.7    0       0.00    2.51
SO SRCPARAM     USSBLR7F  0.00    68.6    0       0.00    2.59
** USS Clewiston Boilers 1-7 Crop Season Only
SO SRCPARAM     USSBLR1N  15.61   64.9    338     20.61   2.44
SO SRCPARAM     USSBLR2N  14.09   64.9    339     20.30   2.44
SO SRCPARAM     USSBLR4N  11.97   45.7    339     24.54   2.51
SO SRCPARAM     USSBLR7N  2.78    68.6    437     26.25   2.59

** USS Clewiston Sugar Refinery Sources
SO SRCPARAM     S1      0.0076  19.8    293.2   0.01    0.15
SO SRCPARAM     S2      0.0076  19.8    305.4   0.01    0.15
SO SRCPARAM     S3      0.0076  19.8    305.4   0.01    0.15
SO SRCPARAM     S4      0.0265  18.3    324.8   0.01    0.59
SO SRCPARAM     S5      0.0076  21.9    324.8   0.01    0.29
SO SRCPARAM     S6      0.0239  21.9    324.8   0.01    0.59
SO SRCPARAM     S7      0.0076  39.6    316.5   0.01    0.42
SO SRCPARAM     S8      0.0076  39.6    316.5   0.01    0.42
SO SRCPARAM     S9      0.0076  39.6    316.5   0.01    0.42
SO SRCPARAM     S10     0.1802  22.9    319.3   0.01    2.23
SO SRCPARAM     S11     0.2054  3.0     319.3   0.01    1.46
SO SRCPARAM     S12     0.0794  9.1     344.3   6.95    0.61

** FPL-PORT EVERGLADES
SO SRCPARAM     EVERG1  30.24   104.9   408     18.29   4.27
SO SRCPARAM     EVERG2  30.24   104.9   416     4.88    4.27
SO SRCPARAM     EVERG3  52.67   104.9   408     19.20   5.52
SO SRCPARAM     EVERG4  52.67   104.9   408     19.20   5.52
SO SRCPARAM     EVERCTS 91.48   13.4    683     10.67   4.75

** Building Downwash **
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01A6095     31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID 01A6095     20.01   15.47   10.47   14.63   19.26   23.30
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SO BUILDWID 01A6095    26.63   29.15   30.79   31.49   31.23   30.03
SO BUILDWID 01A6095    31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID 01A6095    20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID 01A6095    26.63   29.15   30.79   31.49   31.23   29.99

SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01B6095    31.09   31.86   31.53   30.34   28.11   25.03
SO BUILDWID 01B6095    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01B6095    27.64   30.02   30.79   31.49   31.23   30.03
SO BUILDWID 01B6095    31.09   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 01B6095    21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01B6095    27.64   30.02   30.79   31.49   31.23   29.99

SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01C6095    31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01C6095    21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01C6095    27.55   29.92   31.37   31.49   31.23   29.99
SO BUILDWID 01C6095    31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01C6095    21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01C6095    27.55   29.92   31.37   31.88   31.41   29.99

SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01D6095    31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01D6095    21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01D6095    27.70   29.92   31.37   31.88   31.41   29.99
SO BUILDWID 01D6095    31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01D6095    21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01D6095    27.70   29.92   31.37   31.88   31.41   29.99

SO BUILDHGT 02A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02A6095    31.27   31.88   31.52   30.20   28.25   25.12
SO BUILDWID 02A6095    21.23   16.70   11.66   15.86   20.49   24.50
SO BUILDWID 02A6095    27.77   30.19   31.69   32.24   31.44   30.04
SO BUILDWID 02A6095    31.27   31.88   31.52   30.20   28.25   25.12
SO BUILDWID 02A6095    21.23   16.70   11.66   15.86   20.49   24.50
SO BUILDWID 02A6095    27.77   30.19   31.69   32.24   31.44   30.04

SO BUILDHGT 02B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02B6095    31.22   31.85   31.52   30.20   27.97   24.88
SO BUILDWID 02B6095    21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02B6095    27.77   29.88   31.36   31.88   31.44   30.04
SO BUILDWID 02B6095    31.27   31.88   31.52   30.20   27.97   24.88
SO BUILDWID 02B6095    21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02B6095    27.77   29.88   31.36   31.88   31.44   29.98

SO BUILDHGT 02C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095    29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095    29.57   29.57   29.57   29.57   29.57   29.57
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SO BUILDWID 02C6095	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID 02C6095	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID 02C6095	27.67	30.09	31.36	31.88	31.40	29.98
SO BUILDWID 02C6095	31.22	31.85	31.52	30.23	28.15	25.03
SO BUILDWID 02C6095	21.14	16.62	11.59	15.77	20.40	24.40
SO BUILDWID 02C6095	27.67	30.09	31.60	32.15	31.40	29.98
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT 02D6095	29.57	29.57	29.57	29.57	29.57	29.57
SO BUILDWID 02D6095	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID 02D6095	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID 02D6095	27.67	29.91	31.36	31.87	31.40	29.98
SO BUILDWID 02D6095	31.22	31.85	31.52	30.23	28.02	24.96
SO BUILDWID 02D6095	21.14	16.68	11.71	15.85	20.41	24.35
SO BUILDWID 02D6095	27.67	29.91	31.36	31.87	31.40	29.98
SO BUILDHGT COOL1_01	15.54	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT COOL1_01	29.57	29.57	29.57	29.57	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_01	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDWID COOL1_01	66.41	31.86	31.53	30.24	28.11	25.03
SO BUILDWID COOL1_01	21.19	15.47	10.47	14.63	200.16	191.77
SO BUILDWID COOL1_01	177.55	157.94	133.52	105.05	73.39	39.50
SO BUILDWID COOL1_01	66.41	98.53	127.65	152.89	173.49	188.82
SO BUILDWID COOL1_01	198.41	201.97	199.77	202.47	200.16	191.77
SO BUILDWID COOL1_01	177.55	157.94	133.52	105.05	73.39	39.50
SO BUILDHGT COOL1_02	15.54	29.57	29.57	29.57	29.57	29.57
SO BUILDHGT COOL1_02	29.57	29.57	15.54	29.57	29.57	29.57
SO BUILDHGT COOL1_02	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_02	15.54	15.54	15.54	15.54	29.57	15.54
SO BUILDHGT COOL1_02	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_02	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDWID COOL1_02	66.41	31.86	31.53	30.24	28.11	25.03
SO BUILDWID COOL1_02	21.19	16.71	199.77	14.63	19.26	23.30
SO BUILDWID COOL1_02	177.55	157.94	133.52	105.05	73.39	39.50
SO BUILDWID COOL1_02	66.41	98.53	127.65	152.89	28.11	188.82
SO BUILDWID COOL1_02	198.41	201.97	199.77	202.47	200.16	191.77
SO BUILDWID COOL1_02	177.55	157.94	133.52	105.05	73.39	39.50
SO BUILDHGT COOL1_03	15.54	29.57	29.57	29.57	29.57	15.54
SO BUILDHGT COOL1_03	29.57	29.57	29.57	15.54	29.57	29.57
SO BUILDHGT COOL1_03	29.57	29.57	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_03	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_03	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_03	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDWID COOL1_03	66.41	32.01	31.53	30.24	28.03	188.82
SO BUILDWID COOL1_03	21.19	16.71	11.71	202.47	19.26	23.30
SO BUILDWID COOL1_03	26.63	29.15	133.52	105.05	73.39	39.50
SO BUILDWID COOL1_03	66.41	98.53	127.65	152.89	173.49	188.82
SO BUILDWID COOL1_03	198.41	201.97	199.77	202.47	200.16	191.77
SO BUILDWID COOL1_03	177.55	157.94	133.52	105.05	73.39	39.50
SO BUILDHGT COOL1_04	15.54	29.57	29.57	29.57	29.57	15.54
SO BUILDHGT COOL1_04	15.54	15.54	15.54	29.57	29.57	29.57
SO BUILDHGT COOL1_04	29.57	29.57	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_04	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_04	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDHGT COOL1_04	15.54	15.54	15.54	15.54	15.54	15.54
SO BUILDWID COOL1_04	66.41	32.01	31.53	30.24	28.03	188.82
SO BUILDWID COOL1_04	198.41	201.97	199.77	15.87	20.45	24.42
SO BUILDWID COOL1_04	26.63	29.15	133.52	105.05	73.39	39.50
SO BUILDWID COOL1_04	66.41	98.53	127.65	152.89	173.49	188.82
SO BUILDWID COOL1_04	198.41	201.97	199.77	202.47	200.16	191.77
SO BUILDWID COOL1_04	177.55	157.94	133.52	105.05	73.39	39.50
SO BUILDHGT COOL1_05	15.54	15.54	29.57	29.57	29.57	29.57
SO BUILDHGT COOL1_05	15.54	15.54	15.54	15.54	29.57	29.57
SO BUILDHGT COOL1_05	29.57	29.57	29.57	15.54	15.54	15.54
SO BUILDHGT COOL1_05	15.54	15.54	15.54	15.54	15.54	15.54

SO	BUILDHGT	COOL1_05	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_05	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_05	66.41	98.53	31.68	30.24	28.03	24.97
SO	BUILDWID	COOL1_05	198.41	201.97	199.77	202.47	20.45	24.42
SO	BUILDWID	COOL1_05	27.64	29.15	30.79	105.05	73.39	39.50
SO	BUILDWID	COOL1_05	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_05	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_05	177.55	157.94	133.52	105.05	73.39	39.50

SO	BUILDHGT	COOL1_06	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL1_06	29.57	15.54	15.54	15.54	15.54	29.57
SO	BUILDHGT	COOL1_06	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL1_06	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_06	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_06	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_06	66.41	98.53	31.68	30.39	28.17	24.97
SO	BUILDWID	COOL1_06	21.15	201.97	199.77	202.47	200.16	24.42
SO	BUILDWID	COOL1_06	27.64	30.02	30.79	105.05	73.39	39.50
SO	BUILDWID	COOL1_06	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_06	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_06	177.55	157.94	133.52	105.05	73.39	39.50

SO	BUILDHGT	COOL1_07	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL1_07	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_07	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL1_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_07	66.41	98.53	31.68	30.39	28.17	25.10
SO	BUILDWID	COOL1_07	21.15	16.68	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_07	27.64	30.02	30.79	31.49	73.39	39.50
SO	BUILDWID	COOL1_07	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_07	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_07	177.55	157.94	133.52	105.05	73.39	39.50

SO	BUILDHGT	COOL1_08	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL1_08	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL1_08	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL1_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_08	66.41	98.53	127.65	30.39	28.17	25.10
SO	BUILDWID	COOL1_08	21.27	16.68	11.71	15.85	200.16	191.77
SO	BUILDWID	COOL1_08	27.64	30.02	30.79	31.49	73.39	39.50
SO	BUILDWID	COOL1_08	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_08	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_08	177.55	157.94	133.52	105.05	73.39	39.50

SO	BUILDHGT	COOL1_09	15.54	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL1_09	29.57	29.57	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL1_09	15.54	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL1_09	15.54	15.54	15.54	15.54	29.57	15.54
SO	BUILDHGT	COOL1_09	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_09	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_09	66.41	98.53	127.65	152.89	28.17	25.10
SO	BUILDWID	COOL1_09	21.27	16.79	199.77	15.85	20.41	24.35
SO	BUILDWID	COOL1_09	177.55	30.02	31.48	32.00	73.39	39.50
SO	BUILDWID	COOL1_09	66.41	98.53	127.65	152.89	28.17	188.82
SO	BUILDWID	COOL1_09	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_09	177.55	157.94	133.52	105.05	73.39	39.50

SO	BUILDHGT	COOL1_10	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_10	29.57	29.57	29.57	15.54	29.57	29.57
SO	BUILDHGT	COOL1_10	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL1_10	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_10	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_10	15.54	29.57	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL1_10	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_10	21.27	16.79	11.79	202.47	20.41	24.35
SO	BUILDWID	COOL1_10	27.55	29.92	31.48	32.00	73.39	39.50
SO	BUILDWID	COOL1_10	66.41	98.53	127.65	152.89	173.49	188.82
SO	BUILDWID	COOL1_10	198.41	201.97	199.77	202.47	200.16	191.77
SO	BUILDWID	COOL1_10	177.55	29.92	133.52	105.05	73.39	39.50

SO	BUILDHGT	COOL1_11	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL1_11	15.54	15.54	15.54	29.57	29.57	29.57

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SO BUILDHGT COOL1_11    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_11    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11   198.41  201.97  199.77   15.95   20.53   24.49
SO BUILDWID COOL1_11    27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_11    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_11   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_12    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_12    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_12    66.41   98.53   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_12    21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_12    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_12   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_13    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_13    29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_13    66.41   98.53   31.53   30.24   28.03   25.03
SO BUILDWID COOL1_13    21.19   16.71  199.77   14.63   19.26  191.77
SO BUILDWID COOL1_13   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_13    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_13   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_14    15.54   15.54   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_14    15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_14    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_14    66.41   98.53   31.68   30.24   28.03  188.82
SO BUILDWID COOL1_14   198.41   16.71   11.71  202.47   19.26   23.30
SO BUILDWID COOL1_14    26.63  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_14    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_14   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_14   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_15    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_15    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_15    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_15    66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_15   198.41  201.97  199.77   15.87   20.45   23.30
SO BUILDWID COOL1_15    26.63  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_15    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_15   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_15   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_16    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_16    29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_16    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_16    66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_16    21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_16    26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_16    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_16   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_16   177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDHGT COOL1_17    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_17    29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_17    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_17    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_17    66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_17    21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_17    27.64   29.15   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_17    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_17   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_17   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_18    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_18    29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_18    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_18    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_18    66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_18    21.15   16.68  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_18    27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_18    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_18   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_18   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_19    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_19    66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_19    21.27  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19    27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_19    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_19   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_20    29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_20    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_20    66.41   98.53  127.65  152.89  173.49   25.10
SO BUILDWID COOL1_20    21.27   16.79  199.77   15.85   20.41  191.77
SO BUILDWID COOL1_20    27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_20    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_20   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_20   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_21    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_21    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21   198.41   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_21    27.55   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_21    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_21   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_22    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_22    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22   198.41  201.97  199.77   15.95   20.53   24.35
SO BUILDWID COOL1_22    27.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_22    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_22   177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDHGT COOL2_01   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_01   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_01   67.09   32.14   31.76   30.20   27.97   24.88
SO BUILDWID COOL2_01   21.04   16.70   11.66   15.86  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_01   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_01  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_02   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_02   67.09   32.14   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_02   21.04   16.56  199.54   15.86   20.49   24.50
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_02   67.09   99.20  128.30  153.50   27.97  189.28
SO BUILDWID COOL2_02  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_03   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_03   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_03   67.09   31.85   31.52   30.42   28.15  189.28
SO BUILDWID COOL2_03   21.04   16.56   11.58  201.78   20.49   24.50
SO BUILDWID COOL2_03   27.77  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_03   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_03  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_03  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_04   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_04   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_04   67.09   31.85   31.52   30.23   28.15  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54   15.73   20.31   24.50
SO BUILDWID COOL2_04   27.77   30.19  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_04   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_04  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_04  176.76   56.87  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_05   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_05   15.54   29.57   29.57   15.54   15.54   15.54
SO BUILDWID COOL2_05   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_05   27.77   30.19   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_05   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_05  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_05  176.76   56.87   52.71  104.37   72.79   39.00

SO BUILDHGT COOL2_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_06   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_06   67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_06   21.14  202.23  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_06   27.77   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_06   67.09   99.20  128.30  153.50  174.03  189.28
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SO BUILDWID COOL2_06  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_06  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_07   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_07   67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_07   21.14   16.62  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07   27.49   29.88   31.36   32.24   72.79   39.00
SO BUILDWID COOL2_07   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_07  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_07  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_08   67.09   99.20  128.30   30.23   28.02   24.96
SO BUILDWID COOL2_08   21.14   16.62   11.59   15.77  199.42  190.99
SO BUILDWID COOL2_08   27.49   29.88   31.36   32.24   72.79   39.00
SO BUILDWID COOL2_08   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_08  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_08  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_09   21.14   16.68  199.54   15.77   20.40   24.40
SO BUILDWID COOL2_09  176.76   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02  189.28
SO BUILDWID COOL2_09  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_09  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10   21.14   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_10   27.67   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_10  176.76   30.09  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_11   27.67   30.09   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_11  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_12   67.09   99.20   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_12   21.04  202.23  199.54  201.78  199.42  190.99
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SO	BUILDWID	COOL2_12	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_12	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_12	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_12	176.76	157.16	132.78	104.37	72.79	39.00

SO	BUILDHGT	COOL2_13	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_13	29.57	29.57	15.54	29.57	29.57	15.54
SO	BUILDHGT	COOL2_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_13	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_13	67.09	99.20	31.76	30.42	28.15	24.88
SO	BUILDWID	COOL2_13	21.04	16.56	199.54	15.86	20.49	190.99
SO	BUILDWID	COOL2_13	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_13	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_13	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_13	176.76	157.16	132.78	104.37	72.79	39.00

SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	29.57	29.57	15.54
SO	BUILDHGT	COOL2_14	15.54	29.57	29.57	15.54	29.57	29.57
SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_14	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_14	67.09	99.20	128.30	30.42	28.15	189.28
SO	BUILDWID	COOL2_14	198.77	16.56	11.58	201.78	20.49	24.50
SO	BUILDWID	COOL2_14	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_14	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_14	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_14	176.76	157.16	132.78	104.37	72.79	39.00

SO	BUILDHGT	COOL2_15	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_15	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_15	29.57	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_15	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_15	67.09	99.20	31.52	30.23	28.15	25.03
SO	BUILDWID	COOL2_15	198.77	202.23	199.54	15.73	20.31	24.50
SO	BUILDWID	COOL2_15	27.77	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_15	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_15	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_15	176.76	157.16	132.78	104.37	72.79	39.00

SO	BUILDHGT	COOL2_16	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_16	29.57	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_16	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_16	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_16	67.09	99.20	31.52	30.23	28.15	25.03
SO	BUILDWID	COOL2_16	21.14	202.23	199.54	201.78	20.31	24.50
SO	BUILDWID	COOL2_16	27.77	30.19	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_16	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_16	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_16	176.76	157.16	132.78	104.37	72.79	39.00

SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_17	29.57	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_17	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_17	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_17	67.09	99.20	128.30	30.23	28.02	25.03
SO	BUILDWID	COOL2_17	21.14	202.23	199.54	201.78	20.31	24.27
SO	BUILDWID	COOL2_17	27.77	30.19	31.69	104.37	72.79	39.00
SO	BUILDWID	COOL2_17	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_17	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_17	176.76	157.16	132.78	104.37	72.79	39.00

SO	BUILDHGT	COOL2_18	15.54	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_18	29.57	29.57	15.54	15.54	15.54	29.57
SO	BUILDHGT	COOL2_18	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL2_18	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_18	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_18	15.54	15.54	15.54	15.54	15.54	15.54

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SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_18   21.14   16.62  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_18   27.49   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_18   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_18  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_18  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_19   21.14  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19   27.49   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_19   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_19  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_20   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_20   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03   24.96
SO BUILDWID COOL2_20   21.14   16.68  199.54   15.77   20.40  190.99
SO BUILDWID COOL2_20   27.49   29.88   31.36   46.94   72.79   39.00
SO BUILDWID COOL2_20   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_20  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_20  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_21   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_21   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_21   27.67   29.88   31.36   46.94   72.79   39.00
SO BUILDWID COOL2_21   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_21  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_21  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_22   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_22   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_22   27.67  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_22   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_22  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_22  176.76  157.16  132.78  104.37   72.79   39.00

   SRCGROUP ALL
   SRCGROUP 22MWALL 01A6095-02D6095 COOL1_1-COOL1_22 COOL2_1-COOL2_22

SO FINISHED

RE STARTING
** Receptors within the 2-km SID
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -100.00
   DISCCART -2000.00 0.00
   DISCCART -2000.00 100.00
   DISCCART -1900.00 -600.00
   DISCCART -1900.00 -500.00
   DISCCART -1900.00 -400.00
   DISCCART -1900.00 -300.00
   DISCCART -1900.00 -200.00
   DISCCART -1900.00 -100.00
   DISCCART -1900.00 0.00
   DISCCART -1900.00 100.00
```

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CO STARTING
   TITLEONE 1987-91 FPL WEST COUNTY 2200MW CC - 7FB MACHINE OIL FIRING CASES - 3/02/05
   TITLETWO PM10 AAQS ANALYSIS, CT/HRSGs + COOLING TOWERS + OTHER SOURCES
   MODELOPT DFAULT CONC  RURAL
   AVERTIME 24
   POLLUTID PM10
   TERRHGTS FLAT
   MULTYEAR H6H YEAR1.SAV
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** ISCST3 Source Pathway
*****************************************
**
**
SO STARTING
**********************************************
*****          Source Location          *****
**********************************************

** FPL WCEC Sources
   LOCATION 01A6095     POINT   241.625         659.067
   LOCATION 01B6095     POINT   241.926         615.668
   LOCATION 01C6095     POINT   240.460         530.290
   LOCATION 01D6095     POINT   239.792         487.625
   LOCATION 02A6095     POINT   235.747         251.569
   LOCATION 02B6095     POINT   234.844         211.179
   LOCATION 02C6095     POINT   233.320         126.002
   LOCATION 02D6095     POINT   232.580          83.188

   LOCATION COOL1_01   POINT   291.974         657.973
   LOCATION COOL1_02   POINT   291.698         639.775
   LOCATION COOL1_03   POINT   291.419         621.417
   LOCATION COOL1_04   POINT   291.142         603.159
   LOCATION COOL1_05   POINT   290.863         584.811
   LOCATION COOL1_06   POINT   290.589         566.743
   LOCATION COOL1_07   POINT   290.307         548.205
   LOCATION COOL1_08   POINT   290.027         529.757
   LOCATION COOL1_09   POINT   289.753         511.689
   LOCATION COOL1_10   POINT   289.474         493.332
   LOCATION COOL1_11   POINT   289.195         474.984
   LOCATION COOL1_12   POINT   310.421         657.652
   LOCATION COOL1_13   POINT   310.137         638.925
   LOCATION COOL1_14   POINT   309.863         620.857
   LOCATION COOL1_15   POINT   309.587         602.689
   LOCATION COOL1_16   POINT   309.310         584.481
   LOCATION COOL1_17   POINT   309.031         566.103
   LOCATION COOL1_18   POINT   308.750         547.615
   LOCATION COOL1_19   POINT   308.474         529.427
   LOCATION COOL1_20   POINT   308.200         511.349
   LOCATION COOL1_21   POINT   307.921         492.961
   LOCATION COOL1_22   POINT   307.641         474.584
   LOCATION COOL2_01   POINT   285.832         253.469
   LOCATION COOL2_02   POINT   285.555         235.271
   LOCATION COOL2_03   POINT   285.276         216.913
   LOCATION COOL2_04   POINT   284.999         198.656
   LOCATION COOL2_05   POINT   284.721         180.308
   LOCATION COOL2_06   POINT   284.446         162.240
   LOCATION COOL2_07   POINT   284.165         143.702
   LOCATION COOL2_08   POINT   283.885         125.254
   LOCATION COOL2_09   POINT   283.610         107.186
   LOCATION COOL2_10   POINT   283.331          88.828
   LOCATION COOL2_11   POINT   283.053          70.480
   LOCATION COOL2_12   POINT   304.279         253.149
   LOCATION COOL2_13   POINT   303.994         234.421
   LOCATION COOL2_14   POINT   303.720         216.353
   LOCATION COOL2_15   POINT   303.444         198.185
   LOCATION COOL2_16   POINT   303.168         179.978
   LOCATION COOL2_17   POINT   302.889         161.600
   LOCATION COOL2_18   POINT   302.608         143.112
   LOCATION COOL2_19   POINT   302.332         124.924
   LOCATION COOL2_20   POINT   302.057         106.846
   LOCATION COOL2_21   POINT   301.778          88.458
   LOCATION COOL2_22   POINT   301.499          70.080

** Other Sources
** ATLANTIC SUGAR ASSOCIATION
SO LOCATION      ASA1    POINT    -9300    -7800  0
SO LOCATION      ASA2    POINT    -9300    -7800  0
SO LOCATION      ASA3    POINT    -9300    -7800  0
SO LOCATION      ASA4    POINT    -9300    -7800  0
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SO LOCATION     ASA5     POINT   -9300    -7800  0

** OSCEOLA FARMS
SO LOCATION     OSBLR2   POINT   -18000   15000   0.0
SO LOCATION     OSBLR3   POINT   -18000   15000   0.0
SO LOCATION     OSBLR4   POINT   -18000   15000   0.0
SO LOCATION     OSBLR5A  POINT   -18000   15000   0.0
SO LOCATION     OSBLR5B  POINT   -18000   15000   0.0
SO LOCATION     OSBLR6   POINT   -18000   15000   0.0

** SUGAR CANE GROWERS
SO LOCATION     SUGCN1   POINT   -27300   300   0.0
SO LOCATION     SUGCN2   POINT   -27300   300   0.0
SO LOCATION     SUGCN3   POINT   -27300   300   0.0
SO LOCATION     SUGCN4   POINT   -27300   300   0.0
SO LOCATION     SUGCN5   POINT   -27300   300   0.0
SO LOCATION     SUGCN8   POINT   -27300   300   0.0

** US SUGAR BRYANT
SO LOCATION     USBRY123 POINT    -24400 16100    0.0
SO LOCATION     USBRY5   POINT    -24400 16100    0.0

** FPL-FRIVIERA BEACH
SO LOCATION     RIVU34   POINT   32000    7600     0.0

** FPL-MARTIN
SO LOCATION     MART12   POINT   -19100   39900   0.0
SO LOCATION     MARTAUX  POINT   -19100   39900   0.0
SO LOCATION     MARTGEN  POINT   -19100   39900   0.0
SO LOCATION     MART34   POINT   -19100   39900   0.0
SO LOCATION     MART8    POINT   -19100   39900   0.0

** US SUGAR CLEWISTON
** USS Clewiston Boiler 8
SO LOCATION     USSBLR8    POINT   -56100.0  3900.0  0.0

** USS Clewiston Boiler 1-7 Off-Crop Season Only
SO LOCATION     USSBLR1F   POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2F   POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR4F   POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR7F   POINT   -56100.0  3900.0  0.0
** USS Clewiston Boiler 1-7 Crop Season Only
SO LOCATION     USSBLR1N   POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR2N   POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR4N   POINT   -56100.0  3900.0  0.0
SO LOCATION     USSBLR7N   POINT   -56100.0  3900.0  0.0

** USS Clewiston Sugar Refinery Sources
SO LOCATION     S1       POINT   -56100.0  3900.0  0.0
SO LOCATION     S2       POINT   -56100.0  3900.0  0.0
SO LOCATION     S3       POINT   -56100.0  3900.0  0.0
SO LOCATION     S4       POINT   -56100.0  3900.0  0.0
SO LOCATION     S5       POINT   -56100.0  3900.0  0.0
SO LOCATION     S6       POINT   -56100.0  3900.0  0.0
SO LOCATION     S7       POINT   -56100.0  3900.0  0.0
SO LOCATION     S8       POINT   -56100.0  3900.0  0.0
SO LOCATION     S9       POINT   -56100.0  3900.0  0.0
SO LOCATION     S10      POINT   -56100.0  3900.0  0.0
SO LOCATION     S11      POINT   -56100.0  3900.0  0.0
SO LOCATION     S12      POINT   -56100.0  3900.0  0.0

** FPL-PORT EVERGLADES
SO LOCATION     EVERG1   POINT   25200    -67700  0.0
SO LOCATION     EVERG2   POINT   25200    -67700  0.0
SO LOCATION     EVERG3   POINT   25200    -67700  0.0
SO LOCATION     EVERG4   POINT   25200    -67700  0.0
SO LOCATION     EVERCTS  POINT   25200    -67700  0.0

*********************************************
*****          Source Parameters       *****
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** FPL WCEC Sources
** CT/HRSG 60% LOAD, 95 deg F
    SRCPARAM 01A6095        2.19        45.42      404.1        13.26      5.79
    SRCPARAM 01B6095        2.19        45.42      404.1        13.26      5.79
    SRCPARAM 01C6095        2.19        45.42      404.1        13.26      5.79
    SRCPARAM 01D6095        2.19        45.42      404.1        13.26      5.79
    SRCPARAM 02A6095        2.19        45.42      404.1        13.26      5.79
    SRCPARAM 02B6095        2.19        45.42      404.1        13.26      5.79
    SRCPARAM 02C6095        2.19        45.42      404.1        13.26      5.79
    SRCPARAM 02D6095        2.19        45.42      404.1        13.26      5.79
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   SRCPARAM COOL1_01     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_02     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_03     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_04     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_05     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_06     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_07     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_08     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_09     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_10     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_11     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_12     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_13     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_14     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_15     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_16     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_17     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_18     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_19     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_20     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_21     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL1_22     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_01     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_02     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_03     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_04     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_05     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_06     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_07     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_08     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_09     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_10     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_11     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_12     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_13     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_14     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_15     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_16     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_17     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_18     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_19     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_20     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_21     0.007        19.800     309.0        6.72      11.59
   SRCPARAM COOL2_22     0.007        19.800     309.0        6.72      11.59

** Other Sources
** ATLANTIC SUGAR ASSOCIATION
SO SRCPARAM     ASA1    10.58    27.4    346.0    17.97   1.83
SO SRCPARAM     ASA2    10.58    27.4    350.0    23.36   1.83
SO SRCPARAM     ASA3    9.83     27.4    350.0    21.56   1.83
SO SRCPARAM     ASA4    10.05    27.4    344.0    25.16   1.83
SO SRCPARAM     ASA5    4.50     27.4    339.0    19.24   1.68

** OSCEOLA FARMS
SO SRCPARAM     OSBLR2  7.06     27.4    341      15.82   1.52
SO SRCPARAM     OSBLR3  7.36     27.4    342      16.86   1.91
SO SRCPARAM     OSBLR4  5.59     27.4    341      16.67   1.83
SO SRCPARAM     OSBLR5A 2.80     27.4    341      18.60   1.52
SO SRCPARAM     OSBLR5B 2.92     27.4    341      18.60   1.52
SO SRCPARAM     OSBLR6  7.17     27.4    341      18.19   1.88

** SUGAR CANE GROWERS
SO SRCPARAM     SUGCN1  9.79     45.7    339      17.90   2.13
SO SRCPARAM     SUGCN2  9.79     45.7    339      21.40   2.13
SO SRCPARAM     SUGCN3  6.72     54.9    339      16.74   2.11
SO SRCPARAM     SUGCN4  13.42    54.9    339      19.27   2.88
SO SRCPARAM     SUGCN5  12.86    45.7    339      28.11   2.13
SO SRCPARAM     SUGCN8  8.86     47.3    339      15.18   2.90

** US SUGAR BRYANT
SO SRCPARAM     USBRY123  43.66    19.8    344      34.60   1.65
SO SRCPARAM     USBRY5    11.03    45.7    334      14.77   2.90

** FPL-FRIVIERA BEACH
SO SRCPARAM     RIVU34  96.08    90.8    402      18.90   4.88

** FPL-MARTIN
SO SRCPARAM     MART12  218.00   152.1   421      21.03   7.99
SO SRCPARAM     MARTAUX 0.01     18.3    535      15.24   1.10
SO SRCPARAM     MARTGEN 0.22     7.6     786      39.62   0.30
SO SRCPARAM     MART34  30.54    64.9    411      18.90   6.10
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SO SRCPARAM     MART8    15.17   36.6    398     13.59   5.79

** US SUGAR CLEWISTON
** USS Clewiston Boiler 8
SO SRCPARAM     USSBLR8 3.06    60.7    439     15.31   3.96

** USS Clewiston Boilers 1-7 Off-Crop Season Only
SO SRCPARAM     USSBLR1F  13.40   64.9    338     19.00   2.44
SO SRCPARAM     USSBLR2F  12.20   64.9    339     18.99   2.44
SO SRCPARAM     USSBLR4F  0.00    45.7    0       0.00    2.51
SO SRCPARAM     USSBLR7F  0.00    68.6    0       0.00    2.59
** USS Clewiston Boilers 1-7 Crop Season Only
SO SRCPARAM     USSBLR1N  15.61   64.9    338     20.61   2.44
SO SRCPARAM     USSBLR2N  14.09   64.9    339     20.30   2.44
SO SRCPARAM     USSBLR4N  11.97   45.7    339     24.54   2.51
SO SRCPARAM     USSBLR7N  2.78    68.6    437     26.25   2.59

** USS Clewiston Sugar Refinery Sources
SO SRCPARAM     S1      0.0076  19.8    293.2   0.01    0.15
SO SRCPARAM     S2      0.0076  19.8    305.4   0.01    0.15
SO SRCPARAM     S3      0.0076  19.8    305.4   0.01    0.15
SO SRCPARAM     S4      0.0265  18.3    324.8   0.01    0.59
SO SRCPARAM     S5      0.0076  21.9    324.8   0.01    0.29
SO SRCPARAM     S6      0.0239  21.9    324.8   0.01    0.59
SO SRCPARAM     S7      0.0076  39.6    316.5   0.01    0.42
SO SRCPARAM     S8      0.0076  39.6    316.5   0.01    0.42
SO SRCPARAM     S9      0.0076  39.6    316.5   0.01    0.42
SO SRCPARAM     S10     0.1802  22.9    319.3   0.01    2.23
SO SRCPARAM     S11     0.2054  3.0     319.3   0.01    1.46
SO SRCPARAM     S12     0.0794  9.1     344.3   6.95    0.61

** FPL-PORT EVERGLADES
SO SRCPARAM     EVERG1  30.24   104.9   408     18.29   4.27
SO SRCPARAM     EVERG2  30.24   104.9   416     4.88    4.27
SO SRCPARAM     EVERG3  52.67   104.9   408     19.20   5.52
SO SRCPARAM     EVERG4  52.67   104.9   408     19.20   5.52
SO SRCPARAM     EVERCTS 91.48   13.4    683     10.67   4.75

** Building Downwash **
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01A6095     31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID 01A6095     20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID 01A6095     26.63   29.15   30.79   31.49   31.23   30.03
SO BUILDWID 01A6095     31.09   31.51   30.98   30.34   28.11   23.93
SO BUILDWID 01A6095     20.01   15.47   10.47   14.63   19.26   23.30
SO BUILDWID 01A6095     26.63   29.15   30.79   31.49   31.23   29.99


SO BUILDHGT 01B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01B6095     31.09   31.86   31.53   30.34   28.11   25.03
SO BUILDWID 01B6095     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01B6095     27.64   30.02   30.79   31.49   31.23   30.03
SO BUILDWID 01B6095     31.09   31.99   31.64   30.34   28.11   25.03
SO BUILDWID 01B6095     21.19   16.71   11.71   15.87   20.45   24.42
SO BUILDWID 01B6095     27.64   30.02   30.79   31.49   31.23   29.99


SO BUILDHGT 01C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01C6095     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01C6095     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01C6095     27.55   29.92   31.37   31.49   31.23   29.99
SO BUILDWID 01C6095     31.23   31.86   31.53   30.24   28.17   24.97
SO BUILDWID 01C6095     21.15   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 01C6095     27.55   29.92   31.37   31.88   31.41   29.99


SO BUILDHGT 01D6095     29.57   29.57   29.57   29.57   29.57   29.57
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SO BUILDHGT 01D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 01D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 01D6095     31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01D6095     21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01D6095     27.70   29.92   31.37   31.88   31.41   29.99
SO BUILDWID 01D6095     31.23   32.01   31.68   30.39   28.17   25.10
SO BUILDWID 01D6095     21.27   16.79   11.79   15.95   20.53   24.49
SO BUILDWID 01D6095     27.70   29.92   31.37   31.88   31.41   29.99

SO BUILDHGT 02A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02A6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02A6095     31.27   31.88   31.52   30.20   28.25   25.12
SO BUILDWID 02A6095     21.23   16.70   11.66   15.86   20.49   24.50
SO BUILDWID 02A6095     27.77   30.19   31.69   32.24   31.44   30.04
SO BUILDWID 02A6095     31.27   31.88   31.52   30.20   28.25   25.12
SO BUILDWID 02A6095     21.23   16.70   11.66   15.86   20.49   24.50
SO BUILDWID 02A6095     27.77   30.19   31.69   32.24   31.44   30.04

SO BUILDHGT 02B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02B6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02B6095     31.22   31.85   31.52   30.20   27.97   24.88
SO BUILDWID 02B6095     21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02B6095     27.77   29.88   31.36   31.88   31.44   30.04
SO BUILDWID 02B6095     31.27   31.88   31.52   30.20   27.97   24.88
SO BUILDWID 02B6095     21.04   16.56   11.58   15.73   20.31   24.27
SO BUILDWID 02B6095     27.77   29.88   31.36   31.88   31.44   29.98

SO BUILDHGT 02C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02C6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02C6095     31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID 02C6095     21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02C6095     27.67   30.09   31.36   31.88   31.40   29.98
SO BUILDWID 02C6095     31.22   31.85   31.52   30.23   28.15   25.03
SO BUILDWID 02C6095     21.14   16.62   11.59   15.77   20.40   24.40
SO BUILDWID 02C6095     27.67   30.09   31.60   32.15   31.40   29.98

SO BUILDHGT 02D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT 02D6095     29.57   29.57   29.57   29.57   29.57   29.57
SO BUILDWID 02D6095     31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02D6095     21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02D6095     27.67   29.91   31.36   31.87   31.40   29.98
SO BUILDWID 02D6095     31.22   31.85   31.52   30.23   28.02   24.96
SO BUILDWID 02D6095     21.14   16.68   11.71   15.85   20.41   24.35
SO BUILDWID 02D6095     27.67   29.91   31.36   31.87   31.40   29.98

SO BUILDHGT COOL1_01    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_01    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_01    66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_01    21.19   15.47   10.47   14.63  200.16  191.77
SO BUILDWID COOL1_01   177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_01    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_01   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_01   177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDHGT COOL1_02   15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_02   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_02   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_02   66.41   31.86   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_02   21.19   16.71  199.77   14.63   19.26   23.30
SO BUILDWID COOL1_02  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_02   66.41   98.53  127.65  152.89   28.11  188.82
SO BUILDWID COOL1_02  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_02  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_03   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_03   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_03   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_03   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_03   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_03   21.19   16.71   11.71  202.47   19.26   23.30
SO BUILDWID COOL1_03   26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_03   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_03  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_03  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_04   15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_04   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_04   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_04   66.41   32.01   31.53   30.24   28.03  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77   15.87   20.45   24.42
SO BUILDWID COOL1_04   26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_04   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_04  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_04  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_05   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_05   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_05   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_05   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_05   27.64   29.15   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_05   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_05  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_05  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_06   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_06   29.57   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_06   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_06   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_06   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_06   21.15  201.97  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_06   27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_06   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_06  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_06  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_07   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_07   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_07   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_07   66.41   98.53   31.68   30.39   28.17   25.10
SO BUILDWID COOL1_07   21.15   16.68  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_07   27.64   30.02   30.79   31.49   73.39   39.50
SO BUILDWID COOL1_07   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_07  198.41  201.97  199.77  202.47  200.16  191.77
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SO BUILDWID COOL1_07  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_08   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_08   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_08   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_08   21.27   16.68   11.71   15.85  200.16  191.77
SO BUILDWID COOL1_08   27.64   30.02   30.79   31.49   73.39   39.50
SO BUILDWID COOL1_08   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_08  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_08  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_09   29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_09   15.54   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17   25.10
SO BUILDWID COOL1_09   21.27   16.79  199.77   15.85   20.41   24.35
SO BUILDWID COOL1_09  177.55   30.02   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_09   66.41   98.53  127.65  152.89   28.17  188.82
SO BUILDWID COOL1_09  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_09  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10   21.27   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_10   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_10   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_10  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_10  177.55   29.92  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77   15.95   20.53   24.49
SO BUILDWID COOL1_11   27.55   29.92   31.48   32.00   73.39   39.50
SO BUILDWID COOL1_11   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_11  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_11  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_12   66.41   98.53   31.53   30.24   28.11   25.03
SO BUILDWID COOL1_12   21.19  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_12   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_12  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_12  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_13   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_13   66.41   98.53   31.53   30.24   28.03   25.03
SO BUILDWID COOL1_13   21.19   16.71  199.77   14.63   19.26  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50
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SO BUILDWID COOL1_13   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_13  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_13  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_14   15.54   15.54   29.57   29.57   29.57   15.54
SO BUILDHGT COOL1_14   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_14   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_14   66.41   98.53   31.68   30.24   28.03  188.82
SO BUILDWID COOL1_14  198.41   16.71   11.71  202.47   19.26   23.30
SO BUILDWID COOL1_14   26.63  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_14   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_14  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_14  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_15   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_15   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_15   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_15   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_15   66.41   98.53   31.68   30.24   28.03   24.97
SO BUILDWID COOL1_15  198.41  201.97  199.77   15.87   20.45   23.30
SO BUILDWID COOL1_15   26.63  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_15   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_15  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_15  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_16   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL1_16   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_16   29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_16   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_16   66.41   98.53   31.68   30.39   28.17   24.97
SO BUILDWID COOL1_16   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_16   26.63   29.15  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_16   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_16  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_16  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_17   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_17   29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_17   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_17   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_17   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_17   21.15  201.97  199.77  202.47   20.45   24.42
SO BUILDWID COOL1_17   27.64   29.15   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_17   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_17  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_17  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_18   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_18   29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_18   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_18   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_18   66.41   98.53  127.65   30.39   28.17   25.10
SO BUILDWID COOL1_18   21.15   16.68  199.77  202.47  200.16   24.42
SO BUILDWID COOL1_18   27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_18   66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_18  198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_18  177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL1_19   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_19   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_19   66.41   98.53  127.65  152.89   28.17   25.10
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SO BUILDWID COOL1_19    21.27  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19    27.64   30.02   30.79  105.05   73.39   39.50
SO BUILDWID COOL1_19    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_19   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_19   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL1_20    29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL1_20    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_20    66.41   98.53  127.65  152.89  173.49   25.10
SO BUILDWID COOL1_20    21.27   16.79  199.77   15.85   20.41  191.77
SO BUILDWID COOL1_20    27.64   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_20    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_20   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_20   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL1_21    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_21    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_21    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21   198.41   16.79   11.79  202.47   20.41   24.35
SO BUILDWID COOL1_21    27.55   30.02   31.48  105.05   73.39   39.50
SO BUILDWID COOL1_21    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_21   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_21   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL1_22    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL1_22    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL1_22    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22   198.41  201.97  199.77   15.95   20.53   24.35
SO BUILDWID COOL1_22    27.55  157.94  133.52  105.05   73.39   39.50
SO BUILDWID COOL1_22    66.41   98.53  127.65  152.89  173.49  188.82
SO BUILDWID COOL1_22   198.41  201.97  199.77  202.47  200.16  191.77
SO BUILDWID COOL1_22   177.55  157.94  133.52  105.05   73.39   39.50

SO BUILDHGT COOL2_01    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_01    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_01    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_01    67.09   32.14   31.76   30.20   27.97   24.88
SO BUILDWID COOL2_01    21.04   16.70   11.66   15.86  199.42  190.99
SO BUILDWID COOL2_01   176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_01    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_01   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_01   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_02    15.54   29.57   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_02    29.57   29.57   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02    15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_02    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_02    67.09   32.14   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_02    21.04   16.56  199.54   15.86   20.49   24.50
SO BUILDWID COOL2_02   176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_02    67.09   99.20  128.30  153.50   27.97  189.28
SO BUILDWID COOL2_02   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_02   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_03    15.54   29.57   29.57   29.57   29.57   15.54
SO BUILDHGT COOL2_03    29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_03    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_03    15.54   15.54   15.54   15.54   15.54   15.54
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SO	BUILDHGT	COOL2_03	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_03	67.09	31.85	31.52	30.42	28.15	189.28
SO	BUILDWID	COOL2_03	21.04	16.56	11.58	201.78	20.49	24.50
SO	BUILDWID	COOL2_03	27.77	157.16	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_03	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_03	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_03	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_04	15.54	29.57	29.57	29.57	29.57	15.54
SO	BUILDHGT	COOL2_04	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_04	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_04	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_04	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_04	15.54	29.57	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_04	67.09	31.85	31.52	30.23	28.15	189.28
SO	BUILDWID	COOL2_04	198.77	202.23	199.54	15.73	20.31	24.50
SO	BUILDWID	COOL2_04	27.77	30.19	132.78	104.37	72.79	39.00
SO	BUILDWID	COOL2_04	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_04	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_04	176.76	56.87	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_05	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_05	15.54	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_05	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL2_05	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_05	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_05	15.54	29.57	29.57	15.54	15.54	15.54
SO	BUILDWID	COOL2_05	67.09	99.20	31.52	30.23	28.15	25.03
SO	BUILDWID	COOL2_05	198.77	202.23	199.54	201.78	20.31	24.27
SO	BUILDWID	COOL2_05	27.77	30.19	31.69	104.37	72.79	39.00
SO	BUILDWID	COOL2_05	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_05	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_05	176.76	56.87	52.71	104.37	72.79	39.00
SO	BUILDHGT	COOL2_06	15.54	15.54	29.57	29.57	29.57	29.57
SO	BUILDHGT	COOL2_06	29.57	15.54	15.54	15.54	15.54	29.57
SO	BUILDHGT	COOL2_06	29.57	29.57	29.57	15.54	15.54	15.54
SO	BUILDHGT	COOL2_06	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_06	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_06	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_06	67.09	99.20	31.52	30.23	28.15	25.03
SO	BUILDWID	COOL2_06	21.14	202.23	199.54	201.78	199.42	24.27
SO	BUILDWID	COOL2_06	27.77	29.88	31.69	104.37	72.79	39.00
SO	BUILDWID	COOL2_06	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_06	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_06	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_07	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_07	29.57	29.57	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_07	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL2_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_07	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_07	67.09	99.20	128.30	30.23	28.02	25.03
SO	BUILDWID	COOL2_07	21.14	16.62	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_07	27.49	29.88	31.36	32.24	72.79	39.00
SO	BUILDWID	COOL2_07	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_07	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_07	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_08	15.54	15.54	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_08	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL2_08	29.57	29.57	29.57	29.57	15.54	15.54
SO	BUILDHGT	COOL2_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDHGT	COOL2_08	15.54	15.54	15.54	15.54	15.54	15.54
SO	BUILDWID	COOL2_08	67.09	99.20	128.30	30.23	28.02	24.96
SO	BUILDWID	COOL2_08	21.14	16.62	11.59	15.77	199.42	190.99
SO	BUILDWID	COOL2_08	27.49	29.88	31.36	32.24	72.79	39.00
SO	BUILDWID	COOL2_08	67.09	99.20	128.30	153.50	174.03	189.28
SO	BUILDWID	COOL2_08	198.77	202.23	199.54	201.78	199.42	190.99
SO	BUILDWID	COOL2_08	176.76	157.16	132.78	104.37	72.79	39.00
SO	BUILDHGT	COOL2_09	15.54	15.54	15.54	15.54	29.57	29.57
SO	BUILDHGT	COOL2_09	29.57	29.57	15.54	29.57	29.57	29.57
SO	BUILDHGT	COOL2_09	15.54	29.57	29.57	29.57	15.54	15.54

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SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   29.57   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_09   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_09   21.14   16.68  199.54   15.77   20.40   24.40
SO BUILDWID COOL2_09  176.76   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_09   67.09   99.20  128.30  153.50   28.02  189.28
SO BUILDWID COOL2_09  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_09  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   29.57   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_10   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_10   15.54   29.57   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10   21.14   16.68   11.71  201.78   20.40   24.40
SO BUILDWID COOL2_10   27.67   29.88   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_10   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_10  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_10  176.76   30.09  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_11   29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_11   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54   15.85   20.41   24.40
SO BUILDWID COOL2_11   27.67   30.09   31.36   31.88   72.79   39.00
SO BUILDWID COOL2_11   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_11  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_11  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_12   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_12   29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_12   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_12   67.09   99.20   31.76   30.42   27.97   24.88
SO BUILDWID COOL2_12   21.04  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_12   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_12  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_12  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_13   15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_13   29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_13   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_13   67.09   99.20   31.76   30.42   28.15   24.88
SO BUILDWID COOL2_13   21.04   16.56  199.54   15.86   20.49  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_13   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_13  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_13  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_14   15.54   15.54   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_14   15.54   29.57   29.57   15.54   29.57   29.57
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_14   15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_14   67.09   99.20  128.30   30.42   28.15  189.28
SO BUILDWID COOL2_14  198.77   16.56   11.58  201.78   20.49   24.50
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_14   67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_14  198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_14  176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_15   15.54   15.54   29.57   29.57   29.57   29.57
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SO BUILDHGT COOL2_15    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_15    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_15    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_15    67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_15   198.77  202.23  199.54   15.73   20.31   24.50
SO BUILDWID COOL2_15    27.77  157.16  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_15    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_15   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_15   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_16    15.54   15.54   29.57   29.57   29.57   29.57
SO BUILDHGT COOL2_16    29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_16    29.57   29.57   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_16    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_16    67.09   99.20   31.52   30.23   28.15   25.03
SO BUILDWID COOL2_16    21.14  202.23  199.54  201.78   20.31   24.50
SO BUILDWID COOL2_16    27.77   30.19  132.78  104.37   72.79   39.00
SO BUILDWID COOL2_16    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_16   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_16   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_17    15.54   15.54   15.54   29.57   29.57   29.57
SO BUILDHGT COOL2_17    29.57   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_17    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_17    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_17    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_17    67.09   99.20  128.30   30.23   28.02   25.03
SO BUILDWID COOL2_17    21.14  202.23  199.54  201.78   20.31   24.27
SO BUILDWID COOL2_17    27.77   30.19   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_17    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_17   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_17   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_18    15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_18    29.57   29.57   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_18    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_18    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_18    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_18    67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_18    21.14   16.62  199.54  201.78  199.42   24.27
SO BUILDWID COOL2_18    27.49   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_18    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_18   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_18   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_19    15.54   15.54   15.54   15.54   29.57   29.57
SO BUILDHGT COOL2_19    29.57   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19    29.57   29.57   29.57   15.54   15.54   15.54
SO BUILDHGT COOL2_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_19    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_19    67.09   99.20  128.30  153.50   28.02   24.96
SO BUILDWID COOL2_19    21.14  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19    27.49   29.88   31.69  104.37   72.79   39.00
SO BUILDWID COOL2_19    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_19   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_19   176.76  157.16  132.78  104.37   72.79   39.00

SO BUILDHGT COOL2_20    15.54   15.54   15.54   15.54   15.54   29.57
SO BUILDHGT COOL2_20    29.57   29.57   15.54   29.57   29.57   15.54
SO BUILDHGT COOL2_20    29.57   29.57   29.57   29.57   15.54   15.54
SO BUILDHGT COOL2_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDHGT COOL2_20    15.54   15.54   15.54   15.54   15.54   15.54
SO BUILDWID COOL2_20    67.09   99.20  128.30  153.50  174.03   24.96
SO BUILDWID COOL2_20    21.14   16.68  199.54   15.77   20.40  190.99
SO BUILDWID COOL2_20    27.49   29.88   31.36   46.94   72.79   39.00
SO BUILDWID COOL2_20    67.09   99.20  128.30  153.50  174.03  189.28
SO BUILDWID COOL2_20   198.77  202.23  199.54  201.78  199.42  190.99
SO BUILDWID COOL2_20   176.76  157.16  132.78  104.37   72.79   39.00
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SO BUILDHGT COOL2_21    15.54    15.54    15.54    15.54    15.54    15.54
SO BUILDHGT COOL2_21    15.54    29.57    29.57    15.54    29.57    29.57
SO BUILDHGT COOL2_21    29.57    29.57    29.57    29.57    15.54    15.54
SO BUILDHGT COOL2_21    15.54    15.54    15.54    15.54    15.54    15.54
SO BUILDHGT COOL2_21    15.54    15.54    15.54    15.54    15.54    15.54
SO BUILDHGT COOL2_21    15.54    15.54    15.54    15.54    15.54    15.54
SO BUILDWID COOL2_21    67.09    99.20   128.30   153.50   174.03   189.28
SO BUILDWID COOL2_21   198.77    16.68    11.71   201.78    20.40    24.40
SO BUILDWID COOL2_21    27.67    29.88    31.36    46.94    72.79    39.00
SO BUILDWID COOL2_21    67.09    99.20   128.30   153.50   174.03   189.28
SO BUILDWID COOL2_21   198.77   202.23   199.54   201.78   199.42   190.99
SO BUILDWID COOL2_21   176.76   157.16   132.78   104.37    72.79    39.00


SO BUILDHGT COOL2_22    15.54    15.54    15.54    15.54    15.54    15.54
SO BUILDHGT COOL2_22    15.54    15.54    15.54    29.57    29.57    29.57
SO BUILDHGT COOL2_22    29.57    15.54    15.54    15.54    15.54    15.54
SO BUILDHGT COOL2_22    15.54    15.54    15.54    15.54    15.54    15.54
SO BUILDHGT COOL2_22    15.54    15.54    15.54    15.54    15.54    15.54
SO BUILDHGT COOL2_22    15.54    15.54    15.54    15.54    15.54    15.54
SO BUILDWID COOL2_22    67.09    99.20   128.30   153.50   174.03   189.28
SO BUILDWID COOL2_22   198.77   202.23   199.54    15.85    20.41    24.40
SO BUILDWID COOL2_22    27.67   157.16   132.78   104.37    72.79    39.00
SO BUILDWID COOL2_22    67.09    99.20   128.30   153.50   174.03   189.28
SO BUILDWID COOL2_22   198.77   202.23   199.54   201.78   199.42   190.99
SO BUILDWID COOL2_22   176.76   157.16   132.78   104.37    72.79    39.00

   SRCGROUP ALL
   SRCGROUP 22MWALL 01A6095-02D6095 COOL1_1-COOL1_22 COOL2_1-COOL2_22

SO FINISHED

RE STARTING
** Receptors within the 2-km SID
** 100-m Spaced Discrete Receptors
   DISCCART -2000.00 -100.00
   DISCCART -2000.00 0.00
   DISCCART -2000.00 100.00
   DISCCART -1900.00 -600.00
   DISCCART -1900.00 -500.00
   DISCCART -1900.00 -400.00
   DISCCART -1900.00 -300.00
   DISCCART -1900.00 -200.00
   DISCCART -1900.00 -100.00
   DISCCART -1900.00 0.00
   DISCCART -1900.00 100.00
   DISCCART -1900.00 200.00
   DISCCART -1900.00 300.00
   DISCCART -1900.00 400.00
   DISCCART -1900.00 500.00
   DISCCART -1900.00 600.00
   DISCCART -1800.00 -800.00
   DISCCART -1800.00 -700.00
   DISCCART -1800.00 -600.00
   DISCCART -1800.00 -500.00
   DISCCART -1800.00 -400.00
   DISCCART -1800.00 -300.00
   DISCCART -1800.00 -200.00
   DISCCART -1800.00 -100.00
   DISCCART -1800.00 0.00
   DISCCART -1800.00 100.00
   DISCCART -1800.00 200.00
   DISCCART -1800.00 300.00
   DISCCART -1800.00 400.00
   DISCCART -1800.00 500.00
   DISCCART -1800.00 600.00
   DISCCART -1800.00 700.00
   DISCCART -1800.00 800.00
   DISCCART -1700.00 -1000.00
   DISCCART -1700.00 -900.00
   DISCCART -1700.00 -800.00
   DISCCART -1700.00 -700.00
   DISCCART -1700.00 -600.00
   DISCCART -1700.00 -500.00
   DISCCART -1700.00 -400.00
   DISCCART -1700.00 -300.00
   DISCCART -1700.00 -200.00
   DISCCART -1700.00 -100.00
   DISCCART -1700.00 0.00
   DISCCART -1700.00 100.00
   DISCCART -1700.00 200.00
```